FinalProjectHaub

Haub

2023-04-02

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
##
                     dist
       speed
  Min. : 4.0
               Min. : 2.00
##
  1st Qu.:12.0
                 1st Qu.: 26.00
## Median :15.0
                 Median : 36.00
        :15.4
                 Mean : 42.98
## Mean
## 3rd Qu.:19.0
                 3rd Qu.: 56.00
## Max. :25.0
                 Max. :120.00
```

Including Plots

You can also embed plots, for example:



Note that the echo = FALSE parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Imported Libraries

```
library(tswge)
## Warning: package 'tswge' was built under R version 4.1.3
## Registered S3 method overwritten by 'quantmod':
     method
                       from
##
##
     as.zoo.data.frame zoo
##
## Attaching package: 'tswge'
## The following object is masked from 'package:datasets':
##
##
       uspop
library(magrittr)
library(dplyr)
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##
      filter, lag
## The following objects are masked from 'package:base':
##
##
      intersect, setdiff, setequal, union
library(tidyverse)
## -- Attaching packages ----- tidyverse
1.3.1 --
## v ggplot2 3.3.5
                              0.3.4
                      v purrr
## v tibble 3.1.6
                      v stringr 1.4.0
                      v forcats 0.5.1
## v tidyr 1.1.4
## v readr
            2.0.2
## -- Conflicts -------
tidyverse conflicts() --
## x tidyr::extract() masks magrittr::extract()
## x dplyr::filter() masks stats::filter()
## x dplyr::lag() masks stats::lag()
## x purrr::set_names() masks magrittr::set_names()
library(stats)
library(matlab)
## Warning: package 'matlab' was built under R version 4.1.3
##
## Attaching package: 'matlab'
## The following object is masked from 'package:magrittr':
##
##
      mod
## The following object is masked from 'package:stats':
##
##
      reshape
## The following objects are masked from 'package:utils':
##
      find, fix
##
## The following object is masked from 'package:base':
##
##
      sum
library(tseries)
## Warning: package 'tseries' was built under R version 4.1.3
```

```
library(vars)
## Warning: package 'vars' was built under R version 4.1.3
## Loading required package: MASS
##
## Attaching package: 'MASS'
## The following object is masked from 'package:dplyr':
##
##
       select
## The following object is masked from 'package:tswge':
##
##
       cement
## Loading required package: strucchange
## Warning: package 'strucchange' was built under R version 4.1.2
## Loading required package: zoo
##
## Attaching package: 'zoo'
## The following objects are masked from 'package:base':
##
       as.Date, as.Date.numeric
##
## Loading required package: sandwich
## Warning: package 'sandwich' was built under R version 4.1.2
##
## Attaching package: 'strucchange'
## The following object is masked from 'package:stringr':
##
##
       boundary
## Loading required package: urca
## Warning: package 'urca' was built under R version 4.1.3
## Loading required package: lmtest
## Warning: package 'lmtest' was built under R version 4.1.3
##
## Attaching package: 'lmtest'
```

```
## The following object is masked from 'package:tswge':
##
##
       wages
library(RColorBrewer)
library(nnfor)
## Warning: package 'nnfor' was built under R version 4.1.3
## Loading required package: generics
## Warning: package 'generics' was built under R version 4.1.3
##
## Attaching package: 'generics'
## The following object is masked from 'package:sandwich':
##
##
       estfun
## The following object is masked from 'package:dplyr':
##
##
       explain
## The following objects are masked from 'package:base':
       as.difftime, as.factor, as.ordered, intersect, is.element, setdiff,
##
##
       setequal, union
library(keras)
## Warning: package 'keras' was built under R version 4.1.3
##
## Attaching package: 'keras'
## The following object is masked from 'package:generics':
##
##
       evaluate
library(tfruns)
## Warning: package 'tfruns' was built under R version 4.1.3
library(tinytex)
# install.packages("contrib.url")
# library(contrib.url)
```

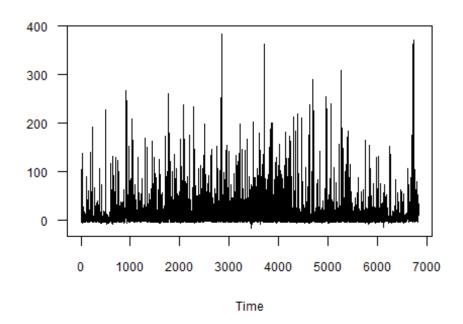
Import merged data frame

```
flightdf=read.csv("D:/SMUMSDS/TimeSeries/Final
Project/ModAirDelay2018V3.csv", header = TRUE)
head(flightdf)
```

```
year month day DEP_TIME avg_dep_delay avg_temp avg_humidity
                                                  24.22
## 1 2018
               1
                   1
                             5
                                        -3.50
                                                                   41
                                        10.50
## 2 2018
               1
                   1
                             6
                                                  22.84
                                                                   39
## 3 2018
               1
                   1
                             7
                                         8.92
                                                  21.40
                                                                   42
                             8
                                        52.07
                                                  20.97
                                                                   42
## 4 2018
               1
                   1
## 5 2018
               1
                   1
                             9
                                        12.09
                                                  19.53
                                                                   46
## 6 2018
                   1
               1
                            10
                                        23.71
                                                  19.51
                                                                   48
```

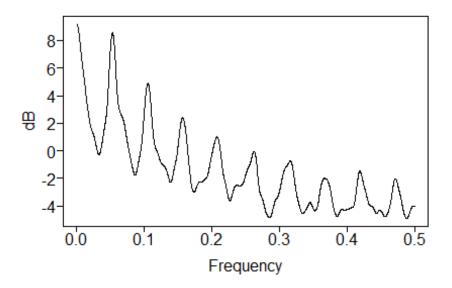
EDA

plotts.wge(flightdf\$avg_dep_delay)



parzen.wge(flightdf\$avg_dep_delay)

Parzen Window Truncation point: M = 165



```
##
   $freq
##
      [1] 0.0001461988 0.0002923977 0.0004385965 0.0005847953 0.0007309942
##
      [6] 0.0008771930 0.0010233918 0.0011695906 0.0013157895 0.0014619883
##
     [11] 0.0016081871 0.0017543860 0.0019005848 0.0020467836 0.0021929825
     [16] 0.0023391813 0.0024853801 0.0026315789 0.0027777778 0.0029239766
##
##
     [21] 0.0030701754 0.0032163743 0.0033625731 0.0035087719 0.0036549708
     [26] 0.0038011696 0.0039473684 0.0040935673 0.0042397661 0.0043859649
##
##
     [31] 0.0045321637 0.0046783626 0.0048245614 0.0049707602 0.0051169591
     [36] 0.0052631579 0.0054093567 0.0055555556 0.0057017544 0.0058479532
##
##
     [41] 0.0059941520 0.0061403509 0.0062865497 0.0064327485 0.0065789474
     [46] 0.0067251462 0.0068713450 0.0070175439 0.0071637427 0.0073099415
##
##
     [51] 0.0074561404 0.0076023392 0.0077485380 0.0078947368 0.0080409357
     [56] 0.0081871345 0.0083333333 0.0084795322 0.0086257310 0.0087719298
##
     [61] 0.0089181287 0.0090643275 0.0092105263 0.0093567251 0.0095029240
##
     [66] 0.0096491228 0.0097953216 0.0099415205 0.0100877193 0.0102339181
##
     [71] 0.0103801170 0.0105263158 0.0106725146 0.0108187135 0.0109649123
##
##
     [76] 0.011111111 0.0112573099 0.0114035088 0.0115497076 0.0116959064
##
     [81] 0.0118421053 0.0119883041 0.0121345029 0.0122807018 0.0124269006
##
     [86] 0.0125730994 0.0127192982 0.0128654971 0.0130116959 0.0131578947
##
     [91] 0.0133040936 0.0134502924 0.0135964912 0.0137426901 0.0138888889
##
     [96] 0.0140350877 0.0141812865 0.0143274854 0.0144736842 0.0146198830
    [101] 0.0147660819 0.0149122807 0.0150584795 0.0152046784 0.0153508772
##
    [106] 0.0154970760 0.0156432749 0.0157894737 0.0159356725 0.0160818713
##
##
    [111] 0.0162280702 0.0163742690 0.0165204678 0.01666666667 0.0168128655
    [116] 0.0169590643 0.0171052632 0.0172514620 0.0173976608 0.0175438596
##
##
    [121] 0.0176900585 0.0178362573 0.0179824561 0.0181286550 0.0182748538
    [126] 0.0184210526 0.0185672515 0.0187134503 0.0188596491 0.0190058480
```

