

## **Lampiran 1**

**Data pemakaian *tin plate* PT. Kedaung Indah Can, Tbk.,  
tahun 1995 – 1999.**

Lampiran 2: Data umum (Bowerman and O'Connel, 1993, hal 471 ) :

1. Data viskositas produk kimia XB-77-5 :

t	Yt	t	Yt	T	Yt
1	25,00000	33	34,43370	65	32,27540
2	27,00000	34	35,48440	66	33,22140
3	33,51420	35	33,23810	67	34,57960
4	35,49620	36	36,16840	68	32,34480
5	36,90290	37	34,41160	69	31,53160
6	37,83590	38	33,76680	70	37,80440
7	34,26540	39	33,42460	71	36,05360
8	31,89780	40	33,57190	72	35,72970
9	33,75670	41	35,92220	73	36,79910
10	36,62980	42	33,21250	74	34,95020
11	36,35180	43	37,16680	75	33,52460
12	40,07620	44	35,81380	76	35,10120
13	38,09280	45	33,68470	77	35,97740
14	34,54120	46	33,27610	78	38,09770
15	34,85670	47	38,81630	79	33,45980
16	34,53160	48	42,08380	80	32,92780
17	32,38510	49	40,00690	81	36,51210
18	32,60580	50	33,45140	82	37,42430
19	34,89130	51	30,84130	83	35,15500
20	38,24180	52	30,06550	84	34,47970
21	36,89260	53	37,05440	85	33,28980
22	33,89420	54	39,09820	86	33,92520
23	34,17100	55	37,90750	87	36,10360
24	35,42680	56	36,23930	88	36,73510
25	38,58310	57	34,95350	89	35,45760
26	34,61840	58	33,20610	90	37,59240
27	33,97410	59	34,42610	91	34,48950
28	30,20720	60	37,45110	92	39,16920
29	30,54290	61	37,33350	93	35,82420
30	34,86860	62	38,46790	94	32,38750
31	35,88920	63	33,09760	95	31,28460
32	35,20350	64	32,92850		

**PT. KEDAUNG INDAH CAN, Tbk.**

**Jl. Raya Rungkut 15 - 17 Surabaya.**

**DATA PEMAKAIAN TIN PLAT  
TAHUN 1995 - 1999**

**1. Tahun 1995.**

<b>No.</b>	<b>Bulan</b>	<b>Pemakaian (kg)</b>
1	January	320.000
2	February	280.000
3	Maret	130.000
4	April	185.000
5	Mei	175.000
6	Juni	175.000
7	July	237.000
8	Agustus	170.000
9	September	270.000
10	Oktober	290.000
11	November	260.000
12	Desember	310.000



**2. Tahun 1996.**

<b>No.</b>	<b>Bulan</b>	<b>Pemakaian (kg)</b>
1	January	380.000
2	February	160.000
3	Maret	165.000
4	April	139.000
5	Mei	106.000
6	Juni	85.000
7	July	125.000
8	Agustus	235.000
9	September	200.000
10	Oktober	215.000
11	November	260.000
12	Desember	255.000

### 3. Tahun 1997.

No.	Bulan	Pemakaian (kg)
1	January	250.000
2	February	140.000
3	Maret	190.000
4	April	200.000
5	Mei	160.000
6	Juni	230.000
7	July	300.000
8	Agustus	250.000
9	September	305.000
10	Oktober	295.000
11	November	275.000
12	Desember	240.000

### 4. Tahun 1998.

No.	Bulan	Pemakaian (kg)
1	January	200.000
2	February	55.000
3	Maret	150.000
4	April	90.000
5	Mei	65.000
6	Juni	75.000
7	July	70.000
8	Agustus	50.000
9	September	70.000
10	Oktober	80.000
11	November	80.000
12	Desember	105.000

### 5. Tahun 1999.

No.	Bulan	Pemakaian (kg)
1	January	20.000
2	February	95.000
3	Maret	99.000
4	April	109.000
5	Mei	110.000
6	Juni	112.000
7	July	118.000
8	Agustus	111.000
9	September	172.000
10	Oktober	153.000
11	November	131.000
12	Desember	186.000

Lampiran 3 : Program plotting data, plotting ACF, plotting PACF, dan penentuan order (p) proses AR dengan metode *Yule – Walker* untuk kasus umum dan khusus dengan menggunakan S-Plus 2000.

```
function(data)
{
  graphics.off()
  x <- data
  n <- length(x)
  ar <- ar.yw(x)
  win.graph()
  par(mfrow = c(1, 1))
  tsplot(x)
  tsplot(ar$aic)
  acf(x)
  acf(x, type = "p")
  list(ar)
}
```

Lampiran 4 : Penentuan nilai parameter dan nilai AIC (k) model peramalan Moving Average (MA) dengan metode *Maximum Likelihood* :

```
function(data, ma)
{
  graphics.off()
  x.mle <- arima.mle(data, model = list(order = c(0,
    0, ma)))
}
```

Lampiran 5 : Program diagnosa model peramalan.

```
function(data,ar, ma)
{
  graphics.off()
  x.mle <- arima.mle(data, model = list(order = c(ar,
    0, ma)))
  x.diag <- arima.diag(x.mle)
}
```

Lampiran 6 : Program Fitting Model peramalan untuk model peramalan Auto-regressive (AR).

```
function(data)
{
  graphics.off()
  x <- data
  ar <- ar.yw(x)
  m <- mean(x)
  x <- x - m
  n <- length(x)
  unit <- ar$order
  phi <- c()
  for(i in 1:unit)
    phi[i] <- ar$ar[i]
  y <- x
  for(t in (unit + 1):n) {
    for(i in 1:unit)
      y[t] <- phi[i] * x[t - i]
  }
  k <- as.numeric(readline(
    "Jumlah lag yang akan diforecast="))
  for(t in (n + 1):(n + k)) {
    for(i in 1:unit)
      y[t] <- phi[i] * y[t - i]
  }
  y <- y + m
  list(y)
  union <- ts.union(rts(x+m),rts(y))
  win.graph()
  tsplot(union)
}
```



Lampiran 7 : Program Fitting Model peramalan untuk model peramalan Moving Average (MA).

```

function(data, ma)
{
  graphics.off()
  x <- data
  n <- length(x)
  unit <- ma
  teta <- c()
  x.mle <- arima.mle(x, model = list(order = c(0, 0,
    ma)))
  x.diag <- arima.diag(x.mle, plot = F, resid = T)
  for(i in 1:unit)
    teta[i] <- x.mle$model$ma[i]
  at <- x.diag$resid
  y <- x
  y[1:unit] <- x[1:unit]
  for(t in (1 + unit):n) {
    y[t] <- at[t]
    for(i in 1:unit)
      y[t] <- y[t] - teta[i] * at[t - i]
  }
  meanerror <- mean(at)
  varerror <- var(at)
  k <- as.numeric(readline(
    "Jumlah lag yang akan di forecast : "))
  for(i in 1:k)
    at[n + i] <- rnorm(1, meanerror, sqrt(
      varerror))
  for(t in (n + 1):(n + k)) {
    y[t] <- at[t]
    for(i in 1:unit)
      y[t] <- y[t] - teta[i] * at[t - i]
  }
  list(y)
  union <- ts.union(rts(x), rts(y))
  win.graph()
  tsplot(union)
}

```

Lampiran 8 : Program proses Bootstrap untuk kasus umum.

```
function(data, n)
{
  x <- data
  ar <- ar.yw(x)
  unit <- ar$order
  residlama <- ar$resid[3:95]
  a <- length(residlama)
  b <- 95
  residboots <- sample(residlama, a, replace = T)
  Yt <- c()
  Yt[1:3] <- x[1:3]
  order <- c()
  parameter1 <- c()
  parameter2 <- c()
  Yt <- x
  for(i in 1:n) {
    residboots <- sample(residlama, a,
      replace = T)
    for(i in 4:b) {
      Yt[i] <- 0.61356 * Yt[i - 1] -
        0.38304 * Yt[i - 2] +
        residboots[i]
    }
    ramal <- ar.yw(Yt)
    order[i] <- ramal$order
    if(order[i] == 2) {
      parameter1[i] <- ramal$ar[1]
      parameter2[i] <- ramal$ar[2]
    }
    else {
      parameter1[i] <- 0
      parameter2[i] <- 0
    }
  }
  coba1 <- c()
  coba2 <- c()
  coba1 <- dget("c:/My Documents/Tugas Akhir/hasil bootstrap/
    parameterumum1.txt")
  coba2 <- dget("c:/My Documents/Tugas Akhir/hasil bootstrap/
    parameterumum2.txt")
}
```

```
coba1 <- append(coba1, parameter1)
coba2 <- append(coba2, parameter2)
dput(coba1, "c:/My Documents/Tugas Akhir/hasilbootstrap/
parameterumum1.txt")
dput(coba2, "c:/My Documents/Tugas Akhir/hasil bootstrap/
parameterumum2.txt")
return(order, coba1, coba2)
```

```
}
```

Lampiran 8.1 : *Print out* S-Plus 2000 pengurutan data parameter  $\phi_i$  hasil proses *Bootstrap* untuk kasus umum.

[1] 0.2023404 0.2032328 0.2051616 0.2071548 0.2096379  
[6] 0.2107501 0.2109265 0.2110043 0.2121201 0.2130818  
[11] 0.2131929 0.2139652 0.2159825 0.2175441 0.2181713  
[16] 0.2192366 0.2202225 0.2210691 0.2241645 0.2248931  
[21] 0.2282202 0.2290640 0.2292418 0.2321064 0.2321184  
[26] 0.2350695 0.2352548 0.2392332 0.2394040 0.2394624  
[31] 0.2401558 0.2408242 0.2426026 0.2438784 0.2443373  
[36] 0.2462430 0.2467785 0.2474725 0.2476482 0.2481201  
[41] 0.2490664 0.2492501 0.2492750 0.2500176 0.2500956  
[46] 0.2500987 0.2515430 0.2523041 0.2524114 0.2537620  
[51] 0.2540493 0.2556350 0.2567790 0.2573368 0.2577305  
[56] 0.2582183 0.2592731 0.2599842 0.2611158 0.2613048  
[61] 0.2617576 0.2621698 0.2630033 0.2638531 0.2644352  
[66] 0.2653608 0.2667081 0.2681413 0.2682722 0.2692348  
[71] 0.2695677 0.2698755 0.2704630 0.2706268 0.2714002  
[76] 0.2720654 0.2730131 0.2737784 0.2739004 0.2806751  
[81] 0.2822733 0.2856421 0.2865444 0.2868497 0.2871406  
[86] 0.2896078 0.2897957 0.2908585 0.2908680 0.2919838  
[91] 0.2937519 0.2951872 0.2978808 0.3008196 0.3012264  
[96] 0.3013194 0.3016768 0.3033707 0.3038098 0.3040290  
[101] 0.3047231 0.3060520 0.3087044 0.3099016 0.3106799  
[106] 0.3108118 0.3112435 0.3128266 0.3130243 0.3138449  
[111] 0.3142211 0.3156433 0.3157258 0.3169904 0.3174055  
[116] 0.3181425 0.3214478 0.3225002 0.3230667 0.3243402  
[121] 0.3255963 0.3284121 0.3318737 0.3341854 0.3360963  
[126] 0.3393888 0.3413270 0.3422117 0.3431046 0.3445396  
[131] 0.3461266 0.3478131 0.3481283 0.3487483 0.3505230  
[136] 0.3528392 0.3570757 0.3571520 0.3572011 0.3585505  
[141] 0.3599278 0.3618173 0.3623928 0.3626308 0.3630505  
[146] 0.3633900 0.3655519 0.3681111 0.3682677 0.3693247  
[151] 0.3705642 0.3726482 0.3747821 0.3768468 0.3776780  
[156] 0.3780305 0.3808713 0.3810964 0.3811309 0.3814844  
[161] 0.3853869 0.3896306 0.3899741 0.3928081 0.3928081  
[166] 0.3929533 0.3940645 0.3957612 0.3966033 0.3967426  
[171] 0.3972194 0.3979766 0.3980875 0.3981173 0.4001329  
[176] 0.4023430 0.4058924 0.4063407 0.4064599 0.4081134  
[181] 0.4088306 0.4089131 0.4097712 0.4112218 0.4113436  
[186] 0.4115419 0.4121876 0.4123942 0.4136324 0.4144005

Lampiran 8.1 : Sambungan.