```
[131] 0.0191520468 0.0192982456 0.0194444444 0.0195906433 0.0197368421
    [136] 0.0198830409 0.0200292398 0.0201754386 0.0203216374 0.0204678363
##
    [141] 0.0206140351 0.0207602339 0.0209064327 0.0210526316 0.0211988304
##
    [146] 0.0213450292 0.0214912281 0.0216374269 0.0217836257 0.0219298246
##
##
    [151] 0.0220760234 0.0222222222 0.0223684211 0.0225146199 0.0226608187
    [156] 0.0228070175 0.0229532164 0.0230994152 0.0232456140 0.0233918129
##
    [161] 0.0235380117 0.0236842105 0.0238304094 0.0239766082 0.0241228070
    [166] 0.0242690058 0.0244152047 0.0245614035 0.0247076023 0.0248538012
##
    [171] 0.0250000000 0.0251461988 0.0252923977 0.0254385965 0.0255847953
##
    [176] 0.0257309942 0.0258771930 0.0260233918 0.0261695906 0.0263157895
    [181] 0.0264619883 0.0266081871 0.0267543860 0.0269005848 0.0270467836
##
    [186] 0.0271929825 0.0273391813 0.0274853801 0.0276315789 0.0277777778
##
##
    [191] 0.0279239766 0.0280701754 0.0282163743 0.0283625731 0.0285087719
##
    [196] 0.0286549708 0.0288011696 0.0289473684 0.0290935673 0.0292397661
    [201] 0.0293859649 0.0295321637 0.0296783626 0.0298245614 0.0299707602
##
    [206] 0.0301169591 0.0302631579 0.0304093567 0.0305555556 0.0307017544
##
    [211] 0.0308479532 0.0309941520 0.0311403509 0.0312865497 0.0314327485
##
    [216] 0.0315789474 0.0317251462 0.0318713450 0.0320175439 0.0321637427
    [221] 0.0323099415 0.0324561404 0.0326023392 0.0327485380 0.0328947368
##
##
    [226] 0.0330409357 0.0331871345 0.0333333333 0.0334795322 0.0336257310
##
    [231] 0.0337719298 0.0339181287 0.0340643275 0.0342105263 0.0343567251
    [236] 0.0345029240 0.0346491228 0.0347953216 0.0349415205 0.0350877193
##
    [241] 0.0352339181 0.0353801170 0.0355263158 0.0356725146 0.0358187135
##
##
    [246] 0.0359649123 0.0361111111 0.0362573099 0.0364035088 0.0365497076
    [251] 0.0366959064 0.0368421053 0.0369883041 0.0371345029 0.0372807018
##
##
    [256] 0.0374269006 0.0375730994 0.0377192982 0.0378654971 0.0380116959
    [261] 0.0381578947 0.0383040936 0.0384502924 0.0385964912 0.0387426901
##
    [266] 0.0388888889 0.0390350877 0.0391812865 0.0393274854 0.0394736842
##
    [271] 0.0396198830 0.0397660819 0.0399122807 0.0400584795 0.0402046784
##
##
    [276] 0.0403508772 0.0404970760 0.0406432749 0.0407894737 0.0409356725
    [281] 0.0410818713 0.0412280702 0.0413742690 0.0415204678 0.0416666667
##
    [286] 0.0418128655 0.0419590643 0.0421052632 0.0422514620 0.0423976608
##
    [291] 0.0425438596 0.0426900585 0.0428362573 0.0429824561 0.0431286550
##
    [296] 0.0432748538 0.0434210526 0.0435672515 0.0437134503 0.0438596491
##
##
    [301] 0.0440058480 0.0441520468 0.0442982456 0.0444444444 0.0445906433
    [306] 0.0447368421 0.0448830409 0.0450292398 0.0451754386 0.0453216374
##
    [311] 0.0454678363 0.0456140351 0.0457602339 0.0459064327 0.0460526316
##
##
    [316] 0.0461988304 0.0463450292 0.0464912281 0.0466374269 0.0467836257
    [321] 0.0469298246 0.0470760234 0.0472222222 0.0473684211 0.0475146199
##
    [326] 0.0476608187 0.0478070175 0.0479532164 0.0480994152 0.0482456140
##
    [331] 0.0483918129 0.0485380117 0.0486842105 0.0488304094 0.0489766082
##
    [336] 0.0491228070 0.0492690058 0.0494152047 0.0495614035 0.0497076023
    [341] 0.0498538012 0.0500000000 0.0501461988 0.0502923977 0.0504385965
    [346] 0.0505847953 0.0507309942 0.0508771930 0.0510233918 0.0511695906
##
    [351] 0.0513157895 0.0514619883 0.0516081871 0.0517543860 0.0519005848
##
##
    [356] 0.0520467836 0.0521929825 0.0523391813 0.0524853801 0.0526315789
##
    [361] 0.0527777778 0.0529239766 0.0530701754 0.0532163743 0.0533625731
    [366] 0.0535087719 0.0536549708 0.0538011696 0.0539473684 0.0540935673
##
    [371] 0.0542397661 0.0543859649 0.0545321637 0.0546783626 0.0548245614
## [376] 0.0549707602 0.0551169591 0.0552631579 0.0554093567 0.0555555556
```

```
[381] 0.0557017544 0.0558479532 0.0559941520 0.0561403509 0.0562865497
    [386] 0.0564327485 0.0565789474 0.0567251462 0.0568713450 0.0570175439
##
    [391] 0.0571637427 0.0573099415 0.0574561404 0.0576023392 0.0577485380
##
    [396] 0.0578947368 0.0580409357 0.0581871345 0.0583333333 0.0584795322
##
##
    [401] 0.0586257310 0.0587719298 0.0589181287 0.0590643275 0.0592105263
    [406] 0.0593567251 0.0595029240 0.0596491228 0.0597953216 0.0599415205
##
    [411] 0.0600877193 0.0602339181 0.0603801170 0.0605263158 0.0606725146
##
    [416] 0.0608187135 0.0609649123 0.0611111111 0.0612573099 0.0614035088
    [421] 0.0615497076 0.0616959064 0.0618421053 0.0619883041 0.0621345029
##
    [426] 0.0622807018 0.0624269006 0.0625730994 0.0627192982 0.0628654971
    [431] 0.0630116959 0.0631578947 0.0633040936 0.0634502924 0.0635964912
##
    [436] 0.0637426901 0.0638888889 0.0640350877 0.0641812865 0.0643274854
##
##
    [441] 0.0644736842 0.0646198830 0.0647660819 0.0649122807 0.0650584795
##
    [446] 0.0652046784 0.0653508772 0.0654970760 0.0656432749 0.0657894737
    [451] 0.0659356725 0.0660818713 0.0662280702 0.0663742690 0.0665204678
##
    [456] 0.0666666667 0.0668128655 0.0669590643 0.0671052632 0.0672514620
##
    [461] 0.0673976608 0.0675438596 0.0676900585 0.0678362573 0.0679824561
##
    [466] 0.0681286550 0.0682748538 0.0684210526 0.0685672515 0.0687134503
    [471] \ \ 0.0688596491 \ \ 0.0690058480 \ \ 0.0691520468 \ \ 0.0692982456 \ \ 0.0694444444
##
##
    [476] 0.0695906433 0.0697368421 0.0698830409 0.0700292398 0.0701754386
##
    [481] 0.0703216374 0.0704678363 0.0706140351 0.0707602339 0.0709064327
    [486] 0.0710526316 0.0711988304 0.0713450292 0.0714912281 0.0716374269
##
    [491] 0.0717836257 0.0719298246 0.0720760234 0.0722222222 0.0723684211
##
##
    [496] 0.0725146199 0.0726608187 0.0728070175 0.0729532164 0.0730994152
    [501] 0.0732456140 0.0733918129 0.0735380117 0.0736842105 0.0738304094
##
##
    [506] 0.0739766082 0.0741228070 0.0742690058 0.0744152047 0.0745614035
    [511] 0.0747076023 0.0748538012 0.0750000000 0.0751461988 0.0752923977
##
    [516] 0.0754385965 0.0755847953 0.0757309942 0.0758771930 0.0760233918
##
    [521] 0.0761695906 0.0763157895 0.0764619883 0.0766081871 0.0767543860
##
##
    [526] 0.0769005848 0.0770467836 0.0771929825 0.0773391813 0.0774853801
    [531] 0.0776315789 0.0777777778 0.0779239766 0.0780701754 0.0782163743
##
    [536] 0.0783625731 0.0785087719 0.0786549708 0.0788011696 0.0789473684
##
##
    [541] 0.0790935673 0.0792397661 0.0793859649 0.0795321637 0.0796783626
    [546] 0.0798245614 0.0799707602 0.0801169591 0.0802631579 0.0804093567
##
    [551] 0.0805555556 0.0807017544 0.0808479532 0.0809941520 0.0811403509
##
    [556] 0.0812865497 0.0814327485 0.0815789474 0.0817251462 0.0818713450
##
    [561] 0.0820175439 0.0821637427 0.0823099415 0.0824561404 0.0826023392
##
##
    [566] 0.0827485380 0.0828947368 0.0830409357 0.0831871345 0.0833333333
    [571] 0.0834795322 0.0836257310 0.0837719298 0.0839181287 0.0840643275
##
    [576] 0.0842105263 0.0843567251 0.0845029240 0.0846491228 0.0847953216
##
    [581] 0.0849415205 0.0850877193 0.0852339181 0.0853801170 0.0855263158
##
    [586] 0.0856725146 0.0858187135 0.0859649123 0.0861111111 0.0862573099
    [591] 0.0864035088 0.0865497076 0.0866959064 0.0868421053 0.0869883041
    [596] 0.0871345029 0.0872807018 0.0874269006 0.0875730994 0.0877192982
##
    [601] 0.0878654971 0.0880116959 0.0881578947 0.0883040936 0.0884502924
##
##
    [606] 0.0885964912 0.0887426901 0.0888888889 0.0890350877 0.0891812865
##
    [611] 0.0893274854 0.0894736842 0.0896198830 0.0897660819 0.0899122807
    [616] 0.0900584795 0.0902046784 0.0903508772 0.0904970760 0.0906432749
##
    [621] 0.0907894737 0.0909356725 0.0910818713 0.0912280702 0.0913742690
  [626] 0.0915204678 0.0916666667 0.0918128655 0.0919590643 0.0921052632
```