[191] 0.4155183 0.4160368 0.4166186 0.4181544 0.4202545  
[196] 0.4208255 0.4212019 0.4227161 0.4265392 0.4277147  
[201] 0.4282749 0.4315004 0.4332280 0.4332433 0.4341245  
[206] 0.4353479 0.4368722 0.4374871 0.4375962 0.4376770  
[211] 0.4392862 0.4405856 0.4406285 0.4413078 0.4419709  
[216] 0.4421163 0.4435900 0.4436812 0.4439149 0.4442215  
[221] 0.4447255 0.4450758 0.4457328 0.4489128 0.4491425  
[226] 0.4508462 0.4515409 0.4540157 0.4541802 0.4567289  
[231] 0.4567952 0.4569385 0.4569769 0.4572284 0.4577360  
[236] 0.4582620 0.4598832 0.4600499 0.4601889 0.4613033  
[241] 0.4619231 0.4641832 0.4652491 0.4652832 0.4654062  
[246] 0.4662156 0.4680920 0.4683075 0.4685781 0.4687059  
[251] 0.4699240 0.4701233 0.4709516 0.4723594 0.4764199  
[256] 0.4775128 0.4777539 0.4787625 0.4793634 0.4796681  
[261] 0.4825359 0.4835909 0.4843354 0.4848444 0.4859591  
[266] 0.4862952 0.4873538 0.4875389 0.4894540 0.4897439  
[271] 0.4916954 0.4918495 0.4919115 0.4941821 0.4962912  
[276] 0.4982924 0.4983759 0.4989223 0.5007020 0.5029762  
[281] 0.5033443 0.5039206 0.5047071 0.5049026 0.5064378  
[286] 0.5067602 0.5084399 0.5095816 0.5111980 0.5114501  
[291] 0.5119767 0.5124132 0.5127565 0.5128607 0.5132917  
[296] 0.5140676 0.5145216 0.5153952 0.5158315 0.5161762  
[301] 0.5168841 0.5196193 0.5201546 0.5208981 0.5233288  
[306] 0.5250940 0.5252230 0.5255661 0.5278254 0.5278412  
[311] 0.5281591 0.5284170 0.5284218 0.5297545 0.5304134  
[316] 0.5316011 0.5319676 0.5320823 0.5321503 0.5339204  
[321] 0.5341372 0.5349278 0.5350629 0.5351422 0.5353240  
[326] 0.5360667 0.5361191 0.5363593 0.5378879 0.5381000  
[331] 0.5405283 0.5409002 0.5421209 0.5421364 0.5424702  
[336] 0.5425582 0.5449066 0.5458531 0.5458968 0.5460850  
[341] 0.5463333 0.5472687 0.5473561 0.5479447 0.5488502  
[346] 0.5491256 0.5497090 0.5526149 0.5530039 0.5543736  
[351] 0.5549786 0.5559198 0.5570254 0.5581740 0.5585585  
[356] 0.5587900 0.5604515 0.5613944 0.5623211 0.5627075  
[361] 0.5647907 0.5655513 0.5663621 0.5668622 0.5673573  
[366] 0.5673650 0.5680481 0.5681608 0.5684344 0.5687363  
[371] 0.5694000 0.5699346 0.5703411 0.5713463 0.5722270  
[376] 0.5732420 0.5744605 0.5745325 0.5750034 0.5757973  
[381] 0.5772111 0.5777061 0.5778918 0.5779576 0.5782555  
[386] 0.5782566 0.5787003 0.5788219 0.5810040 0.5814400

Lampiran 8.1 : Sambungan.

[391] 0.5814627 0.5828764 0.5832732 0.5833993 0.5847216  
[396] 0.5853207 0.5886105 0.5894128 0.5894593 0.5896930  
[401] 0.5910096 0.5919567 0.5921497 0.5927213 0.5935037  
[406] 0.5935887 0.5936846 0.5944244 0.5954974 0.5955517  
[411] 0.5960349 0.5967624 0.5974932 0.5978729 0.5997982  
[416] 0.5999920 0.6004760 0.6013671 0.6015683 0.6029876  
[421] 0.6030214 0.6030560 0.6037539 0.6044320 0.6047089  
[426] 0.6055449 0.6059602 0.6066121 0.6082210 0.6084362  
[431] 0.6091914 0.6092906 0.6095234 0.6101774 0.6106606  
[436] 0.6113425 0.6120155 0.6123076 0.6130838 0.6131606  
[441] 0.6136391 0.6138442 0.6148448 0.6151394 0.6170016  
[446] 0.6173611 0.6173724 0.6181833 0.6184569 0.6186084  
[451] 0.6186564 0.6190006 0.6190884 0.6198812 0.6205131  
[456] 0.6208683 0.6220455 0.6221656 0.6227950 0.6244599  
[461] 0.6244640 0.6245723 0.6252612 0.6259561 0.6259891  
[466] 0.6263232 0.6279657 0.6285177 0.6294552 0.6300988  
[471] 0.6303782 0.6309486 0.6329546 0.6332622 0.6332908  
[476] 0.6334435 0.6337881 0.6348656 0.6348870 0.6349077  
[481] 0.6349567 0.6355885 0.6363259 0.6366342 0.6369628  
[486] 0.6371982 0.6376505 0.6380355 0.6384985 0.6385502  
[491] 0.6386312 0.6386454 0.6403126 0.6407481 0.6411384  
[496] 0.6415151 0.6416559 0.6425417 0.6427941 0.6428120  
[501] 0.6435329 0.6441385 0.6455601 0.6460835 0.6462421  
[506] 0.6479076 0.6483567 0.6485538 0.6486962 0.6491545  
[511] 0.6497550 0.6505588 0.6514392 0.6516414 0.6516737  
[516] 0.6518244 0.6522083 0.6541660 0.6542718 0.6546537  
[521] 0.6548960 0.6551031 0.6551317 0.6554712 0.6566117  
[526] 0.6566975 0.6567622 0.6567696 0.6572566 0.6589309  
[531] 0.6597605 0.6597761 0.6601766 0.6601856 0.6602290  
[536] 0.6602519 0.6606966 0.6607310 0.6607839 0.6608990  
[541] 0.6610731 0.6617143 0.6617619 0.6617961 0.6621170  
[546] 0.6625986 0.6633124 0.6641591 0.6660167 0.6664137  
[551] 0.6668386 0.6684452 0.6684715 0.6691217 0.6693724  
[556] 0.6695675 0.6697974 0.6698708 0.6703815 0.6712532  
[561] 0.6720338 0.6725509 0.6735653 0.6740133 0.6763050  
[566] 0.6776729 0.6780230 0.6783366 0.6785110 0.6788299  
[571] 0.6798625 0.6801181 0.6807594 0.6809950 0.6813422  
[576] 0.6813929 0.6818163 0.6822620 0.6825104 0.6835787  
[581] 0.6839404 0.6850394 0.6871958 0.6874704 0.6876657  
[586] 0.6886253 0.6891908 0.6896334 0.6898001 0.6902265

Lampiran 8.1 : Sambungan.

[591] 0.6905832 0.6906958 0.6918727 0.6931554 0.6939005  
[596] 0.6939141 0.6942996 0.6948932 0.6951809 0.6964335  
[601] 0.6967733 0.6968616 0.6973675 0.6974080 0.6975231  
[606] 0.6977217 0.6977306 0.6980137 0.6989172 0.6996102  
[611] 0.6998857 0.6999930 0.7002548 0.7002798 0.7005518  
[616] 0.7005770 0.7006771 0.7007370 0.7012856 0.7015214  
[621] 0.7024543 0.7028149 0.7029533 0.7039157 0.7040688  
[626] 0.7046576 0.7050098 0.7055779 0.7055846 0.7056180  
[631] 0.7056857 0.7058640 0.7063988 0.7067094 0.7076846  
[636] 0.7080266 0.7090197 0.7110643 0.7111354 0.7116361  
[641] 0.7120128 0.7121569 0.7124208 0.7127633 0.7127984  
[646] 0.7128036 0.7139369 0.7142780 0.7160058 0.7163126  
[651] 0.7173476 0.7173650 0.7173693 0.7174382 0.7180987  
[656] 0.7186230 0.7192753 0.7193825 0.7198789 0.7204204  
[661] 0.7210493 0.7213314 0.7219791 0.7228494 0.7230843  
[666] 0.7236202 0.7237196 0.7237399 0.7237785 0.7252137  
[671] 0.7260350 0.7262774 0.7277049 0.7277330 0.7279978  
[676] 0.7281926 0.7286576 0.7290107 0.7301407 0.7302207  
[681] 0.7306908 0.7308666 0.7317345 0.7320927 0.7322857  
[686] 0.7340908 0.7341037 0.7350979 0.7353234 0.7355045  
[691] 0.7359150 0.7367532 0.7376983 0.7378397 0.7382069  
[696] 0.7387397 0.7390270 0.7408520 0.7412655 0.7418537  
[701] 0.7418861 0.7421563 0.7423578 0.7426314 0.7428322  
[706] 0.7434719 0.7435715 0.7435954 0.7443911 0.7445371  
[711] 0.7447248 0.7448387 0.7450731 0.7458909 0.7460720  
[716] 0.7462881 0.7465068 0.7473836 0.7482813 0.7486091  
[721] 0.7487049 0.7494894 0.7519377 0.7521996 0.7529335  
[726] 0.7533522 0.7550030 0.7553783 0.7557503 0.7557735  
[731] 0.7559394 0.7563224 0.7564858 0.7573555 0.7587138  
[736] 0.7590776 0.7603021 0.7618556 0.7620677 0.7620955  
[741] 0.7623273 0.7629912 0.7631701 0.7632700 0.7636021  
[746] 0.7644001 0.7647271 0.7652185 0.7655985 0.7657537  
[751] 0.7661390 0.7671515 0.7675785 0.7686731 0.7693181  
[756] 0.7699369 0.7700799 0.7719030 0.7728338 0.7728866  
[761] 0.7731444 0.7733384 0.7743285 0.7766440 0.7773662  
[766] 0.7774553 0.7777442 0.7778194 0.7803296 0.7820022  
[771] 0.7830620 0.7841718 0.7842168 0.7848761 0.7884228  
[776] 0.7884612 0.7885660 0.7891975 0.7892743 0.7893749  
[781] 0.7918831 0.7919095 0.7956487 0.7964382 0.7988331  
[786] 0.8008494 0.8009729 0.8030425 0.8032470 0.8034101

Lampiran 8.1 : Sambungan.

[791] 0.8049369 0.8051987 0.8054248 0.8063636 0.8080733  
[796] 0.8081281 0.8088068 0.8098189 0.8100215 0.8109180  
[801] 0.8114004 0.8117843 0.8122921 0.8127848 0.8171270  
[806] 0.8171502 0.8188360 0.8205233 0.8223641 0.8235803  
[811] 0.8248057 0.8262711 0.8267868 0.8269072 0.8274004  
[816] 0.8300958 0.8310745 0.8319322 0.8326068 0.8333516  
[821] 0.8334634 0.8351343 0.8356905 0.8368862 0.8372096  
[826] 0.8378521 0.8380813 0.8384839 0.8391688 0.8394587  
[831] 0.8397760 0.8401701 0.8418723 0.8427649 0.8427898  
[836] 0.8445418 0.8449075 0.8452425 0.8472419 0.8486336  
[841] 0.8489396 0.8494452 0.8502413 0.8504673 0.8505905  
[846] 0.8514602 0.8515989 0.8520201 0.8526644 0.8531771  
[851] 0.8548090 0.8560538 0.8565209 0.8571420 0.8603122  
[856] 0.8625159 0.8633794 0.8635877 0.8643959 0.8646690  
[861] 0.8650843 0.8655552 0.8660913 0.8675597 0.8677030  
[866] 0.8681911 0.8713200 0.8720694 0.8721278 0.8722585  
[871] 0.8724257 0.8728591 0.8736315 0.8757895 0.8765576  
[876] 0.8769062 0.8779464 0.8785301 0.8803800 0.8819797  
[881] 0.8823091 0.8826885 0.8827099 0.8835211 0.8841515  
[886] 0.8843465 0.8847145 0.8851247 0.8853272 0.8854762  
[891] 0.8858469 0.8872628 0.8876095 0.8877324 0.8877969  
[896] 0.8883790 0.8887988 0.8892673 0.8900525 0.8901857  
[901] 0.8903464 0.8912505 0.8913733 0.8914220 0.8924768  
[906] 0.8928049 0.8946322 0.8947635 0.8960739 0.8965507  
[911] 0.8965832 0.8966161 0.8971725 0.8974806 0.8977889  
[916] 0.8978235 0.8981814 0.8985081 0.8986919 0.8988324  
[921] 0.8988688 0.9005622 0.9009168 0.9014933 0.9017141  
[926] 0.9021168 0.9023225 0.9033955 0.9034339 0.9036542  
[931] 0.9045980 0.9073722 0.9079359 0.9087783 0.9090440  
[936] 0.9096651 0.9099488 0.9110470 0.9111672 0.9117289  
[941] 0.9118645 0.9119111 0.9119159 0.9120930 0.9124132  
[946] 0.9126675 0.9142569 0.9144975 0.9147531 0.9152449  
[951] 0.9152898 0.9154824 0.9168313 0.9169113 0.9170540  
[956] 0.9174435 0.9179411 0.9182852 0.9185838 0.9191825  
[961] 0.9192832 0.9194428 0.9203036 0.9204319 0.9210517  
[966] 0.9218764 0.9222718 0.9227355 0.9231314 0.9232709  
[971] 0.9235162 0.9279392 0.9286736 0.9288120 0.9292256  
**[976] 0.9302667 0.9303005 0.9306449 0.9307725 0.9309488**  
**[981] 0.9312152 0.9323651 0.9328349 0.9332486 0.9334862**  
**[986] 0.9351314 0.9353993 0.9358007 0.9365723 0.9369329**



[991] **0.9391222 0.9395554 0.9568886 0.9593166 0.9596720**  
[996] **0.9600878 0.9640955 0.9647489 0.9739954 0.9762980**

Keterangan : nilai yang di cetak tebal merupakan angka – angka hasil proses *Bootstrap* dibuang yaitu nilai – nilai yang berada di luar 95 % selang kepercayaan (2,5 % bagian atas dan 2,5 % bagian bawah).

Lampiran 8.2 : *Print – out* S-Plus 2000 pengurutan data parameter  $\phi_2$  hasil proses *Bootstrap* untuk kasus umum.

[1] -0.9270952 -0.8443003 -0.8284914 -0.8129671  
[5] -0.8064789 -0.7904800 -0.7867014 -0.7844189  
[9] -0.7841671 -0.7841398 -0.7836605 -0.7801602  
[13] -0.7795760 -0.7749453 -0.7676486 -0.7671814  
[17] -0.7669668 -0.7658722 -0.7653295 -0.7638384  
[21] -0.7591611 -0.7563690 -0.7544280 -0.7494586  
[25] -0.7484711 -0.7465550 -0.7452610 -0.7424149  
[29] -0.7413840 -0.7390522 -0.7373691 -0.7372972  
[33] -0.7364943 -0.7356339 -0.7351815 -0.7347323  
[37] -0.7298984 -0.7290789 -0.7272859 -0.7259983  
[41] -0.7254933 -0.7244576 -0.7244087 -0.7231284  
[45] -0.7228881 -0.7209554 -0.7204657 -0.7161314  
[49] -0.7132449 -0.7123970 -0.7112829 -0.7091609  
[53] -0.7085921 -0.7077852 -0.7002041 -0.7001211  
[57] -0.6998474 -0.6988723 -0.6986027 -0.6981303  
[61] -0.6946504 -0.6917592 -0.6915889 -0.6902292  
[65] -0.6886604 -0.6880358 -0.6875023 -0.6849200  
[69] -0.6829505 -0.6825527 -0.6783645 -0.6776989  
[73] -0.6770222 -0.6757065 -0.6750588 -0.6727450  
[77] -0.6703329 -0.6702444 -0.6695998 -0.6693785  
[81] -0.6682401 -0.6682003 -0.6679891 -0.6655861  
[85] -0.6641904 -0.6641762 -0.6616871 -0.6612083  
[89] -0.6596330 -0.6579824 -0.6574115 -0.6545111  
[93] -0.6541865 -0.6530073 -0.6519605 -0.6495054  
[97] -0.6487258 -0.6483806 -0.6450080 -0.6448163  
[101] -0.6427215 -0.6422490 -0.6398976 -0.6393607  
[105] -0.6392559 -0.6360332 -0.6355624 -0.6345363  
[109] -0.6326116 -0.6266888 -0.6252875 -0.6232941  
[113] -0.6224424 -0.6216511 -0.6209888 -0.6186247  
[117] -0.6186233 -0.6163257 -0.6133444 -0.6118144  
[121] -0.6107642 -0.6105517 -0.6102391 -0.6048233  
[125] -0.6036503 -0.6029807 -0.6006660 -0.5994304  
[129] -0.5971321 -0.5965663 -0.5962110 -0.5951705  
[133] -0.5936877 -0.5924947 -0.5890958 -0.5864847  
[137] -0.5862634 -0.5858445 -0.5849379 -0.5846052  
[141] -0.5838764 -0.5829883 -0.5829530 -0.5825452  
[145] -0.5824760 -0.5823267 -0.5820894 -0.5810680  
[149] -0.5801160 -0.5795593 -0.5754322 -0.5745588

## Lampiran 8.2 : Sambungan

[153] -0.5741301 -0.5739285 -0.5715969 -0.5712168  
[157] -0.5705457 -0.5704016 -0.5702611 -0.5661021  
[161] -0.5654606 -0.5635232 -0.5623691 -0.5601584  
[165] -0.5600240 -0.5598478 -0.5593866 -0.5592985  
[169] -0.5586401 -0.5564735 -0.5555934 -0.5542088  
[173] -0.5513801 -0.5506827 -0.5500239 -0.5496598  
[177] -0.5495017 -0.5467792 -0.5444622 -0.5443901  
[181] -0.5416402 -0.5410658 -0.5393662 -0.5376205  
[185] -0.5371371 -0.5371059 -0.5366861 -0.5361925  
[189] -0.5345133 -0.5343729 -0.5313931 -0.5308405  
[193] -0.5295748 -0.5294880 -0.5289676 -0.5276765  
[197] -0.5273036 -0.5233428 -0.5221127 -0.5205657  
[201] -0.5197778 -0.5188102 -0.5173926 -0.5168276  
[205] -0.5166920 -0.5147582 -0.5141020 -0.5122172  
[209] -0.5118979 -0.5117768 -0.5101432 -0.5095289  
[213] -0.5087779 -0.5086334 -0.5079339 -0.5071812  
[217] -0.5071559 -0.5066743 -0.5066300 -0.5062497  
[221] -0.5060194 -0.5059274 -0.5057774 -0.5054220  
[225] -0.5050355 -0.5047026 -0.5040352 -0.5037366  
[229] -0.5031484 -0.5030926 -0.5030175 -0.5022981  
[233] -0.5019428 -0.5015303 -0.5011654 -0.4979451  
[237] -0.4976816 -0.4974363 -0.4968456 -0.4965014  
[241] -0.4955942 -0.4922538 -0.4918445 -0.4909961  
[245] -0.4908073 -0.4902615 -0.4899007 -0.4896962  
[249] -0.4890903 -0.4880931 -0.4874844 -0.4871915  
[253] -0.4867752 -0.4862669 -0.4842357 -0.4841877  
[257] -0.4841017 -0.4837965 -0.4835903 -0.4828423  
[261] -0.4827035 -0.4825464 -0.4823753 -0.4817884  
[265] -0.4808757 -0.4806014 -0.4802690 -0.4802524  
[269] -0.4798763 -0.4795838 -0.4793188 -0.4792382  
[273] -0.4790936 -0.4789793 -0.4785573 -0.4784969  
[277] -0.4783157 -0.4778901 -0.4776363 -0.4775709  
[281] -0.4762107 -0.4761999 -0.4758583 -0.4754938  
[285] -0.4742588 -0.4729299 -0.4718734 -0.4712647  
[289] -0.4697999 -0.4694997 -0.4693084 -0.4689135  
[293] -0.4688789 -0.4681648 -0.4680867 -0.4674687  
[297] -0.4670559 -0.4669927 -0.4667551 -0.4667518  
[301] -0.4664298 -0.4662955 -0.4661349 -0.4658362  
[305] -0.4658154 -0.4654958 -0.4653133 -0.4647105  
[309] -0.4646593 -0.4642687 -0.4633127 -0.4632389