```
[631] 0.0922514620 0.0923976608 0.0925438596 0.0926900585 0.0928362573
    [636] 0.0929824561 0.0931286550 0.0932748538 0.0934210526 0.0935672515
##
    [641] 0.0937134503 0.0938596491 0.0940058480 0.0941520468 0.0942982456
##
    [646] 0.0944444444 0.0945906433 0.0947368421 0.0948830409 0.0950292398
##
    [651] 0.0951754386 0.0953216374 0.0954678363 0.0956140351 0.0957602339
##
    [656] 0.0959064327 0.0960526316 0.0961988304 0.0963450292 0.0964912281
##
##
    [661] 0.0966374269 0.0967836257 0.0969298246 0.0970760234 0.0972222222
    [666] 0.0973684211 0.0975146199 0.0976608187 0.0978070175 0.0979532164
##
    [671] 0.0980994152 0.0982456140 0.0983918129 0.0985380117 0.0986842105
##
    [676] 0.0988304094 0.0989766082 0.0991228070 0.0992690058 0.0994152047
    [681] 0.0995614035 0.0997076023 0.0998538012 0.1000000000 0.1001461988
##
    [686] 0.1002923977 0.1004385965 0.1005847953 0.1007309942 0.1008771930
##
    [691] 0.1010233918 0.1011695906 0.1013157895 0.1014619883 0.1016081871
##
##
    [696] 0.1017543860 0.1019005848 0.1020467836 0.1021929825 0.1023391813
    [701] 0.1024853801 0.1026315789 0.1027777778 0.1029239766 0.1030701754
##
    [706] 0.1032163743 0.1033625731 0.1035087719 0.1036549708 0.1038011696
##
    [711] 0.1039473684 0.1040935673 0.1042397661 0.1043859649 0.1045321637
    [716] 0.1046783626 0.1048245614 0.1049707602 0.1051169591 0.1052631579
##
    [721] 0.1054093567 0.1055555556 0.1057017544 0.1058479532 0.1059941520
##
##
    [726] 0.1061403509 0.1062865497 0.1064327485 0.1065789474 0.1067251462
##
    [731] 0.1068713450 0.1070175439 0.1071637427 0.1073099415 0.1074561404
    [736] 0.1076023392 0.1077485380 0.1078947368 0.1080409357 0.1081871345
##
    [741] 0.1083333333 0.1084795322 0.1086257310 0.1087719298 0.1089181287
##
##
    [746] 0.1090643275 0.1092105263 0.1093567251 0.1095029240 0.1096491228
    [751] 0.1097953216 0.1099415205 0.1100877193 0.1102339181 0.1103801170
##
##
    [756] 0.1105263158 0.1106725146 0.1108187135 0.1109649123 0.1111111111
    [761] 0.1112573099 0.1114035088 0.1115497076 0.1116959064 0.1118421053
##
    [766] 0.1119883041 0.1121345029 0.1122807018 0.1124269006 0.1125730994
##
    [771] 0.1127192982 0.1128654971 0.1130116959 0.1131578947 0.1133040936
##
    [776] 0.1134502924 0.1135964912 0.1137426901 0.1138888889 0.1140350877
##
    [781] 0.1141812865 0.1143274854 0.1144736842 0.1146198830 0.1147660819
##
    [786] 0.1149122807 0.1150584795 0.1152046784 0.1153508772 0.1154970760
##
##
    [791] 0.1156432749 0.1157894737 0.1159356725 0.1160818713 0.1162280702
    [796] 0.1163742690 0.1165204678 0.1166666667 0.1168128655 0.1169590643
##
    [801] 0.1171052632 0.1172514620 0.1173976608 0.1175438596 0.1176900585
##
    [806] 0.1178362573 0.1179824561 0.1181286550 0.1182748538 0.1184210526
##
    [811] 0.1185672515 0.1187134503 0.1188596491 0.1190058480 0.1191520468
##
##
    [816] 0.1192982456 0.1194444444 0.1195906433 0.1197368421 0.1198830409
    [821] 0.1200292398 0.1201754386 0.1203216374 0.1204678363 0.1206140351
##
    [826] 0.1207602339 0.1209064327 0.1210526316 0.1211988304 0.1213450292
##
    [831] 0.1214912281 0.1216374269 0.1217836257 0.1219298246 0.1220760234
##
    [836] 0.122222222 0.1223684211 0.1225146199 0.1226608187 0.1228070175
    [841] 0.1229532164 0.1230994152 0.1232456140 0.1233918129 0.1235380117
##
    [846] 0.1236842105 0.1238304094 0.1239766082 0.1241228070 0.1242690058
##
    [851] 0.1244152047 0.1245614035 0.1247076023 0.1248538012 0.1250000000
##
##
    [856] 0.1251461988 0.1252923977 0.1254385965 0.1255847953 0.1257309942
##
    [861] 0.1258771930 0.1260233918 0.1261695906 0.1263157895 0.1264619883
    [866] 0.1266081871 0.1267543860 0.1269005848 0.1270467836 0.1271929825
##
    [871] 0.1273391813 0.1274853801 0.1276315789 0.1277777778 0.1279239766
  [876] 0.1280701754 0.1282163743 0.1283625731 0.1285087719 0.1286549708
```

```
[881] 0.1288011696 0.1289473684 0.1290935673 0.1292397661 0.1293859649
    [886] 0.1295321637 0.1296783626 0.1298245614 0.1299707602 0.1301169591
##
    [891] 0.1302631579 0.1304093567 0.1305555556 0.1307017544 0.1308479532
##
    [896] 0.1309941520 0.1311403509 0.1312865497 0.1314327485 0.1315789474
##
    [901] 0.1317251462 0.1318713450 0.1320175439 0.1321637427 0.1323099415
##
    [906] 0.1324561404 0.1326023392 0.1327485380 0.1328947368 0.1330409357
##
    [911] 0.1331871345 0.1333333333 0.1334795322 0.1336257310 0.1337719298
    [916] 0.1339181287 0.1340643275 0.1342105263 0.1343567251 0.1345029240
##
    [921] 0.1346491228 0.1347953216 0.1349415205 0.1350877193 0.1352339181
    [926] 0.1353801170 0.1355263158 0.1356725146 0.1358187135 0.1359649123
##
    [931] 0.1361111111 0.1362573099 0.1364035088 0.1365497076 0.1366959064
    [936] 0.1368421053 0.1369883041 0.1371345029 0.1372807018 0.1374269006
##
    [941] 0.1375730994 0.1377192982 0.1378654971 0.1380116959 0.1381578947
##
    [946] 0.1383040936 0.1384502924 0.1385964912 0.1387426901 0.1388888889
    [951] 0.1390350877 0.1391812865 0.1393274854 0.1394736842 0.1396198830
##
    [956] 0.1397660819 0.1399122807 0.1400584795 0.1402046784 0.1403508772
    [961] 0.1404970760 0.1406432749 0.1407894737 0.1409356725 0.1410818713
    [966] 0.1412280702 0.1413742690 0.1415204678 0.1416666667 0.1418128655
##
    [971] 0.1419590643 0.1421052632 0.1422514620 0.1423976608 0.1425438596
##
##
    [976] 0.1426900585 0.1428362573 0.1429824561 0.1431286550 0.1432748538
##
    [981] 0.1434210526 0.1435672515 0.1437134503 0.1438596491 0.1440058480
    [986] 0.1441520468 0.1442982456 0.1444444444 0.1445906433 0.1447368421
##
   [991] 0.1448830409 0.1450292398 0.1451754386 0.1453216374 0.1454678363
    [996] 0.1456140351 0.1457602339 0.1459064327 0.1460526316 0.1461988304
## [1001] 0.1463450292 0.1464912281 0.1466374269 0.1467836257 0.1469298246
## [1006] 0.1470760234 0.1472222222 0.1473684211 0.1475146199 0.1476608187
## [1011] 0.1478070175 0.1479532164 0.1480994152 0.1482456140 0.1483918129
## [1016] 0.1485380117 0.1486842105 0.1488304094 0.1489766082 0.1491228070
## [1021] 0.1492690058 0.1494152047 0.1495614035 0.1497076023 0.1498538012
## [1026] 0.1500000000 0.1501461988 0.1502923977 0.1504385965 0.1505847953
## [1031] 0.1507309942 0.1508771930 0.1510233918 0.1511695906 0.1513157895
## [1036] 0.1514619883 0.1516081871 0.1517543860 0.1519005848 0.1520467836
## [1041] 0.1521929825 0.1523391813 0.1524853801 0.1526315789 0.1527777778
## [1046] 0.1529239766 0.1530701754 0.1532163743 0.1533625731 0.1535087719
## [1051] 0.1536549708 0.1538011696 0.1539473684 0.1540935673 0.1542397661
## [1056] 0.1543859649 0.1545321637 0.1546783626 0.1548245614 0.1549707602
## [1061] 0.1551169591 0.1552631579 0.1554093567 0.1555555556 0.1557017544
## [1066] 0.1558479532 0.1559941520 0.1561403509 0.1562865497 0.1564327485
## [1071] 0.1565789474 0.1567251462 0.1568713450 0.1570175439 0.1571637427
## [1076] 0.1573099415 0.1574561404 0.1576023392 0.1577485380 0.1578947368
## [1081] 0.1580409357 0.1581871345 0.1583333333 0.1584795322 0.1586257310
## [1086] 0.1587719298 0.1589181287 0.1590643275 0.1592105263 0.1593567251
## [1091] 0.1595029240 0.1596491228 0.1597953216 0.1599415205 0.1600877193
## [1096] 0.1602339181 0.1603801170 0.1605263158 0.1606725146 0.1608187135
## [1101] 0.1609649123 0.1611111111 0.1612573099 0.1614035088 0.1615497076
## [1106] 0.1616959064 0.1618421053 0.1619883041 0.1621345029 0.1622807018
## [1111] 0.1624269006 0.1625730994 0.1627192982 0.1628654971 0.1630116959
## [1116] 0.1631578947 0.1633040936 0.1634502924 0.1635964912 0.1637426901
## [1121] 0.1638888889 0.1640350877 0.1641812865 0.1643274854 0.1644736842
## [1126] 0.1646198830 0.1647660819 0.1649122807 0.1650584795 0.1652046784
```

```
## [1131] 0.1653508772 0.1654970760 0.1656432749 0.1657894737 0.1659356725
## [1136] 0.1660818713 0.1662280702 0.1663742690 0.1665204678 0.16666666667
## [1141] 0.1668128655 0.1669590643 0.1671052632 0.1672514620 0.1673976608
## [1146] 0.1675438596 0.1676900585 0.1678362573 0.1679824561 0.1681286550
## [1151] 0.1682748538 0.1684210526 0.1685672515 0.1687134503 0.1688596491
## [1156] 0.1690058480 0.1691520468 0.1692982456 0.1694444444 0.1695906433
## [1161] 0.1697368421 0.1698830409 0.1700292398 0.1701754386 0.1703216374
## [1166] 0.1704678363 0.1706140351 0.1707602339 0.1709064327 0.1710526316
## [1171] 0.1711988304 0.1713450292 0.1714912281 0.1716374269 0.1717836257
## [1176] 0.1719298246 0.1720760234 0.1722222222 0.1723684211 0.1725146199
## [1181] 0.1726608187 0.1728070175 0.1729532164 0.1730994152 0.1732456140
## [1186] 0.1733918129 0.1735380117 0.1736842105 0.1738304094 0.1739766082
## [1191] 0.1741228070 0.1742690058 0.1744152047 0.1745614035 0.1747076023
## [1196] 0.1748538012 0.1750000000 0.1751461988 0.1752923977 0.1754385965
## [1201] 0.1755847953 0.1757309942 0.1758771930 0.1760233918 0.1761695906
## [1206] 0.1763157895 0.1764619883 0.1766081871 0.1767543860 0.1769005848
## [1211] 0.1770467836 0.1771929825 0.1773391813 0.1774853801 0.1776315789
## [1216] 0.177777778 0.1779239766 0.1780701754 0.1782163743 0.1783625731
## [1221] 0.1785087719 0.1786549708 0.1788011696 0.1789473684 0.1790935673
## [1226] 0.1792397661 0.1793859649 0.1795321637 0.1796783626 0.1798245614
## [1231] 0.1799707602 0.1801169591 0.1802631579 0.1804093567 0.1805555556
## [1236] 0.1807017544 0.1808479532 0.1809941520 0.1811403509 0.1812865497
## [1241] 0.1814327485 0.1815789474 0.1817251462 0.1818713450 0.1820175439
## [1246] 0.1821637427 0.1823099415 0.1824561404 0.1826023392 0.1827485380
## [1251] 0.1828947368 0.1830409357 0.1831871345 0.1833333333 0.1834795322
## [1256] 0.1836257310 0.1837719298 0.1839181287 0.1840643275 0.1842105263
## [1261] 0.1843567251 0.1845029240 0.1846491228 0.1847953216 0.1849415205
## [1266] 0.1850877193 0.1852339181 0.1853801170 0.1855263158 0.1856725146
## [1271] 0.1858187135 0.1859649123 0.1861111111 0.1862573099 0.1864035088
## [1276] 0.1865497076 0.1866959064 0.1868421053 0.1869883041 0.1871345029
## [1281] 0.1872807018 0.1874269006 0.1875730994 0.1877192982 0.1878654971
## [1286] 0.1880116959 0.1881578947 0.1883040936 0.1884502924 0.1885964912
## [1291] 0.1887426901 0.1888888889 0.1890350877 0.1891812865 0.1893274854
## [1296] 0.1894736842 0.1896198830 0.1897660819 0.1899122807 0.1900584795
## [1301] 0.1902046784 0.1903508772 0.1904970760 0.1906432749 0.1907894737
## [1306] 0.1909356725 0.1910818713 0.1912280702 0.1913742690 0.1915204678
## [1311] 0.1916666667 0.1918128655 0.1919590643 0.1921052632 0.1922514620
## [1316] 0.1923976608 0.1925438596 0.1926900585 0.1928362573 0.1929824561
## [1321] 0.1931286550 0.1932748538 0.1934210526 0.1935672515 0.1937134503
## [1326] 0.1938596491 0.1940058480 0.1941520468 0.1942982456 0.1944444444
## [1331] 0.1945906433 0.1947368421 0.1948830409 0.1950292398 0.1951754386
## [1336] 0.1953216374 0.1954678363 0.1956140351 0.1957602339 0.1959064327
## [1341] 0.1960526316 0.1961988304 0.1963450292 0.1964912281 0.1966374269
## [1346] 0.1967836257 0.1969298246 0.1970760234 0.1972222222 0.1973684211
## [1351] 0.1975146199 0.1976608187 0.1978070175 0.1979532164 0.1980994152
## [1356] 0.1982456140 0.1983918129 0.1985380117 0.1986842105 0.1988304094
## [1361] 0.1989766082 0.1991228070 0.1992690058 0.1994152047 0.1995614035
## [1366] 0.1997076023 0.1998538012 0.2000000000 0.2001461988 0.2002923977
## [1371] 0.2004385965 0.2005847953 0.2007309942 0.2008771930 0.2010233918
## [1376] 0.2011695906 0.2013157895 0.2014619883 0.2016081871 0.2017543860
```

```
## [1381] 0.2019005848 0.2020467836 0.2021929825 0.2023391813 0.2024853801
## [1386] 0.2026315789 0.2027777778 0.2029239766 0.2030701754 0.2032163743
## [1391] 0.2033625731 0.2035087719 0.2036549708 0.2038011696 0.2039473684
## [1396] 0.2040935673 0.2042397661 0.2043859649 0.2045321637 0.2046783626
## [1401] 0.2048245614 0.2049707602 0.2051169591 0.2052631579 0.2054093567
## [1406] 0.2055555556 0.2057017544 0.2058479532 0.2059941520 0.2061403509
## [1411] 0.2062865497 0.2064327485 0.2065789474 0.2067251462 0.2068713450
## [1416] 0.2070175439 0.2071637427 0.2073099415 0.2074561404 0.2076023392
## [1421] 0.2077485380 0.2078947368 0.2080409357 0.2081871345 0.2083333333
## [1426] 0.2084795322 0.2086257310 0.2087719298 0.2089181287 0.2090643275
## [1431] 0.2092105263 0.2093567251 0.2095029240 0.2096491228 0.2097953216
## [1436] 0.2099415205 0.2100877193 0.2102339181 0.2103801170 0.2105263158
## [1441] 0.2106725146 0.2108187135 0.2109649123 0.2111111111 0.2112573099
## [1446] 0.2114035088 0.2115497076 0.2116959064 0.2118421053 0.2119883041
## [1451] 0.2121345029 0.2122807018 0.2124269006 0.2125730994 0.2127192982
## [1456] 0.2128654971 0.2130116959 0.2131578947 0.2133040936 0.2134502924
## [1461] 0.2135964912 0.2137426901 0.2138888889 0.2140350877 0.2141812865
## [1466] 0.2143274854 0.2144736842 0.2146198830 0.2147660819 0.2149122807
## [1471] 0.2150584795 0.2152046784 0.2153508772 0.2154970760 0.2156432749
## [1476] 0.2157894737 0.2159356725 0.2160818713 0.2162280702 0.2163742690
## [1481] 0.2165204678 0.2166666667 0.2168128655 0.2169590643 0.2171052632
## [1486] 0.2172514620 0.2173976608 0.2175438596 0.2176900585 0.2178362573
## [1491] 0.2179824561 0.2181286550 0.2182748538 0.2184210526 0.2185672515
## [1496] 0.2187134503 0.2188596491 0.2190058480 0.2191520468 0.2192982456
## [1501] 0.2194444444 0.2195906433 0.2197368421 0.2198830409 0.2200292398
## [1506] 0.2201754386 0.2203216374 0.2204678363 0.2206140351 0.2207602339
## [1511] 0.2209064327 0.2210526316 0.2211988304 0.2213450292 0.2214912281
## [1516] 0.2216374269 0.2217836257 0.2219298246 0.2220760234 0.2222222222
## [1521] 0.2223684211 0.2225146199 0.2226608187 0.2228070175 0.2229532164
## [1526] 0.2230994152 0.2232456140 0.2233918129 0.2235380117 0.2236842105
## [1531] 0.2238304094 0.2239766082 0.2241228070 0.2242690058 0.2244152047
## [1536] 0.2245614035 0.2247076023 0.2248538012 0.2250000000 0.2251461988
## [1541] 0.2252923977 0.2254385965 0.2255847953 0.2257309942 0.2258771930
## [1546] 0.2260233918 0.2261695906 0.2263157895 0.2264619883 0.2266081871
## [1551] 0.2267543860 0.2269005848 0.2270467836 0.2271929825 0.2273391813
## [1556] 0.2274853801 0.2276315789 0.2277777778 0.2279239766 0.2280701754
## [1561] 0.2282163743 0.2283625731 0.2285087719 0.2286549708 0.2288011696
## [1566] 0.2289473684 0.2290935673 0.2292397661 0.2293859649 0.2295321637
## [1571] 0.2296783626 0.2298245614 0.2299707602 0.2301169591 0.2302631579
## [1576] 0.2304093567 0.2305555556 0.2307017544 0.2308479532 0.2309941520
## [1581] 0.2311403509 0.2312865497 0.2314327485 0.2315789474 0.2317251462
## [1586] 0.2318713450 0.2320175439 0.2321637427 0.2323099415 0.2324561404
## [1591] 0.2326023392 0.2327485380 0.2328947368 0.2330409357 0.2331871345
## [1596] 0.233333333 0.2334795322 0.2336257310 0.2337719298 0.2339181287
## [1601] 0.2340643275 0.2342105263 0.2343567251 0.2345029240 0.2346491228
## [1606] 0.2347953216 0.2349415205 0.2350877193 0.2352339181 0.2353801170
## [1611] 0.2355263158 0.2356725146 0.2358187135 0.2359649123 0.2361111111
## [1616] 0.2362573099 0.2364035088 0.2365497076 0.2366959064 0.2368421053
## [1621] 0.2369883041 0.2371345029 0.2372807018 0.2374269006 0.2375730994
## [1626] 0.2377192982 0.2378654971 0.2380116959 0.2381578947 0.2383040936
```