## Lampiran 8.2 : Sambungan

[313] -0.4631613 -0.4628930 -0.4623732 -0.4622791  
[317] -0.4605373 -0.4603012 -0.4592089 -0.4591302  
[321] -0.4580235 -0.4580008 -0.4578506 -0.4572868  
[325] -0.4572027 -0.4568296 -0.4561777 -0.4559996  
[329] -0.4558253 -0.4549501 -0.4548302 -0.4547351  
[333] -0.4547117 -0.4544787 -0.4542504 -0.4541517  
[337] -0.4541348 -0.4540787 -0.4540009 -0.4537870  
[341] -0.4537678 -0.4533789 -0.4532201 -0.4531902  
[345] -0.4531165 -0.4530754 -0.4525076 -0.4519825  
[349] -0.4506662 -0.4505341 -0.4500058 -0.4498995  
[353] -0.4498243 -0.4495125 -0.4494263 -0.4492824  
[357] -0.4489901 -0.4488051 -0.4487737 -0.4483131  
[361] -0.4482086 -0.4481785 -0.4477692 -0.4477289  
[365] -0.4469969 -0.4467730 -0.4467129 -0.4460579  
[369] -0.4460379 -0.4456699 -0.4455881 -0.4451693  
[373] -0.4448905 -0.4447591 -0.4440306 -0.4438231  
[377] -0.4437679 -0.4435416 -0.4435005 -0.4433663  
[381] -0.4432665 -0.4430634 -0.4429015 -0.4428080  
[385] -0.4427336 -0.4426760 -0.4426205 -0.4425816  
[389] -0.4424997 -0.4424881 -0.4421925 -0.4420149  
[393] -0.4418978 -0.4418872 -0.4418180 -0.4418105  
[397] -0.4417265 -0.4416592 -0.4411511 -0.4405314  
[401] -0.4403736 -0.4401695 -0.4400352 -0.4396117  
[405] -0.4395643 -0.4394342 -0.4392841 -0.4391269  
[409] -0.4389931 -0.4385445 -0.4382164 -0.4377602  
[413] -0.4361034 -0.4359698 -0.4354955 -0.4354187  
[417] -0.4353152 -0.4352676 -0.4349462 -0.4348139  
[421] -0.4347689 -0.4345866 -0.4343960 -0.4343781  
[425] -0.4343653 -0.4342653 -0.4341913 -0.4341817  
[429] -0.4339297 -0.4335879 -0.4329937 -0.4329000  
[433] -0.4328845 -0.4327745 -0.4327272 -0.4326462  
[437] -0.4324294 -0.4322830 -0.4321436 -0.4318251  
[441] -0.4317580 -0.4317410 -0.4317285 -0.4315740  
[445] -0.4312569 -0.4311342 -0.4310910 -0.4310209  
[449] -0.4300545 -0.4298522 -0.4297123 -0.4294707  
[453] -0.4288832 -0.4285192 -0.4284372 -0.4280601  
[457] -0.4278293 -0.4276540 -0.4271912 -0.4270894  
[461] -0.4265215 -0.4265084 -0.4264522 -0.4259373  
[465] -0.4258818 -0.4258128 -0.4257301 -0.4256192  
[469] -0.4253848 -0.4251299 -0.4247637 -0.4246456

## Lampiran 8.2 : Sambungan

[473] -0.4245616 -0.4244300 -0.4243037 -0.4235940  
[477] -0.4234802 -0.4230725 -0.4230071 -0.4230025  
[481] -0.4229420 -0.4223536 -0.4222604 -0.4215950  
[485] -0.4215530 -0.4215376 -0.4214485 -0.4213760  
[489] -0.4202320 -0.4198422 -0.4197841 -0.4193501  
[493] -0.4190027 -0.4188454 -0.4187361 -0.4184261  
[497] -0.4183320 -0.4180042 -0.4175627 -0.4173147  
[501] -0.4170406 -0.4167301 -0.4163346 -0.4161157  
[505] -0.4158807 -0.4158673 -0.4158073 -0.4156806  
[509] -0.4156154 -0.4154637 -0.4153802 -0.4153203  
[513] -0.4150440 -0.4146926 -0.4146083 -0.4144805  
[517] -0.4144117 -0.4142462 -0.4140704 -0.4138672  
[521] -0.4136209 -0.4135512 -0.4134750 -0.4134642  
[525] -0.4134500 -0.4134068 -0.4133201 -0.4127470  
[529] -0.4124659 -0.4122094 -0.4120257 -0.4120162  
[533] -0.4117682 -0.4114949 -0.4111765 -0.4111125  
[537] -0.4107333 -0.4105096 -0.4103924 -0.4103125  
[541] -0.4102478 -0.4102249 -0.4096956 -0.4087142  
[545] -0.4084812 -0.4082618 -0.4077241 -0.4076648  
[549] -0.4072134 -0.4066567 -0.4061992 -0.4060892  
[553] -0.4053092 -0.4051921 -0.4048402 -0.4047220  
[557] -0.4046638 -0.4044766 -0.4041951 -0.4041136  
[561] -0.4036690 -0.4035446 -0.4035442 -0.4033450  
[565] -0.4031202 -0.4028209 -0.4026930 -0.4026454  
[569] -0.4021582 -0.4020979 -0.4020779 -0.4020145  
[573] -0.4018424 -0.4017000 -0.4016204 -0.4015016  
[577] -0.4012721 -0.4011176 -0.4010764 -0.4008611  
[581] -0.4005300 -0.4001198 -0.3987310 -0.3979336  
[585] -0.3975354 -0.3971308 -0.3967250 -0.3964498  
[589] -0.3963951 -0.3960646 -0.3958797 -0.3958327  
[593] -0.3954211 -0.3949995 -0.3948615 -0.3945237  
[597] -0.3941607 -0.3940949 -0.3940516 -0.3938797  
[601] -0.3937874 -0.3936262 -0.3933519 -0.3932175  
[605] -0.3930322 -0.3929653 -0.3920340 -0.3919635  
[609] -0.3918862 -0.3917558 -0.3917334 -0.3917028  
[613] -0.3915503 -0.3913270 -0.3910547 -0.3908906  
[617] -0.3907420 -0.3901566 -0.3899525 -0.3892168  
[621] -0.3890874 -0.3886629 -0.3886315 -0.3881401  
[625] -0.3880340 -0.3879434 -0.3879080 -0.3875624  
[629] -0.3873585 -0.3873095 -0.3873015 -0.3864502

Lampiran 8.2 : Sambungan

[633] -0.3857540 -0.3852441 -0.3844780 -0.3840194  
[637] -0.3836231 -0.3834402 -0.3834027 -0.3830900  
[641] -0.3830619 -0.3828532 -0.3824892 -0.3823175  
[645] -0.3820856 -0.3820384 -0.3819600 -0.3815904  
[649] -0.3811463 -0.3805748 -0.3800847 -0.3800536  
[653] -0.3799450 -0.3792164 -0.3789310 -0.3788512  
[657] -0.3786974 -0.3784787 -0.3784591 -0.3775053  
[661] -0.3774997 -0.3771394 -0.3761170 -0.3754644  
[665] -0.3753718 -0.3750863 -0.3746653 -0.3743779  
[669] -0.3741589 -0.3740513 -0.3737522 -0.3735180  
[673] -0.3735055 -0.3734487 -0.3725933 -0.3724958  
[677] -0.3720127 -0.3715807 -0.3714153 -0.3712982  
[681] -0.3710469 -0.3708735 -0.3704846 -0.3704078  
[685] -0.3703888 -0.3699870 -0.3698236 -0.3697701  
[689] -0.3696983 -0.3696821 -0.3695834 -0.3694729  
[693] -0.3692698 -0.3687906 -0.3684371 -0.3680155  
[697] -0.3676096 -0.3673398 -0.3669900 -0.3665172  
[701] -0.3663064 -0.3662412 -0.3660734 -0.3659896  
[705] -0.3651440 -0.3650832 -0.3648738 -0.3646900  
[709] -0.3640787 -0.3638354 -0.3631494 -0.3631476  
[713] -0.3630178 -0.3628281 -0.3626517 -0.3624823  
[717] -0.3622059 -0.3620878 -0.3619965 -0.3617585  
[721] -0.3617114 -0.3617107 -0.3601111 -0.3597572  
[725] -0.3596762 -0.3593860 -0.3583097 -0.3579920  
[729] -0.3579026 -0.3575228 -0.3571511 -0.3558879  
[733] -0.3553768 -0.3549298 -0.3545381 -0.3543901  
[737] -0.3537560 -0.3534806 -0.3534806 -0.3528815  
[741] -0.3528743 -0.3527353 -0.3517924 -0.3511510  
[745] -0.3508928 -0.3492179 -0.3492112 -0.3481211  
[749] -0.3477465 -0.3475184 -0.3461484 -0.3459429  
[753] -0.3450722 -0.3442566 -0.3438278 -0.3436476  
[757] -0.3434985 -0.3412122 -0.3409768 -0.3405856  
[761] -0.3394347 -0.3392684 -0.3391584 -0.3386318  
[765] -0.3376430 -0.3368028 -0.3363608 -0.3362901  
[769] -0.3347518 -0.3347039 -0.3342619 -0.3337990  
[773] -0.3337659 -0.3336112 -0.3326289 -0.3321221  
[777] -0.3321117 -0.3315664 -0.3314598 -0.3306026  
[781] -0.3296091 -0.3290783 -0.3287614 -0.3283623  
[785] -0.3264223 -0.3250955 -0.3210710 -0.3187552  
[789] -0.3183325 -0.3166607 -0.3162689 -0.3161024

## Lampiran 8.2 : Sambungan

[793] -0.3160383 -0.3155289 -0.3145674 -0.3139845  
[797] -0.3130954 -0.3129621 -0.3107994 -0.3104918  
[801] -0.3102414 -0.3083966 -0.3062943 -0.3062540  
[805] -0.3060421 -0.3054254 -0.3047930 -0.3043039  
[809] -0.3036636 -0.3015452 -0.3002718 -0.2980820  
[813] -0.2979579 -0.2973528 -0.2969360 -0.2953593  
[817] -0.2944562 -0.2943790 -0.2936472 -0.2929403  
[821] -0.2918283 -0.2910187 -0.2903259 -0.2868443  
[825] -0.2864037 -0.2863955 -0.2858278 -0.2845026  
[829] -0.2836621 -0.2829135 -0.2827657 -0.2826401  
[833] -0.2818176 -0.2809934 -0.2807711 -0.2806710  
[837] -0.2800321 -0.2785417 -0.2771227 -0.2768363  
[841] -0.2760365 -0.2755966 -0.2754791 -0.2751232  
[845] -0.2730465 -0.2726442 -0.2723239 -0.2712340  
[849] -0.2699582 -0.2695154 -0.2680360 -0.2679673  
[853] -0.2664960 -0.2640897 -0.2640379 -0.2616344  
[857] -0.2615791 -0.2607399 -0.2602899 -0.2600981  
[861] -0.2600740 -0.2596740 -0.2595063 -0.2588106  
[865] -0.2585245 -0.2580331 -0.2562098 -0.2533568  
[869] -0.2532464 -0.2525772 -0.2503469 -0.2494215  
[873] -0.2482635 -0.2477122 -0.2464150 -0.2454786  
[877] -0.2453741 -0.2448871 -0.2441874 -0.2415612  
[881] -0.2414173 -0.2395240 -0.2392759 -0.2379672  
[885] -0.2365223 -0.2363642 -0.2354983 -0.2341476  
[889] -0.2333003 -0.2331979 -0.2314351 -0.2304623  
[893] -0.2288081 -0.2281084 -0.2277587 -0.2277411  
[897] -0.2274867 -0.2255979 -0.2240628 -0.2219523  
[901] -0.2214116 -0.2211514 -0.2211092 -0.2202106  
[905] -0.2187670 -0.2187526 -0.2178222 -0.2174953  
[909] -0.2161268 -0.2137369 -0.2125628 -0.2118022  
[913] -0.2111179 -0.2110609 -0.2105213 -0.2088916  
[917] -0.2062918 -0.2058641 -0.2032446 -0.1998640  
[921] -0.1986833 -0.1986207 -0.1983245 -0.1983222  
[925] -0.1978837 -0.1965192 -0.1964484 -0.1961861  
[929] -0.1955365 -0.1954539 -0.1951977 -0.1945245  
[933] -0.1944668 -0.1943848 -0.1940224 -0.1938185  
[937] -0.1924447 -0.1923350 -0.1921022 -0.1906311  
[941] -0.1906103 -0.1905160 -0.1902513 -0.1901144  
[945] -0.1897967 -0.1887320 -0.1886197 -0.1882805  
[949] -0.1881522 -0.1876646 -0.1866327 -0.1853516