```
## [1631] 0.2384502924 0.2385964912 0.2387426901 0.2388888889 0.2390350877
## [1636] 0.2391812865 0.2393274854 0.2394736842 0.2396198830 0.2397660819
## [1641] 0.2399122807 0.2400584795 0.2402046784 0.2403508772 0.2404970760
## [1646] 0.2406432749 0.2407894737 0.2409356725 0.2410818713 0.2412280702
## [1651] 0.2413742690 0.2415204678 0.2416666667 0.2418128655 0.2419590643
## [1656] 0.2421052632 0.2422514620 0.2423976608 0.2425438596 0.2426900585
## [1661] 0.2428362573 0.2429824561 0.2431286550 0.2432748538 0.2434210526
## [1666] 0.2435672515 0.2437134503 0.2438596491 0.2440058480 0.2441520468
## [1671] 0.2442982456 0.2444444444 0.2445906433 0.2447368421 0.2448830409
## [1676] 0.2450292398 0.2451754386 0.2453216374 0.2454678363 0.2456140351
## [1681] 0.2457602339 0.2459064327 0.2460526316 0.2461988304 0.2463450292
## [1686] 0.2464912281 0.2466374269 0.2467836257 0.2469298246 0.2470760234
## [1691] 0.247222222 0.2473684211 0.2475146199 0.2476608187 0.2478070175
## [1696] 0.2479532164 0.2480994152 0.2482456140 0.2483918129 0.2485380117
## [1701] 0.2486842105 0.2488304094 0.2489766082 0.2491228070 0.2492690058
## [1706] 0.2494152047 0.2495614035 0.2497076023 0.2498538012 0.2500000000
## [1711] 0.2501461988 0.2502923977 0.2504385965 0.2505847953 0.2507309942
## [1716] 0.2508771930 0.2510233918 0.2511695906 0.2513157895 0.2514619883
## [1721] 0.2516081871 0.2517543860 0.2519005848 0.2520467836 0.2521929825
## [1726] 0.2523391813 0.2524853801 0.2526315789 0.2527777778 0.2529239766
## [1731] 0.2530701754 0.2532163743 0.2533625731 0.2535087719 0.2536549708
## [1736] 0.2538011696 0.2539473684 0.2540935673 0.2542397661 0.2543859649
## [1741] 0.2545321637 0.2546783626 0.2548245614 0.2549707602 0.2551169591
## [1746] 0.2552631579 0.2554093567 0.255555556 0.2557017544 0.2558479532
## [1751] 0.2559941520 0.2561403509 0.2562865497 0.2564327485 0.2565789474
## [1756] 0.2567251462 0.2568713450 0.2570175439 0.2571637427 0.2573099415
## [1761] 0.2574561404 0.2576023392 0.2577485380 0.2578947368 0.2580409357
## [1766] 0.2581871345 0.2583333333 0.2584795322 0.2586257310 0.2587719298
## [1771] 0.2589181287 0.2590643275 0.2592105263 0.2593567251 0.2595029240
## [1776] 0.2596491228 0.2597953216 0.2599415205 0.2600877193 0.2602339181
## [1781] 0.2603801170 0.2605263158 0.2606725146 0.2608187135 0.2609649123
## [1786] 0.2611111111 0.2612573099 0.2614035088 0.2615497076 0.2616959064
## [1791] 0.2618421053 0.2619883041 0.2621345029 0.2622807018 0.2624269006
## [1796] 0.2625730994 0.2627192982 0.2628654971 0.2630116959 0.2631578947
## [1801] 0.2633040936 0.2634502924 0.2635964912 0.2637426901 0.2638888889
## [1806] 0.2640350877 0.2641812865 0.2643274854 0.2644736842 0.2646198830
## [1811] 0.2647660819 0.2649122807 0.2650584795 0.2652046784 0.2653508772
## [1816] 0.2654970760 0.2656432749 0.2657894737 0.2659356725 0.2660818713
## [1821] 0.2662280702 0.2663742690 0.2665204678 0.2666666667 0.2668128655
## [1826] 0.2669590643 0.2671052632 0.2672514620 0.2673976608 0.2675438596
## [1831] 0.2676900585 0.2678362573 0.2679824561 0.2681286550 0.2682748538
## [1836] 0.2684210526 0.2685672515 0.2687134503 0.2688596491 0.2690058480
## [1841] 0.2691520468 0.2692982456 0.2694444444 0.2695906433 0.2697368421
## [1846] 0.2698830409 0.2700292398 0.2701754386 0.2703216374 0.2704678363
## [1851] 0.2706140351 0.2707602339 0.2709064327 0.2710526316 0.2711988304
## [1856] 0.2713450292 0.2714912281 0.2716374269 0.2717836257 0.2719298246
## [1861] 0.2720760234 0.2722222222 0.2723684211 0.2725146199 0.2726608187
## [1866] 0.2728070175 0.2729532164 0.2730994152 0.2732456140 0.2733918129
## [1871] 0.2735380117 0.2736842105 0.2738304094 0.2739766082 0.2741228070
## [1876] 0.2742690058 0.2744152047 0.2745614035 0.2747076023 0.2748538012
```

```
## [1881] 0.2750000000 0.2751461988 0.2752923977 0.2754385965 0.2755847953
## [1886] 0.2757309942 0.2758771930 0.2760233918 0.2761695906 0.2763157895
## [1891] 0.2764619883 0.2766081871 0.2767543860 0.2769005848 0.2770467836
## [1896] 0.2771929825 0.2773391813 0.2774853801 0.2776315789 0.2777777778
## [1901] 0.2779239766 0.2780701754 0.2782163743 0.2783625731 0.2785087719
## [1906] 0.2786549708 0.2788011696 0.2789473684 0.2790935673 0.2792397661
## [1911] 0.2793859649 0.2795321637 0.2796783626 0.2798245614 0.2799707602
## [1916] 0.2801169591 0.2802631579 0.2804093567 0.2805555556 0.2807017544
## [1921] 0.2808479532 0.2809941520 0.2811403509 0.2812865497 0.2814327485
## [1926] 0.2815789474 0.2817251462 0.2818713450 0.2820175439 0.2821637427
## [1931] 0.2823099415 0.2824561404 0.2826023392 0.2827485380 0.2828947368
## [1936] 0.2830409357 0.2831871345 0.2833333333 0.2834795322 0.2836257310
## [1941] 0.2837719298 0.2839181287 0.2840643275 0.2842105263 0.2843567251
## [1946] 0.2845029240 0.2846491228 0.2847953216 0.2849415205 0.2850877193
## [1951] 0.2852339181 0.2853801170 0.2855263158 0.2856725146 0.2858187135
## [1956] 0.2859649123 0.2861111111 0.2862573099 0.2864035088 0.2865497076
## [1961] 0.2866959064 0.2868421053 0.2869883041 0.2871345029 0.2872807018
## [1966] 0.2874269006 0.2875730994 0.2877192982 0.2878654971 0.2880116959
## [1971] 0.2881578947 0.2883040936 0.2884502924 0.2885964912 0.2887426901
## [1976] 0.2888888889 0.2890350877 0.2891812865 0.2893274854 0.2894736842
## [1981] 0.2896198830 0.2897660819 0.2899122807 0.2900584795 0.2902046784
## [1986] 0.2903508772 0.2904970760 0.2906432749 0.2907894737 0.2909356725
## [1991] 0.2910818713 0.2912280702 0.2913742690 0.2915204678 0.2916666667
## [1996] 0.2918128655 0.2919590643 0.2921052632 0.2922514620 0.2923976608
## [2001] 0.2925438596 0.2926900585 0.2928362573 0.2929824561 0.2931286550
## [2006] 0.2932748538 0.2934210526 0.2935672515 0.2937134503 0.2938596491
## [2011] 0.2940058480 0.2941520468 0.2942982456 0.2944444444 0.2945906433
## [2016] 0.2947368421 0.2948830409 0.2950292398 0.2951754386 0.2953216374
## [2021] 0.2954678363 0.2956140351 0.2957602339 0.2959064327 0.2960526316
## [2026] 0.2961988304 0.2963450292 0.2964912281 0.2966374269 0.2967836257
## [2031] 0.2969298246 0.2970760234 0.2972222222 0.2973684211 0.2975146199
## [2036] 0.2976608187 0.2978070175 0.2979532164 0.2980994152 0.2982456140
## [2041] 0.2983918129 0.2985380117 0.2986842105 0.2988304094 0.2989766082
## [2046] 0.2991228070 0.2992690058 0.2994152047 0.2995614035 0.2997076023
## [2051] 0.2998538012 0.3000000000 0.3001461988 0.3002923977 0.3004385965
## [2056] 0.3005847953 0.3007309942 0.3008771930 0.3010233918 0.3011695906
## [2061] 0.3013157895 0.3014619883 0.3016081871 0.3017543860 0.3019005848
## [2066] 0.3020467836 0.3021929825 0.3023391813 0.3024853801 0.3026315789
## [2071] 0.3027777778 0.3029239766 0.3030701754 0.3032163743 0.3033625731
## [2076] 0.3035087719 0.3036549708 0.3038011696 0.3039473684 0.3040935673
## [2081] 0.3042397661 0.3043859649 0.3045321637 0.3046783626 0.3048245614
## [2086] 0.3049707602 0.3051169591 0.3052631579 0.3054093567 0.3055555556
## [2091] 0.3057017544 0.3058479532 0.3059941520 0.3061403509 0.3062865497
## [2096] 0.3064327485 0.3065789474 0.3067251462 0.3068713450 0.3070175439
## [2101] 0.3071637427 0.3073099415 0.3074561404 0.3076023392 0.3077485380
## [2106] 0.3078947368 0.3080409357 0.3081871345 0.3083333333 0.3084795322
## [2111] 0.3086257310 0.3087719298 0.3089181287 0.3090643275 0.3092105263
## [2116] 0.3093567251 0.3095029240 0.3096491228 0.3097953216 0.3099415205
## [2121] 0.3100877193 0.3102339181 0.3103801170 0.3105263158 0.3106725146
## [2126] 0.3108187135 0.3109649123 0.3111111111 0.3112573099 0.3114035088
```