Lampiran 8.2 : Sambungan

[953] -0.1853365 -0.1846160 -0.1845111 -0.1844880  
[957] -0.1840762 -0.1831555 -0.1824563 -0.1824096  
[961] -0.1822883 -0.1815846 -0.1812848 -0.1812158  
[965] -0.1811445 -0.1807216 -0.1796887 -0.1780713  
[969] -0.1778143 -0.1774513 -0.1772678 -0.1772443  
[973] -0.1772210 -0.1765650 -0.1765554 -0.1762982  
[977] -0.1759432 -0.1754374 -0.1744289 -0.1743271  
[981] -0.1741085 -0.1739208 -0.1738464 -0.1737803  
[985] -0.1730400 -0.1730129 -0.1724417 -0.1724059  
[989] -0.1716858 -0.1710147 -0.1709843 -0.1707193  
[993] -0.1704954 -0.1700067 -0.1678926 -0.1676639  
[997] -0.1600828 -0.1543950 -0.1454567 -0.1452964

Keterangan : nilai yang di cetak tebal merupakan angka – angka hasil proses *Bootstrap* dibuang yaitu nilai – nilai yang berada di luar 95 % selang kepercayaan (2,5 % bagian atas dan 2,5 % bagian bawah).



Lampiran 9 : Program proses Bootstrap untuk kasus khusus.

```
function(data, n)
{
  x <- data
  ar <- ar.yw(x)
  phi <- ar$ar
  residlama <- ar$resid[2:60]
  a <- length(residlama)
  b <- 60
  residboots <- sample(residlama, a, replace = T)
  yt <- c()
  yt[1] <- x[1]
  order <- c()
  parameters <- c()
  for(i in 1:n) {
    residboots <- sample(residlama, a,
      replace = T)
    for(i in 2:b) {
      yt[i] <- phi * yt[i - 1] -
        residboots[i]
    }
    forecast <- ar.yw(yt)
    order[i] <- forecast$order
    if(order[i] == 1) {
      parameters[i] <- forecast$ar
    }
    else {
      parameters[i] <- 0
    }
  }
  tes <- c()
  tes <- dget("c:/My Documents/Tugas Akhir/parameters.txt")
  tes <- append(tes, parameters)
  dput(tes, "c:/My Documents/Tugas Akhir/parameters.txt")
  return(order, tes)
}
```

Lampiran 9.1 : *Print – out* S-Plus 2000 pengurutan data parameter hasil proses *Bootstrap* untuk kasus khusus.

[1] 0.2641722 0.3399327 0.3631494 0.3640042 0.3767871  
[6] 0.3816468 0.3833731 0.3858113 0.3878692 0.3974751  
[11] 0.3980328 0.3984120 0.4002321 0.4064600 0.4115624  
[16] 0.4272648 0.4350521 0.4354770 0.4376770 0.4395643  
[21] 0.4401642 0.4425220 0.4489128 0.4501742 0.4537159  
[26] 0.4541802 0.4587702 0.4641832 0.4652491 0.4661874  
[31] 0.4719489 0.4730585 0.4731476 0.4747455 0.4772480  
[36] 0.4782749 0.4793825 0.4794891 0.4807688 0.4823096  
[41] 0.4832359 0.4832758 0.4835958 0.4842357 0.4844739  
[46] 0.4854022 0.4891499 0.4907033 0.4917828 0.4935376  
[51] 0.4938674 0.4943860 0.4969654 0.4974363 0.4976005  
[56] 0.4988216 0.4990629 0.5003253 0.5004210 0.5020479  
[61] 0.5029706 0.5031165 0.5036557 0.5049614 0.5054220  
[66] 0.5055295 0.5055820 0.5065640 0.5069945 0.5078478  
[71] 0.5089985 0.5092849 0.5095289 0.5110992 0.5112044  
[76] 0.5112748 0.5113599 0.5114501 0.5118979 0.5124132  
[81] 0.5125197 0.5130271 0.5137241 0.5147674 0.5157927  
[86] 0.5162209 0.5162902 0.5166961 0.5171639 0.5190343  
[91] 0.5195221 0.5195494 0.5197294 0.5198607 0.5212443  
[96] 0.5213755 0.5219813 0.5220055 0.5221096 0.5231682  
[101] 0.5244954 0.5254529 0.5254849 0.5259449 0.5259630  
[106] 0.5259889 0.5265697 0.5268432 0.5269633 0.5274619  
[111] 0.5282063 0.5287159 0.5290949 0.5292406 0.5299188  
[116] 0.5319676 0.5321503 0.5323464 0.5329495 0.5331165  
[121] 0.5339204 0.5339538 0.5339854 0.5341372 0.5341473  
[126] 0.5347171 0.5350871 0.5355153 0.5361084 0.5363207  
[131] 0.5378765 0.5378857 0.5378879 0.5380206 0.5380538  
[136] 0.5381625 0.5387106 0.5393662 0.5395387 0.5398148  
[141] 0.5401140 0.5403247 0.5404640 0.5407773 0.5410658  
[146] 0.5418266 0.5425639 0.5431751 0.5432209 0.5432817  
[151] 0.5438195 0.5438714 0.5447758 0.5450753 0.5450773  
[156] 0.5452054 0.5458241 0.5458531 0.5458968 0.5463333  
[161] 0.5470734 0.5473561 0.5474078 0.5485814 0.5486412  
[166] 0.5488502 0.5490181 0.5491256 0.5498880 0.5503343  
[171] 0.5514663 0.5520003 0.5522287 0.5524117 0.5526652  
[176] 0.5526993 0.5530681 0.5532909 0.5533755 0.5539587  
[181] 0.5542083 0.5546361 0.5552994 0.5555162 0.5555934  
[186] 0.5556266 0.5556899 0.5558652 0.5562754 0.5563541  
[191] 0.5565063 0.5566533 0.5567688 0.5581740 0.5581917

Lampiran 9.1 : Sambungan.

[196] 0.5582787 0.5586020 0.5586401 0.5588895 0.5589039  
[201] 0.5592802 0.5593286 0.5610691 0.5613578 0.5613944  
[206] 0.5616876 0.5617080 0.5617431 0.5618511 0.5619411  
[211] 0.5620469 0.5621744 0.5622019 0.5622169 0.5623211  
[216] 0.5623863 0.5631422 0.5641462 0.5643393 0.5644599  
[221] 0.5645514 0.5646464 0.5651165 0.5652793 0.5653729  
[226] 0.5659661 0.5661268 0.5662456 0.5663037 0.5666885  
[231] 0.5668622 0.5670433 0.5673650 0.5675486 0.5675645  
[236] 0.5676227 0.5680481 0.5680485 0.5681974 0.5687363  
[241] 0.5690132 0.5698156 0.5698720 0.5699107 0.5700252  
[246] 0.5701099 0.5704016 0.5705457 0.5705996 0.5707085  
[251] 0.5708859 0.5709226 0.5712166 0.5712168 0.5715969  
[256] 0.5720474 0.5720669 0.5721531 0.5722270 0.5722955  
[261] 0.5723078 0.5727193 0.5728328 0.5733200 0.5735170  
[266] 0.5738081 0.5738756 0.5739543 0.5741714 0.5744605  
[271] 0.5746932 0.5750526 0.5750859 0.5753476 0.5773002  
[276] 0.5778918 0.5782555 0.5786315 0.5788144 0.5798118  
[281] 0.5799907 0.5801511 0.5805132 0.5805596 0.5810040  
[286] 0.5810680 0.5811248 0.5811464 0.5814090 0.5814627  
[291] 0.5819336 0.5820894 0.5821557 0.5823267 0.5829883  
[296] 0.5830930 0.5837938 0.5838345 0.5843473 0.5845219  
[301] 0.5846052 0.5849719 0.5851759 0.5853207 0.5856110  
[306] 0.5857131 0.5860122 0.5861488 0.5862634 0.5864235  
[311] 0.5864847 0.5866659 0.5870469 0.5872535 0.5874416  
[316] 0.5878448 0.5878899 0.5882348 0.5885255 0.5885350  
[321] 0.5885986 0.5886105 0.5886165 0.5886277 0.5886427  
[326] 0.5890958 0.5893383 0.5894593 0.5895250 0.5897893  
[331] 0.5900610 0.5902210 0.5903097 0.5903949 0.5905277  
[336] 0.5907649 0.5908322 0.5908448 0.5908834 0.5914723  
[341] 0.5922968 0.5923458 0.5924859 0.5925428 0.5926064  
[346] 0.5927213 0.5928006 0.5928385 0.5931614 0.5935037  
[351] 0.5935887 0.5936846 0.5936877 0.5937544 0.5944817  
[356] 0.5951671 0.5951705 0.5953330 0.5954974 0.5957559  
[361] 0.5957901 0.5960053 0.5960349 0.5961236 0.5964088  
[366] 0.5965663 0.5967159 0.5969482 0.5971367 0.5974932  
[371] 0.5976908 0.5978729 0.5979467 0.5981215 0.5981688  
[376] 0.5984741 0.5986832 0.5987670 0.5989532 0.5990770  
[381] 0.5994304 0.5997982 0.5999620 0.6000634 0.6004064  
[386] 0.6006234 0.6006660 0.6010612 0.6011181 0.6011535  
[391] 0.6013763 0.6013912 0.6015683 0.6016088 0.6016755  
[396] 0.6016980 0.6018506 0.6022752 0.6023155 0.6025103

Lampiran 9.1 : Sambungan.