```
## [2131] 0.3115497076 0.3116959064 0.3118421053 0.3119883041 0.3121345029
## [2136] 0.3122807018 0.3124269006 0.3125730994 0.3127192982 0.3128654971
## [2141] 0.3130116959 0.3131578947 0.3133040936 0.3134502924 0.3135964912
## [2146] 0.3137426901 0.3138888889 0.3140350877 0.3141812865 0.3143274854
## [2151] 0.3144736842 0.3146198830 0.3147660819 0.3149122807 0.3150584795
## [2156] 0.3152046784 0.3153508772 0.3154970760 0.3156432749 0.3157894737
## [2161] 0.3159356725 0.3160818713 0.3162280702 0.3163742690 0.3165204678
## [2166] 0.3166666667 0.3168128655 0.3169590643 0.3171052632 0.3172514620
## [2171] 0.3173976608 0.3175438596 0.3176900585 0.3178362573 0.3179824561
## [2176] 0.3181286550 0.3182748538 0.3184210526 0.3185672515 0.3187134503
## [2181] 0.3188596491 0.3190058480 0.3191520468 0.3192982456 0.3194444444
## [2186] 0.3195906433 0.3197368421 0.3198830409 0.3200292398 0.3201754386
## [2191] 0.3203216374 0.3204678363 0.3206140351 0.3207602339 0.3209064327
## [2196] 0.3210526316 0.3211988304 0.3213450292 0.3214912281 0.3216374269
## [2201] 0.3217836257 0.3219298246 0.3220760234 0.3222222222 0.3223684211
## [2206] 0.3225146199 0.3226608187 0.3228070175 0.3229532164 0.3230994152
## [2211] 0.3232456140 0.3233918129 0.3235380117 0.3236842105 0.3238304094
## [2216] 0.3239766082 0.3241228070 0.3242690058 0.3244152047 0.3245614035
## [2221] 0.3247076023 0.3248538012 0.3250000000 0.3251461988 0.3252923977
## [2226] 0.3254385965 0.3255847953 0.3257309942 0.3258771930 0.3260233918
## [2231] 0.3261695906 0.3263157895 0.3264619883 0.3266081871 0.3267543860
## [2236] 0.3269005848 0.3270467836 0.3271929825 0.3273391813 0.3274853801
## [2241] 0.3276315789 0.3277777778 0.3279239766 0.3280701754 0.3282163743
## [2246] 0.3283625731 0.3285087719 0.3286549708 0.3288011696 0.3289473684
## [2251] 0.3290935673 0.3292397661 0.3293859649 0.3295321637 0.3296783626
## [2256] 0.3298245614 0.3299707602 0.3301169591 0.3302631579 0.3304093567
## [2261] 0.3305555556 0.3307017544 0.3308479532 0.3309941520 0.3311403509
## [2266] 0.3312865497 0.3314327485 0.3315789474 0.3317251462 0.3318713450
## [2271] 0.3320175439 0.3321637427 0.3323099415 0.3324561404 0.3326023392
## [2276] 0.3327485380 0.3328947368 0.3330409357 0.3331871345 0.3333333333
## [2281] 0.3334795322 0.3336257310 0.3337719298 0.3339181287 0.3340643275
## [2286] 0.3342105263 0.3343567251 0.3345029240 0.3346491228 0.3347953216
## [2291] 0.3349415205 0.3350877193 0.3352339181 0.3353801170 0.3355263158
## [2296] 0.3356725146 0.3358187135 0.3359649123 0.3361111111 0.3362573099
## [2301] 0.3364035088 0.3365497076 0.3366959064 0.3368421053 0.3369883041
## [2306] 0.3371345029 0.3372807018 0.3374269006 0.3375730994 0.3377192982
## [2311] 0.3378654971 0.3380116959 0.3381578947 0.3383040936 0.3384502924
## [2316] 0.3385964912 0.3387426901 0.3388888889 0.3390350877 0.3391812865
## [2321] 0.3393274854 0.3394736842 0.3396198830 0.3397660819 0.3399122807
## [2326] 0.3400584795 0.3402046784 0.3403508772 0.3404970760 0.3406432749
## [2331] 0.3407894737 0.3409356725 0.3410818713 0.3412280702 0.3413742690
## [2336] 0.3415204678 0.3416666667 0.3418128655 0.3419590643 0.3421052632
## [2341] 0.3422514620 0.3423976608 0.3425438596 0.3426900585 0.3428362573
## [2346] 0.3429824561 0.3431286550 0.3432748538 0.3434210526 0.3435672515
## [2351] 0.3437134503 0.3438596491 0.3440058480 0.3441520468 0.3442982456
## [2356] 0.344444444 0.3445906433 0.3447368421 0.3448830409 0.3450292398
## [2361] 0.3451754386 0.3453216374 0.3454678363 0.3456140351 0.3457602339
## [2366] 0.3459064327 0.3460526316 0.3461988304 0.3463450292 0.3464912281
## [2371] 0.3466374269 0.3467836257 0.3469298246 0.3470760234 0.3472222222
## [2376] 0.3473684211 0.3475146199 0.3476608187 0.3478070175 0.3479532164
```

```
## [2381] 0.3480994152 0.3482456140 0.3483918129 0.3485380117 0.3486842105
## [2386] 0.3488304094 0.3489766082 0.3491228070 0.3492690058 0.3494152047
## [2391] 0.3495614035 0.3497076023 0.3498538012 0.3500000000 0.3501461988
## [2396] 0.3502923977 0.3504385965 0.3505847953 0.3507309942 0.3508771930
## [2401] 0.3510233918 0.3511695906 0.3513157895 0.3514619883 0.3516081871
## [2406] 0.3517543860 0.3519005848 0.3520467836 0.3521929825 0.3523391813
## [2411] 0.3524853801 0.3526315789 0.3527777778 0.3529239766 0.3530701754
## [2416] 0.3532163743 0.3533625731 0.3535087719 0.3536549708 0.3538011696
## [2421] 0.3539473684 0.3540935673 0.3542397661 0.3543859649 0.3545321637
## [2426] 0.3546783626 0.3548245614 0.3549707602 0.3551169591 0.3552631579
## [2431] 0.3554093567 0.3555555556 0.3557017544 0.3558479532 0.3559941520
## [2436] 0.3561403509 0.3562865497 0.3564327485 0.3565789474 0.3567251462
## [2441] 0.3568713450 0.3570175439 0.3571637427 0.3573099415 0.3574561404
## [2446] 0.3576023392 0.3577485380 0.3578947368 0.3580409357 0.3581871345
## [2451] 0.358333333 0.3584795322 0.3586257310 0.3587719298 0.3589181287
## [2456] 0.3590643275 0.3592105263 0.3593567251 0.3595029240 0.3596491228
## [2461] 0.3597953216 0.3599415205 0.3600877193 0.3602339181 0.3603801170
## [2466] 0.3605263158 0.3606725146 0.3608187135 0.3609649123 0.3611111111
## [2471] 0.3612573099 0.3614035088 0.3615497076 0.3616959064 0.3618421053
## [2476] 0.3619883041 0.3621345029 0.3622807018 0.3624269006 0.3625730994
## [2481] 0.3627192982 0.3628654971 0.3630116959 0.3631578947 0.3633040936
## [2486] 0.3634502924 0.3635964912 0.3637426901 0.3638888889 0.3640350877
## [2491] 0.3641812865 0.3643274854 0.3644736842 0.3646198830 0.3647660819
## [2496] 0.3649122807 0.3650584795 0.3652046784 0.3653508772 0.3654970760
## [2501] 0.3656432749 0.3657894737 0.3659356725 0.3660818713 0.3662280702
## [2506] 0.3663742690 0.3665204678 0.3666666667 0.3668128655 0.3669590643
## [2511] 0.3671052632 0.3672514620 0.3673976608 0.3675438596 0.3676900585
## [2516] 0.3678362573 0.3679824561 0.3681286550 0.3682748538 0.3684210526
## [2521] 0.3685672515 0.3687134503 0.3688596491 0.3690058480 0.3691520468
## [2526] 0.3692982456 0.3694444444 0.3695906433 0.3697368421 0.3698830409
## [2531] 0.3700292398 0.3701754386 0.3703216374 0.3704678363 0.3706140351
## [2536] 0.3707602339 0.3709064327 0.3710526316 0.3711988304 0.3713450292
## [2541] 0.3714912281 0.3716374269 0.3717836257 0.3719298246 0.3720760234
## [2546] 0.3722222222 0.3723684211 0.3725146199 0.3726608187 0.3728070175
## [2551] 0.3729532164 0.3730994152 0.3732456140 0.3733918129 0.3735380117
## [2556] 0.3736842105 0.3738304094 0.3739766082 0.3741228070 0.3742690058
## [2561] 0.3744152047 0.3745614035 0.3747076023 0.3748538012 0.3750000000
## [2566] 0.3751461988 0.3752923977 0.3754385965 0.3755847953 0.3757309942
## [2571] 0.3758771930 0.3760233918 0.3761695906 0.3763157895 0.3764619883
## [2576] 0.3766081871 0.3767543860 0.3769005848 0.3770467836 0.3771929825
## [2581] 0.3773391813 0.3774853801 0.3776315789 0.3777777778 0.3779239766
## [2586] 0.3780701754 0.3782163743 0.3783625731 0.3785087719 0.3786549708
## [2591] 0.3788011696 0.3789473684 0.3790935673 0.3792397661 0.3793859649
## [2596] 0.3795321637 0.3796783626 0.3798245614 0.3799707602 0.3801169591
## [2601] 0.3802631579 0.3804093567 0.3805555556 0.3807017544 0.3808479532
## [2606] 0.3809941520 0.3811403509 0.3812865497 0.3814327485 0.3815789474
## [2611] 0.3817251462 0.3818713450 0.3820175439 0.3821637427 0.3823099415
## [2616] 0.3824561404 0.3826023392 0.3827485380 0.3828947368 0.3830409357
## [2621] 0.3831871345 0.383333333 0.3834795322 0.3836257310 0.3837719298
## [2626] 0.3839181287 0.3840643275 0.3842105263 0.3843567251 0.3845029240
```