[401] 0.6025796 0.6026916 0.6027021 0.6028707 0.6029807  
[406] 0.6029876 0.6031948 0.6032037 0.6032900 0.6034856  
[411] 0.6037539 0.6041960 0.6042661 0.6043907 0.6047093  
[416] 0.6048233 0.6048643 0.6049293 0.6049311 0.6049685  
[421] 0.6051129 0.6051852 0.6055458 0.6059601 0.6059602  
[426] 0.6060056 0.6061478 0.6062977 0.6064770 0.6066121  
[431] 0.6067942 0.6070408 0.6071579 0.6071890 0.6074038  
[436] 0.6074371 0.6078154 0.6078513 0.6081147 0.6081971  
[441] 0.6082210 0.6090565 0.6091653 0.6091819 0.6099173  
[446] 0.6101432 0.6102391 0.6102526 0.6102553 0.6102850  
[451] 0.6102924 0.6104487 0.6104681 0.6105236 0.6106355  
[456] 0.6106559 0.6107642 0.6111066 0.6114300 0.6116529  
[461] 0.6122364 0.6125433 0.6126997 0.6127467 0.6127644  
[466] 0.6127830 0.6131606 0.6133444 0.6134908 0.6139226  
[471] 0.6139792 0.6139936 0.6144418 0.6144797 0.6145207  
[476] 0.6146267 0.6146740 0.6150069 0.6151394 0.6153340  
[481] 0.6155885 0.6157440 0.6158073 0.6159082 0.6163257  
[486] 0.6165448 0.6168032 0.6169497 0.6169962 0.6170420  
[491] 0.6173090 0.6173170 0.6174536 0.6175601 0.6176825  
[496] 0.6177927 0.6178447 0.6179302 0.6179897 0.6182036  
[501] 0.6183317 0.6186084 0.6186233 0.6186247 0.6186564  
[506] 0.6188646 0.6189774 0.6190006 0.6190407 0.6191142  
[511] 0.6192314 0.6192576 0.6195976 0.6196130 0.6198030  
[516] 0.6198404 0.6198812 0.6199693 0.6201273 0.6205131  
[521] 0.6205737 0.6206056 0.6206065 0.6206387 0.6206780  
[526] 0.6206944 0.6207432 0.6207844 0.6208683 0.6209888  
[531] 0.6215200 0.6216511 0.6218479 0.6221656 0.6221730  
[536] 0.6222173 0.6222598 0.6224234 0.6224424 0.6228002  
[541] 0.6229413 0.6230881 0.6231093 0.6234473 0.6235125  
[546] 0.6237934 0.6238627 0.6242355 0.6242446 0.6243460  
[551] 0.6243523 0.6244241 0.6244599 0.6244640 0.6246626  
[556] 0.6250775 0.6250959 0.6252612 0.6252875 0.6254953  
[561] 0.6256023 0.6256106 0.6259869 0.6259891 0.6262083  
[566] 0.6266888 0.6266915 0.6267394 0.6270401 0.6270841  
[571] 0.6270868 0.6271336 0.6271701 0.6273260 0.6273385  
[576] 0.6274231 0.6275283 0.6276653 0.6278119 0.6281080  
[581] 0.6284752 0.6284858 0.6285177 0.6285926 0.6286321  
[586] 0.6287531 0.6289327 0.6289598 0.6295264 0.6296954  
[591] 0.6297753 0.6300296 0.6300988 0.6301234 0.6303782  
[596] 0.6304320 0.6305456 0.6305603 0.6306257 0.6306259  
[601] 0.6306860 0.6313071 0.6314520 0.6315657 0.6316292

Lampiran 9.1 : Sambungan.

[606] 0.6317132 0.6317173 0.6317711 0.6318439 0.6318660  
[611] 0.6318722 0.6319405 0.6322129 0.6322732 0.6324524  
[616] 0.6325601 0.6327602 0.6329171 0.6330035 0.6330237  
[621] 0.6330752 0.6330955 0.6331109 0.6332293 0.6332465  
[626] 0.6332622 0.6334435 0.6335738 0.6335948 0.6336975  
[631] 0.6338121 0.6339440 0.6343365 0.6345363 0.6348656  
[636] 0.6348870 0.6349077 0.6352722 0.6358866 0.6360230  
[641] 0.6360332 0.6360513 0.6361323 0.6363259 0.6364136  
[646] 0.6365111 0.6366342 0.6367110 0.6367801 0.6369628  
[651] 0.6369871 0.6371622 0.6371982 0.6374037 0.6374309  
[656] 0.6375667 0.6376691 0.6378025 0.6378435 0.6380355  
[661] 0.6384985 0.6385502 0.6386312 0.6386698 0.6388170  
[666] 0.6389977 0.6391722 0.6392180 0.6392559 0.6393607  
[671] 0.6397380 0.6398976 0.6400282 0.6402141 0.6402251  
[676] 0.6403126 0.6404667 0.6404974 0.6406472 0.6406958  
[681] 0.6407354 0.6407481 0.6408638 0.6411384 0.6411481  
[686] 0.6411975 0.6411977 0.6413420 0.6413731 0.6414604  
[691] 0.6414621 0.6415151 0.6416631 0.6419483 0.6422941  
[696] 0.6423764 0.6424019 0.6425778 0.6426184 0.6429506  
[701] 0.6431536 0.6435282 0.6436018 0.6436526 0.6438285  
[706] 0.6438319 0.6438950 0.6440219 0.6441851 0.6443372  
[711] 0.6448687 0.6450080 0.6451927 0.6453057 0.6455244  
[716] 0.6455417 0.6455601 0.6455967 0.6455982 0.6456187  
[721] 0.6456355 0.6456918 0.6457143 0.6459571 0.6460145  
[726] 0.6460308 0.6460835 0.6461118 0.6463609 0.6464807  
[731] 0.6465317 0.6466950 0.6467772 0.6470454 0.6474248  
[736] 0.6474344 0.6476780 0.6478678 0.6479324 0.6480637  
[741] 0.6482241 0.6483806 0.6484261 0.6485193 0.6485537  
[746] 0.6486962 0.6487258 0.6487358 0.6488758 0.6490542  
[751] 0.6491916 0.6493465 0.6493873 0.6495054 0.6497550  
[756] 0.6499953 0.6500484 0.6501773 0.6502180 0.6503195  
[761] 0.6507189 0.6508332 0.6508763 0.6509019 0.6511231  
[766] 0.6515073 0.6515520 0.6516414 0.6518132 0.6518244  
[771] 0.6519605 0.6522083 0.6522520 0.6525049 0.6525783  
[776] 0.6526279 0.6527035 0.6527570 0.6528580 0.6529031  
[781] 0.6530073 0.6530601 0.6531288 0.6532705 0.6536274  
[786] 0.6537657 0.6538949 0.6539080 0.6539084 0.6539768  
[791] 0.6540447 0.6541660 0.6541865 0.6542576 0.6542718  
[796] 0.6542937 0.6545111 0.6546342 0.6547281 0.6548517  
[801] 0.6550059 0.6550383 0.6552170 0.6552925 0.6553200  
[806] 0.6553265 0.6555724 0.6557322 0.6557544 0.6559422

Lampiran 9.1 : Sambungan.

[811] 0.6563702 0.6566975 0.6567608 0.6567622 0.6568354  
[816] 0.6568863 0.6570436 0.6571503 0.6571666 0.6572167  
[821] 0.6572966 0.6573191 0.6573535 0.6573710 0.6573949  
[826] 0.6574115 0.6579824 0.6579953 0.6582642 0.6582713  
[831] 0.6584043 0.6584891 0.6586005 0.6589309 0.6591709  
[836] 0.6593599 0.6595153 0.6595307 0.6595450 0.6595692  
[841] 0.6595707 0.6596330 0.6597761 0.6598099 0.6598597  
[846] 0.6601567 0.6601766 0.6601856 0.6602290 0.6602313  
[851] 0.6602519 0.6605108 0.6605269 0.6606966 0.6607806  
[856] 0.6607839 0.6608335 0.6612083 0.6612886 0.6615366  
[861] 0.6616871 0.6617143 0.6617211 0.6617619 0.6617767  
[866] 0.6618988 0.6619279 0.6619579 0.6619987 0.6620365  
[871] 0.6620563 0.6624245 0.6624620 0.6625986 0.6626573  
[876] 0.6626998 0.6627272 0.6629708 0.6630058 0.6630653  
[881] 0.6633124 0.6634523 0.6635219 0.6638361 0.6639779  
[886] 0.6641591 0.6641904 0.6643402 0.6643970 0.6645619  
[891] 0.6648315 0.6648666 0.6649973 0.6653441 0.6655158  
[896] 0.6655861 0.6656294 0.6657085 0.6662410 0.6662672  
[901] 0.6669206 0.6669722 0.6677359 0.6677461 0.6678381  
[906] 0.6679177 0.6679891 0.6680072 0.6681501 0.6682003  
[911] 0.6682401 0.6682490 0.6682557 0.6683663 0.6684452  
[916] 0.6684715 0.6684727 0.6688853 0.6689562 0.6689569  
[921] 0.6692950 0.6693785 0.6694762 0.6694803 0.6694862  
[926] 0.6695675 0.6695998 0.6697978 0.6698195 0.6698708  
[931] 0.6698714 0.6699212 0.6699277 0.6700010 0.6703329  
[936] 0.6705204 0.6705233 0.6705897 0.6709195 0.6709732  
[941] 0.6710327 0.6711206 0.6711670 0.6711894 0.6714079  
[946] 0.6714372 0.6715822 0.6717082 0.6718765 0.6718907  
[951] 0.6719937 0.6720338 0.6721725 0.6722094 0.6722258  
[956] 0.6723209 0.6724023 0.6724187 0.6724235 0.6724342  
[961] 0.6724390 0.6725124 0.6726342 0.6729439 0.6729530  
[966] 0.6729559 0.6730137 0.6730180 0.6730385 0.6733809  
[971] 0.6734575 0.6735401 0.6735653 0.6735684 0.6736075  
[976] 0.6737452 0.6739835 0.6740133 0.6742703 0.6746273  
[981] 0.6746469 0.6746901 0.6747813 0.6748396 0.6750588  
[986] 0.6751062 0.6751108 0.6751825 0.6751855 0.6755103  
[991] 0.6755397 0.6755890 0.6757065 0.6757975 0.6762126  
[996] 0.6763050 0.6764536 0.6765190 0.6766180 0.6766420  
[1001] 0.6766689 0.6767861 0.6769652 0.6770222 0.6776142  
[1006] 0.6776518 0.6776729 0.6776989 0.6778201 0.6778370  
[1011] 0.6778969 0.6779147 0.6779711 0.6780230 0.6780354

Lampiran 9.1 : Sambungan.