```
## [2631] 0.3846491228 0.3847953216 0.3849415205 0.3850877193 0.3852339181
## [2636] 0.3853801170 0.3855263158 0.3856725146 0.3858187135 0.3859649123
## [2641] 0.3861111111 0.3862573099 0.3864035088 0.3865497076 0.3866959064
## [2646] 0.3868421053 0.3869883041 0.3871345029 0.3872807018 0.3874269006
## [2651] 0.3875730994 0.3877192982 0.3878654971 0.3880116959 0.3881578947
## [2656] 0.3883040936 0.3884502924 0.3885964912 0.3887426901 0.3888888888
## [2661] 0.3890350877 0.3891812865 0.3893274854 0.3894736842 0.3896198830
## [2666] 0.3897660819 0.3899122807 0.3900584795 0.3902046784 0.3903508772
## [2671] 0.3904970760 0.3906432749 0.3907894737 0.3909356725 0.3910818713
## [2676] 0.3912280702 0.3913742690 0.3915204678 0.3916666667 0.3918128655
## [2681] 0.3919590643 0.3921052632 0.3922514620 0.3923976608 0.3925438596
## [2686] 0.3926900585 0.3928362573 0.3929824561 0.3931286550 0.3932748538
## [2691] 0.3934210526 0.3935672515 0.3937134503 0.3938596491 0.3940058480
## [2696] 0.3941520468 0.3942982456 0.3944444444 0.3945906433 0.3947368421
## [2701] 0.3948830409 0.3950292398 0.3951754386 0.3953216374 0.3954678363
## [2706] 0.3956140351 0.3957602339 0.3959064327 0.3960526316 0.3961988304
## [2711] 0.3963450292 0.3964912281 0.3966374269 0.3967836257 0.3969298246
## [2716] 0.3970760234 0.3972222222 0.3973684211 0.3975146199 0.3976608187
## [2721] 0.3978070175 0.3979532164 0.3980994152 0.3982456140 0.3983918129
## [2726] 0.3985380117 0.3986842105 0.3988304094 0.3989766082 0.3991228070
## [2731] 0.3992690058 0.3994152047 0.3995614035 0.3997076023 0.3998538012
## [2736] 0.400000000 0.4001461988 0.4002923977 0.4004385965 0.4005847953
## [2741] 0.4007309942 0.4008771930 0.4010233918 0.4011695906 0.4013157895
## [2746] 0.4014619883 0.4016081871 0.4017543860 0.4019005848 0.4020467836
## [2751] 0.4021929825 0.4023391813 0.4024853801 0.4026315789 0.4027777778
## [2756] 0.4029239766 0.4030701754 0.4032163743 0.4033625731 0.4035087719
## [2761] 0.4036549708 0.4038011696 0.4039473684 0.4040935673 0.4042397661
## [2766] 0.4043859649 0.4045321637 0.4046783626 0.4048245614 0.4049707602
## [2771] 0.4051169591 0.4052631579 0.4054093567 0.4055555556 0.4057017544
## [2776] 0.4058479532 0.4059941520 0.4061403509 0.4062865497 0.4064327485
## [2781] 0.4065789474 0.4067251462 0.4068713450 0.4070175439 0.4071637427
## [2786] 0.4073099415 0.4074561404 0.4076023392 0.4077485380 0.4078947368
## [2791] 0.4080409357 0.4081871345 0.4083333333 0.4084795322 0.4086257310
## [2796] 0.4087719298 0.4089181287 0.4090643275 0.4092105263 0.4093567251
## [2801] 0.4095029240 0.4096491228 0.4097953216 0.4099415205 0.4100877193
## [2806] 0.4102339181 0.4103801170 0.4105263158 0.4106725146 0.4108187135
## [2811] 0.4109649123 0.4111111111 0.4112573099 0.4114035088 0.4115497076
## [2816] 0.4116959064 0.4118421053 0.4119883041 0.4121345029 0.4122807018
## [2821] 0.4124269006 0.4125730994 0.4127192982 0.4128654971 0.4130116959
## [2826] 0.4131578947 0.4133040936 0.4134502924 0.4135964912 0.4137426901
## [2831] 0.4138888889 0.4140350877 0.4141812865 0.4143274854 0.4144736842
## [2836] 0.4146198830 0.4147660819 0.4149122807 0.4150584795 0.4152046784
## [2841] 0.4153508772 0.4154970760 0.4156432749 0.4157894737 0.4159356725
## [2846] 0.4160818713 0.4162280702 0.4163742690 0.4165204678 0.4166666667
## [2851] 0.4168128655 0.4169590643 0.4171052632 0.4172514620 0.4173976608
## [2856] 0.4175438596 0.4176900585 0.4178362573 0.4179824561 0.4181286550
## [2861] 0.4182748538 0.4184210526 0.4185672515 0.4187134503 0.4188596491
## [2866] 0.4190058480 0.4191520468 0.4192982456 0.4194444444 0.4195906433
## [2871] 0.4197368421 0.4198830409 0.4200292398 0.4201754386 0.4203216374
## [2876] 0.4204678363 0.4206140351 0.4207602339 0.4209064327 0.4210526316
```