[1016] 0.6782737 0.6783112 0.6783284 0.6783645 0.6784902  
[1021] 0.6785634 0.6788440 0.6789750 0.6790950 0.6791824  
[1026] 0.6792143 0.6792532 0.6795383 0.6799341 0.6799989  
[1031] 0.6800210 0.6801181 0.6801922 0.6804208 0.6806329  
[1036] 0.6807594 0.6810805 0.6811867 0.6812232 0.6814542  
[1041] 0.6815954 0.6815965 0.6817286 0.6818258 0.6818501  
[1046] 0.6820244 0.6820278 0.6822285 0.6822620 0.6823339  
[1051] 0.6825527 0.6826313 0.6826385 0.6827053 0.6828828  
[1056] 0.6829505 0.6830236 0.6832354 0.6833889 0.6838452  
[1061] 0.6839055 0.6840947 0.6841109 0.6842066 0.6842479  
[1066] 0.6843842 0.6844534 0.6844921 0.6845607 0.6847219  
[1071] 0.6849200 0.6850139 0.6850394 0.6853435 0.6854680  
[1076] 0.6855237 0.6855285 0.6857127 0.6858302 0.6858463  
[1081] 0.6858625 0.6860054 0.6860649 0.6863480 0.6864231  
[1086] 0.6864631 0.6867246 0.6869196 0.6870109 0.6872478  
[1091] 0.6874622 0.6874772 0.6875023 0.6877208 0.6877857  
[1096] 0.6880358 0.6881200 0.6883475 0.6885379 0.6886604  
[1101] 0.6886914 0.6887562 0.6887987 0.6888342 0.6889715  
[1106] 0.6891278 0.6891908 0.6893891 0.6895558 0.6899064  
[1111] 0.6899373 0.6901350 0.6902188 0.6902292 0.6903535  
[1116] 0.6905832 0.6906545 0.6906604 0.6906958 0.6907268  
[1121] 0.6909584 0.6911601 0.6912753 0.6912895 0.6913601  
[1126] 0.6914188 0.6914383 0.6914575 0.6914919 0.6915290  
[1131] 0.6915743 0.6915889 0.6917592 0.6917740 0.6917821  
[1136] 0.6918727 0.6921484 0.6923902 0.6926010 0.6927057  
[1141] 0.6927356 0.6928765 0.6929825 0.6930035 0.6931614  
[1146] 0.6931660 0.6932634 0.6933146 0.6933909 0.6933945  
[1151] 0.6934505 0.6934659 0.6934875 0.6935065 0.6935980  
[1156] 0.6938187 0.6939005 0.6939735 0.6940903 0.6941483  
[1161] 0.6942996 0.6943682 0.6943899 0.6946154 0.6946504  
[1166] 0.6948252 0.6950064 0.6951302 0.6951502 0.6951517  
[1171] 0.6951759 0.6952611 0.6954723 0.6956103 0.6957577  
[1176] 0.6958217 0.6959922 0.6962041 0.6962319 0.6962488  
[1181] 0.6964116 0.6965089 0.6966082 0.6968616 0.6969360  
[1186] 0.6969957 0.6970908 0.6971243 0.6971430 0.6973159  
[1191] 0.6973754 0.6974080 0.6977217 0.6977306 0.6977503  
[1196] 0.6978598 0.6979766 0.6980554 0.6981037 0.6981303  
[1201] 0.6981502 0.6981537 0.6982166 0.6982788 0.6983753  
[1206] 0.6983756 0.6985739 0.6986027 0.6988723 0.6989172  
[1211] 0.6989579 0.6992123 0.6993134 0.6996102 0.6998857  
[1216] 0.6999882 0.6999930 0.7000060 0.7000112 0.7000493

Lampiran 9.1 : Sambungan.

[1221] 0.7001211 0.7002041 0.7002548 0.7002798 0.7003220  
[1226] 0.7003435 0.7004003 0.7005518 0.7006400 0.7006771  
[1231] 0.7007829 0.7008775 0.7008831 0.7011966 0.7012622  
[1236] 0.7013847 0.7014331 0.7015214 0.7016516 0.7016842  
[1241] 0.7022070 0.7022843 0.7023681 0.7024353 0.7024543  
[1246] 0.7026608 0.7027871 0.7029242 0.7030447 0.7030596  
[1251] 0.7033085 0.7034749 0.7037204 0.7037230 0.7037670  
[1256] 0.7039762 0.7040688 0.7041531 0.7042375 0.7042846  
[1261] 0.7044463 0.7045984 0.7046576 0.7047065 0.7049496  
[1266] 0.7049836 0.7050098 0.7050521 0.7051370 0.7051633  
[1271] 0.7053767 0.7054887 0.7055846 0.7056180 0.7056857  
[1276] 0.7058640 0.7058664 0.7061154 0.7061877 0.7061986  
[1281] 0.7063072 0.7063988 0.7065116 0.7065452 0.7067094  
[1286] 0.7070069 0.7071060 0.7071093 0.7072124 0.7076846  
[1291] 0.7077852 0.7078736 0.7080266 0.7082115 0.7084867  
[1296] 0.7085612 0.7085921 0.7087681 0.7088196 0.7088681  
[1301] 0.7089439 0.7091609 0.7092034 0.7094372 0.7095324  
[1306] 0.7096234 0.7099563 0.7100351 0.7100404 0.7100860  
[1311] 0.7102317 0.7103741 0.7111604 0.7112216 0.7112829  
[1316] 0.7114666 0.7115294 0.7116361 0.7116911 0.7119064  
[1321] 0.7120799 0.7120962 0.7121569 0.7122270 0.7123970  
[1326] 0.7124192 0.7124208 0.7124480 0.7125208 0.7125605  
[1331] 0.7125966 0.7126681 0.7127984 0.7128171 0.7128600  
[1336] 0.7129394 0.7131393 0.7131656 0.7131954 0.7132086  
[1341] 0.7132449 0.7132929 0.7133141 0.7133591 0.7136523  
[1346] 0.7137154 0.7137287 0.7137600 0.7137945 0.7138271  
[1351] 0.7139717 0.7142980 0.7143476 0.7144645 0.7146598  
[1356] 0.7147532 0.7147857 0.7148427 0.7148813 0.7148960  
[1361] 0.7149619 0.7150660 0.7152503 0.7153410 0.7154067  
[1366] 0.7155428 0.7155826 0.7156505 0.7157335 0.7157672  
[1371] 0.7157847 0.7158138 0.7158704 0.7159833 0.7161314  
[1376] 0.7161449 0.7161829 0.7163676 0.7164311 0.7164423  
[1381] 0.7165076 0.7165741 0.7169425 0.7171409 0.7171547  
[1386] 0.7173218 0.7173650 0.7175319 0.7177377 0.7179245  
[1391] 0.7180407 0.7181016 0.7181442 0.7182115 0.7182884  
[1396] 0.7183008 0.7183512 0.7185442 0.7185533 0.7185881  
[1401] 0.7185934 0.7187020 0.7187451 0.7190429 0.7190543  
[1406] 0.7191228 0.7191589 0.7192504 0.7192650 0.7192753  
[1411] 0.7193649 0.7193825 0.7195406 0.7196765 0.7196767  
[1416] 0.7197004 0.7200206 0.7200657 0.7202651 0.7204204  
[1421] 0.7204657 0.7205597 0.7207869 0.7208639 0.7209024



Lampiran 9.1 : Sambungan.

[1426] 0.7209554 0.7209667 0.7211771 0.7211776 0.7212258  
[1431] 0.7212781 0.7213835 0.7213882 0.7215847 0.7216404  
[1436] 0.7217377 0.7218366 0.7221172 0.7222428 0.7222810  
[1441] 0.7225384 0.7226328 0.7227360 0.7227935 0.7228881  
[1446] 0.7229325 0.7229590 0.7229998 0.7230009 0.7230369  
[1451] 0.7230407 0.7230843 0.7231284 0.7231479 0.7231532  
[1456] 0.7231984 0.7232881 0.7233383 0.7234116 0.7235021  
[1461] 0.7236202 0.7237785 0.7238143 0.7241292 0.7244087  
[1466] 0.7244256 0.7244576 0.7251767 0.7252137 0.7252641  
[1471] 0.7252758 0.7253021 0.7254876 0.7254933 0.7255112  
[1476] 0.7258219 0.7259763 0.7259983 0.7260350 0.7261212  
[1481] 0.7262774 0.7263929 0.7269331 0.7269525 0.7270011  
[1486] 0.7270302 0.7271280 0.7271320 0.7272859 0.7275772  
[1491] 0.7277049 0.7277330 0.7279140 0.7279502 0.7282922  
[1496] 0.7284302 0.7285984 0.7286871 0.7287496 0.7288827  
[1501] 0.7290107 0.7290789 0.7291198 0.7292051 0.7293287  
[1506] 0.7293298 0.7294596 0.7295141 0.7295601 0.7296607  
[1511] 0.7296844 0.7296878 0.7298473 0.7298984 0.7300055  
[1516] 0.7301009 0.7301403 0.7301407 0.7302207 0.7303645  
[1521] 0.7305000 0.7306165 0.7306908 0.7310102 0.7310390  
[1526] 0.7311549 0.7312872 0.7314024 0.7315069 0.7316012  
[1531] 0.7317343 0.7317345 0.7318530 0.7318643 0.7319679  
[1536] 0.7319834 0.7320927 0.7323357 0.7326365 0.7326667  
[1541] 0.7327399 0.7331241 0.7331378 0.7332016 0.7332278  
[1546] 0.7333349 0.7333494 0.7334451 0.7334660 0.7335916  
[1551] 0.7342545 0.7343257 0.7343452 0.7343911 0.7344211  
[1556] 0.7344391 0.7344694 0.7345812 0.7347323 0.7347800  
[1561] 0.7349815 0.7351269 0.7351815 0.7352257 0.7352657  
[1566] 0.7353234 0.7353552 0.7353643 0.7354774 0.7355045  
[1571] 0.7355124 0.7355152 0.7356339 0.7356815 0.7357835  
[1576] 0.7358043 0.7359150 0.7359157 0.7359373 0.7360045  
[1581] 0.7363911 0.7364200 0.7364943 0.7365019 0.7365424  
[1586] 0.7365643 0.7367359 0.7367878 0.7368109 0.7368836  
[1591] 0.7369176 0.7369339 0.7371367 0.7372281 0.7372972  
[1596] 0.7373691 0.7374384 0.7375909 0.7376049 0.7376263  
[1601] 0.7376491 0.7376983 0.7377313 0.7377563 0.7377767  
[1606] 0.7377920 0.7379049 0.7380363 0.7380774 0.7384566  
[1611] 0.7385035 0.7385465 0.7385718 0.7386277 0.7386845  
[1616] 0.7387370 0.7387641 0.7387647 0.7388379 0.7390522  
[1621] 0.7394377 0.7397162 0.7398939 0.7399086 0.7401080  
[1626] 0.7403089 0.7403851 0.7404698 0.7405290 0.7405747

Lampiran 9.1 : Sambungan.

[1631] 0.7407292 0.7408321 0.7408520 0.7410747 0.7412012  
[1636] 0.7412655 0.7413840 0.7414819 0.7418668 0.7419084  
[1641] 0.7419214 0.7420869 0.7424149 0.7424937 0.7425762  
[1646] 0.7426314 0.7427320 0.7428086 0.7428492 0.7428865  
[1651] 0.7429321 0.7430353 0.7430512 0.7432239 0.7433259  
[1656] 0.7434719 0.7435954 0.7438462 0.7439188 0.7440468  
[1661] 0.7441996 0.7443911 0.7445241 0.7447309 0.7449272  
[1666] 0.7450731 0.7450772 0.7451273 0.7451774 0.7452396  
[1671] 0.7452610 0.7457632 0.7458909 0.7464440 0.7465217  
[1676] 0.7465550 0.7465800 0.7466510 0.7466652 0.7467551  
[1681] 0.7469335 0.7469397 0.7469466 0.7470038 0.7470192  
[1686] 0.7471339 0.7473961 0.7475880 0.7476985 0.7479218  
[1691] 0.7481289 0.7482813 0.7483394 0.7484711 0.7487107  
[1696] 0.7487773 0.7487903 0.7489571 0.7491977 0.7493213  
[1701] 0.7494698 0.7497026 0.7498760 0.7499573 0.7503529  
[1706] 0.7504935 0.7508597 0.7510127 0.7512454 0.7515901  
[1711] 0.7518283 0.7518485 0.7519267 0.7519377 0.7521327  
[1716] 0.7521996 0.7524906 0.7525497 0.7528878 0.7530195  
[1721] 0.7532741 0.7532976 0.7533522 0.7537618 0.7539479  
[1726] 0.7540337 0.7542276 0.7542981 0.7544280 0.7545982  
[1731] 0.7549313 0.7549872 0.7550030 0.7550777 0.7552138  
[1736] 0.7553783 0.7554623 0.7557503 0.7559297 0.7559394  
[1741] 0.7561726 0.7563224 0.7563690 0.7565757 0.7565993  
[1746] 0.7567722 0.7568355 0.7569638 0.7571228 0.7571317  
[1751] 0.7572313 0.7572749 0.7574148 0.7574216 0.7574296  
[1756] 0.7574978 0.7577407 0.7578747 0.7578887 0.7583266  
[1761] 0.7583593 0.7584407 0.7585250 0.7586574 0.7587146  
[1766] 0.7589058 0.7589267 0.7591611 0.7595719 0.7598019  
[1771] 0.7598621 0.7600661 0.7603021 0.7604095 0.7604423  
[1776] 0.7609445 0.7610080 0.7613782 0.7616438 0.7621552  
[1781] 0.7624883 0.7629201 0.7630877 0.7630904 0.7630910  
[1786] 0.7631562 0.7632253 0.7633988 0.7634236 0.7636021  
[1791] 0.7636935 0.7638384 0.7638577 0.7639436 0.7640343  
[1796] 0.7641786 0.7647351 0.7648766 0.7651708 0.7653295  
[1801] 0.7654458 0.7655985 0.7657197 0.7657537 0.7658510  
[1806] 0.7658722 0.7659247 0.7660698 0.7661288 0.7663647  
[1811] 0.7665406 0.7665757 0.7669265 0.7669668 0.7670982  
[1816] 0.7671814 0.7673454 0.7674457 0.7675376 0.7676486  
[1821] 0.7676651 0.7681988 0.7684266 0.7686731 0.7686861  
[1826] 0.7686904 0.7689463 0.7690939 0.7692645 0.7694048  
[1831] 0.7698905 0.7699332 0.7699369 0.7702118 0.7703665

Lampiran 9.1 : Sambungan.

[1836] 0.7707352 0.7707519 0.7711961 0.7714692 0.7715889  
[1841] 0.7721643 0.7726383 0.7728338 0.7728516 0.7730231  
[1846] 0.7731444 0.7732463 0.7734852 0.7735716 0.7738776  
[1851] 0.7742165 0.7743048 0.7743897 0.7746716 0.7749453  
[1856] 0.7749729 0.7755011 0.7758076 0.7762461 0.7763914  
[1861] 0.7765397 0.7766032 0.7766222 0.7766506 0.7768465  
[1866] 0.7769323 0.7772780 0.7774553 0.7777442 0.7777483  
[1871] 0.7781675 0.7782859 0.7783058 0.7784996 0.7785954  
[1876] 0.7789137 0.7789205 0.7789248 0.7792473 0.7793301  
[1881] 0.7795760 0.7801602 0.7802538 0.7803296 0.7806492  
[1886] 0.7810847 0.7811568 0.7813076 0.7815748 0.7820022  
[1891] 0.7822095 0.7824724 0.7825923 0.7828500 0.7836605  
[1896] 0.7839379 0.7839621 0.7840611 0.7841398 0.7841546  
[1901] 0.7841671 0.7842168 0.7844189 0.7850807 0.7852547  
[1906] 0.7853180 0.7855071 0.7858906 0.7859888 0.7861169  
[1911] 0.7862936 0.7863218 0.7867014 0.7872331 0.7872769  
[1916] 0.7880146 0.7888420 0.7888830 0.7889544 0.7891975  
[1921] 0.7893749 0.7895280 0.7896642 0.7897337 0.7900758  
[1926] 0.7903746 0.7903766 0.7904800 0.7907327 0.7910776  
[1931] 0.7912946 0.7918831 0.7940359 0.7947681 0.7948734  
[1936] 0.7952467 0.7954161 0.7956487 0.7965935 0.7970192  
[1941] 0.7982632 0.7984117 0.7987463 0.7994047 0.7994121  
[1946] 0.7995768 0.7997079 0.7999173 0.8003469 0.8008263  
**[1951] 0.8008494 0.8014944 0.8020736 0.8022737 0.8023935**  
**[1956] 0.8024970 0.8025952 0.8030425 0.8032060 0.8032470**  
**[1961] 0.8032635 0.8035971 0.8036304 0.8036552 0.8037151**  
**[1966] 0.8037267 0.8044788 0.8053418 0.8056059 0.8057031**  
**[1971] 0.8059629 0.8060893 0.8064789 0.8080013 0.8081906**  
**[1976] 0.8088068 0.8090302 0.8101923 0.8117934 0.8125758**  
**[1981] 0.8128003 0.8129671 0.8211229 0.8217227 0.8220184**  
**[1986] 0.8239763 0.8264352 0.8272657 0.8295233 0.8318397**  
**[1991] 0.8325795 0.8342738 0.8344974 0.8396358 0.8421798**  
**[1996] 0.8443003 0.8467653 0.8505905 0.8565992 0.8613249**

Keterangan : nilai yang di cetak tebal merupakan angka – angka hasil proses *Bootstrap* dibuang yaitu nilai – nilai yang berada di luar 95 % selang kepercayaan (2,5 % bagian atas dan 2,5 % bagian bawah).

Lampiran 10 : Program peramalan ARIMA (2,0,0) untuk kasus umum dan kasus khusus dengan menggunakan nilai parameter asli.

```
function(data)
{
    graphics.off()
    x <- data
    m <- mean(x)
    x <- x - m
    n <- length(x)
    unit <- 2
    y <- x
    for(t in (unit + 1):n) {
        y[t] <- 0.61356 * x[t - 1] - 0.38304 *
            x[t - 2]
    }
    k <- as.numeric(readline(
        "Jumlah lag yang akan diforecast="))
    for(t in (n + 1):(n + k)) {
        y[t] <- 0.61356 * y[t - 1] - 0.38304 *
            y[t - 2]
    }
    y <- y + m
    list(y)
}
```

Lampiran 11 : Program peramalan ARIMA (2,0,0) untuk kasus umum dengan menggunakan nilai parameter batas atas selang kepercayaan hasil proses *Bootstrap*.

```
function(data)
{
  graphics.off()
  x <- data
  m <- mean(x)
  x <- x - m
  unit <- 2
  n <- length(x)
  y <- x
  for(t in (unit + 1):n) {
    y[t] <- 0.9292256 * x[t - 1] -
            0.1765554 * x[t - 2]
  }
  k <- as.numeric(readline(
    "Jumlah lag yang akan diforecast="))
  for(t in (n + 1):(n + k)) {
    y[t] <- 0.9292256 * y[t - 1] -
            0.1765554 * y[t - 2]
  }
  y <- y + m
  list(y)
}
```

Lampiran 12 : Program peramalan ARIMA (2,0,0) untuk kasus umum dengan menggunakan nilai parameter batas bawah selang kepercayaan hasil proses *Bootstrap*.

```
function(data)
{
  graphics.off()
  x <- data
  m <- mean(x)
  x <- x - m
  unit <- 2
  n <- length(x)
  y <- x
  for(t in (unit + 1):n) {
    y[t] <- {0.2350695 * x[t - 1]} - {0.746555 * x[t - 2]}
  }
  k <- as.numeric(readline(
    "Jumlah lag yang akan diforecast="))
  for(t in (n + 1):(n + k)) {
    y[t] <- {0.2350695 * y[t - 1]} - {0.746555 * y[t - 2]}
  }
  y <- y + m
  list(y)
}
```

Lampiran 13 : Program peramalan ARIMA (1,0,0) untuk kasus khusus dengan menggunakan nilai parameter asli.

```
function(data)
{
  graphics.off()
  x <- data
  ar <- ar.yw(x)
  m <- mean(x)
  x <- x - m
  n <- length(x)
  unit <- ar$order
  phi <- c()
  for(i in 1:unit)
    phi[i] <- ar$ar[i]
  y <- x
  for(t in (unit + 1):n) {
    for(i in 1:unit)
      y[t] <- phi[i] * x[t - i]
  }
  k <- as.numeric(readline(
    "Jumlah lag yang akan diforecast="))
  for(t in (n + 1):(n + k)) {
    for(i in 1:unit)
      y[t] <- phi[i] * y[t - i]
  }
  y <- y + m
  list(y)
}
```

Lampiran 14 : Program peramalan ARIMA (1,0,0) untuk kasus khusus dengan menggunakan nilai parameter batas bawah selang kepercayaan hasil proses *Bootstrap*.

```
function(data)
{
  graphics.off()
  x <- data
  ar <- ar.yw(x)
  m <- mean(x)
  x <- x - m
  unit <- ar$order
  n <- length(x)
  phi <- 0.4938674
  y <- x
  for(t in (unit + 1):n) {
    for(i in 1:unit)
      y[t] <- phi * x[t - i]
  }
  k <- as.numeric(readline(
    "Jumlah lag yang akan diforecast="))
  for(t in (n + 1):(n + k)) {
    for(i in 1:unit)
      y[t] <- phi * y[t - i]
  }
  y <- y + m
  list(y)
}
```



Lampiran 15 : Program peramalan ARIMA (1,0,0) untuk kasus khusus dengan menggunakan nilai parameter batas atas selang kepercayaan hasil proses *Bootstrap*.

```
function(data)
{
  graphics.off()
  x <- data
  ar <- ar.yw(x)
  m <- mean(x)
  x <- x - m
  unit <- ar$order
  n <- length(x)
  phi <- 0.8008263
  y <- x
  for(t in (unit + 1):n) {
    for(i in 1:unit)
      y[t] <- phi * x[t - i] }
  k <- as.numeric(readline(
    "Jumlah lag yang akan diforecast="))
  for(t in (n + 1):(n + k)) {
    for(i in 1:unit)
      y[t] <- phi * y[t - i]
  }
  y <- y + m
  list(y)
}
```