```
## [2881] 0.4211988304 0.4213450292 0.4214912281 0.4216374269 0.4217836257
## [2886] 0.4219298246 0.4220760234 0.4222222222 0.4223684211 0.4225146199
## [2891] 0.4226608187 0.4228070175 0.4229532164 0.4230994152 0.4232456140
## [2896] 0.4233918129 0.4235380117 0.4236842105 0.4238304094 0.4239766082
## [2901] 0.4241228070 0.4242690058 0.4244152047 0.4245614035 0.4247076023
## [2906] 0.4248538012 0.4250000000 0.4251461988 0.4252923977 0.4254385965
## [2911] 0.4255847953 0.4257309942 0.4258771930 0.4260233918 0.4261695906
## [2916] 0.4263157895 0.4264619883 0.4266081871 0.4267543860 0.4269005848
## [2921] 0.4270467836 0.4271929825 0.4273391813 0.4274853801 0.4276315789
## [2926] 0.4277777778 0.4279239766 0.4280701754 0.4282163743 0.4283625731
## [2931] 0.4285087719 0.4286549708 0.4288011696 0.4289473684 0.4290935673
## [2936] 0.4292397661 0.4293859649 0.4295321637 0.4296783626 0.4298245614
## [2941] 0.4299707602 0.4301169591 0.4302631579 0.4304093567 0.4305555556
## [2946] 0.4307017544 0.4308479532 0.4309941520 0.4311403509 0.4312865497
## [2951] 0.4314327485 0.4315789474 0.4317251462 0.4318713450 0.4320175439
## [2956] 0.4321637427 0.4323099415 0.4324561404 0.4326023392 0.4327485380
## [2961] 0.4328947368 0.4330409357 0.4331871345 0.4333333333 0.4334795322
## [2966] 0.4336257310 0.4337719298 0.4339181287 0.4340643275 0.4342105263
## [2971] 0.4343567251 0.4345029240 0.4346491228 0.4347953216 0.4349415205
## [2976] 0.4350877193 0.4352339181 0.4353801170 0.4355263158 0.4356725146
## [2981] 0.4358187135 0.4359649123 0.4361111111 0.4362573099 0.4364035088
## [2986] 0.4365497076 0.4366959064 0.4368421053 0.4369883041 0.4371345029
## [2991] 0.4372807018 0.4374269006 0.4375730994 0.4377192982 0.4378654971
## [2996] 0.4380116959 0.4381578947 0.4383040936 0.4384502924 0.4385964912
## [3001] 0.4387426901 0.4388888889 0.4390350877 0.4391812865 0.4393274854
## [3006] 0.4394736842 0.4396198830 0.4397660819 0.4399122807 0.4400584795
## [3011] 0.4402046784 0.4403508772 0.4404970760 0.4406432749 0.4407894737
## [3016] 0.4409356725 0.4410818713 0.4412280702 0.4413742690 0.4415204678
## [3021] 0.4416666667 0.4418128655 0.4419590643 0.4421052632 0.4422514620
## [3026] 0.4423976608 0.4425438596 0.4426900585 0.4428362573 0.4429824561
## [3031] 0.4431286550 0.4432748538 0.4434210526 0.4435672515 0.4437134503
## [3036] 0.4438596491 0.4440058480 0.4441520468 0.4442982456 0.4444444444
## [3041] 0.4445906433 0.4447368421 0.4448830409 0.4450292398 0.4451754386
## [3046] 0.4453216374 0.4454678363 0.4456140351 0.4457602339 0.4459064327
## [3051] 0.4460526316 0.4461988304 0.4463450292 0.4464912281 0.4466374269
## [3056] 0.4467836257 0.4469298246 0.4470760234 0.4472222222 0.4473684211
## [3061] 0.4475146199 0.4476608187 0.4478070175 0.4479532164 0.4480994152
## [3066] 0.4482456140 0.4483918129 0.4485380117 0.4486842105 0.4488304094
## [3071] 0.4489766082 0.4491228070 0.4492690058 0.4494152047 0.4495614035
## [3076] 0.4497076023 0.4498538012 0.4500000000 0.4501461988 0.4502923977
## [3081] 0.4504385965 0.4505847953 0.4507309942 0.4508771930 0.4510233918
## [3086] 0.4511695906 0.4513157895 0.4514619883 0.4516081871 0.4517543860
## [3091] 0.4519005848 0.4520467836 0.4521929825 0.4523391813 0.4524853801
## [3096] 0.4526315789 0.4527777778 0.4529239766 0.4530701754 0.4532163743
## [3101] 0.4533625731 0.4535087719 0.4536549708 0.4538011696 0.4539473684
## [3106] 0.4540935673 0.4542397661 0.4543859649 0.4545321637 0.4546783626
## [3111] 0.4548245614 0.4549707602 0.4551169591 0.4552631579 0.4554093567
## [3116] 0.4555555556 0.4557017544 0.4558479532 0.4559941520 0.4561403509
## [3121] 0.4562865497 0.4564327485 0.4565789474 0.4567251462 0.4568713450
## [3126] 0.4570175439 0.4571637427 0.4573099415 0.4574561404 0.4576023392
```

```
## [3131] 0.4577485380 0.4578947368 0.4580409357 0.4581871345 0.4583333333
## [3136] 0.4584795322 0.4586257310 0.4587719298 0.4589181287 0.4590643275
## [3141] 0.4592105263 0.4593567251 0.4595029240 0.4596491228 0.4597953216
## [3146] 0.4599415205 0.4600877193 0.4602339181 0.4603801170 0.4605263158
## [3151] 0.4606725146 0.4608187135 0.4609649123 0.4611111111 0.4612573099
## [3156] 0.4614035088 0.4615497076 0.4616959064 0.4618421053 0.4619883041
## [3161] 0.4621345029 0.4622807018 0.4624269006 0.4625730994 0.4627192982
## [3166] 0.4628654971 0.4630116959 0.4631578947 0.4633040936 0.4634502924
## [3171] 0.4635964912 0.4637426901 0.4638888889 0.4640350877 0.4641812865
## [3176] 0.4643274854 0.4644736842 0.4646198830 0.4647660819 0.4649122807
## [3181] 0.4650584795 0.4652046784 0.4653508772 0.4654970760 0.4656432749
## [3186] 0.4657894737 0.4659356725 0.4660818713 0.4662280702 0.4663742690
## [3191] 0.4665204678 0.4666666667 0.4668128655 0.4669590643 0.4671052632
## [3196] 0.4672514620 0.4673976608 0.4675438596 0.4676900585 0.4678362573
## [3201] 0.4679824561 0.4681286550 0.4682748538 0.4684210526 0.4685672515
## [3206] 0.4687134503 0.4688596491 0.4690058480 0.4691520468 0.4692982456
## [3211] 0.4694444444 0.4695906433 0.4697368421 0.4698830409 0.4700292398
## [3216] 0.4701754386 0.4703216374 0.4704678363 0.4706140351 0.4707602339
## [3221] 0.4709064327 0.4710526316 0.4711988304 0.4713450292 0.4714912281
## [3226] 0.4716374269 0.4717836257 0.4719298246 0.4720760234 0.4722222222
## [3231] 0.4723684211 0.4725146199 0.4726608187 0.4728070175 0.4729532164
## [3236] 0.4730994152 0.4732456140 0.4733918129 0.4735380117 0.4736842105
## [3241] 0.4738304094 0.4739766082 0.4741228070 0.4742690058 0.4744152047
## [3246] 0.4745614035 0.4747076023 0.4748538012 0.4750000000 0.4751461988
## [3251] 0.4752923977 0.4754385965 0.4755847953 0.4757309942 0.4758771930
## [3256] 0.4760233918 0.4761695906 0.4763157895 0.4764619883 0.4766081871
## [3261] 0.4767543860 0.4769005848 0.4770467836 0.4771929825 0.4773391813
## [3266] 0.4774853801 0.4776315789 0.4777777778 0.4779239766 0.4780701754
## [3271] 0.4782163743 0.4783625731 0.4785087719 0.4786549708 0.4788011696
## [3276] 0.4789473684 0.4790935673 0.4792397661 0.4793859649 0.4795321637
## [3281] 0.4796783626 0.4798245614 0.4799707602 0.4801169591 0.4802631579
## [3286] 0.4804093567 0.4805555556 0.4807017544 0.4808479532 0.4809941520
## [3291] 0.4811403509 0.4812865497 0.4814327485 0.4815789474 0.4817251462
## [3296] 0.4818713450 0.4820175439 0.4821637427 0.4823099415 0.4824561404
## [3301] 0.4826023392 0.4827485380 0.4828947368 0.4830409357 0.4831871345
## [3306] 0.4833333333 0.4834795322 0.4836257310 0.4837719298 0.4839181287
## [3311] 0.4840643275 0.4842105263 0.4843567251 0.4845029240 0.4846491228
## [3316] 0.4847953216 0.4849415205 0.4850877193 0.4852339181 0.4853801170
## [3321] 0.4855263158 0.4856725146 0.4858187135 0.4859649123 0.4861111111
## [3326] 0.4862573099 0.4864035088 0.4865497076 0.4866959064 0.4868421053
## [3331] 0.4869883041 0.4871345029 0.4872807018 0.4874269006 0.4875730994
## [3336] 0.4877192982 0.4878654971 0.4880116959 0.4881578947 0.4883040936
## [3341] 0.4884502924 0.4885964912 0.4887426901 0.4888888889 0.4890350877
## [3346] 0.4891812865 0.4893274854 0.4894736842 0.4896198830 0.4897660819
## [3351] 0.4899122807 0.4900584795 0.4902046784 0.4903508772 0.4904970760
## [3356] 0.4906432749 0.4907894737 0.4909356725 0.4910818713 0.4912280702
## [3361] 0.4913742690 0.4915204678 0.4916666667 0.4918128655 0.4919590643
## [3366] 0.4921052632 0.4922514620 0.4923976608 0.4925438596 0.4926900585
## [3371] 0.4928362573 0.4929824561 0.4931286550 0.4932748538 0.4934210526
## [3376] 0.4935672515 0.4937134503 0.4938596491 0.4940058480 0.4941520468
```

```
## [3381] 0.4942982456 0.4944444444 0.4945906433 0.4947368421 0.4948830409
  [3386] 0.4950292398 0.4951754386 0.4953216374 0.4954678363 0.4956140351
  [3391] 0.4957602339 0.4959064327 0.4960526316 0.4961988304 0.4963450292
   [3396] 0.4964912281 0.4966374269 0.4967836257 0.4969298246 0.4970760234
   [3401] 0.4972222222 0.4973684211 0.4975146199 0.4976608187 0.4978070175
##
   [3406] 0.4979532164 0.4980994152 0.4982456140 0.4983918129 0.4985380117
   [3411] 0.4986842105 0.4988304094 0.4989766082 0.4991228070 0.4992690058
##
   [3416] 0.4994152047 0.4995614035 0.4997076023 0.4998538012 0.5000000000
##
##
   $pzgram
##
      [1]
           9.171828915
                         9.166950722
                                       9.158831741
                                                     9.147488979
                                                                   9.132946233
##
      [6]
           9.115234082
                         9.094389861
                                       9.070457644
                                                     9.043488203
                                                                   9.013538967
##
                         8.944963721
                                       8.906485221
                                                                   8.821562689
     [11]
           8.980673959
                                                     8.865321732
##
     [16]
           8.775303518
                         8.726645424
                                       8.675695157
                                                     8.622564720
                                                                   8.567371051
                         8.451284144
                                       8.390645855
                                                     8.328453242
                                                                   8.264841346
##
     [21]
           8.510235646
##
     [26]
           8.199947164
                         8.133908983
                                       8.066865658
                                                     7.998955856
                                                                   7.930317261
##
     [31]
           7.861085756
                         7.791394572
                                       7.721373445
                                                     7.651147754
                                                                   7.580837683
##
                                       7.370508215
                                                     7.300930834
     [36]
           7.510557403
                         7.440414295
                                                                   7.231765044
                                       7.027424611
##
     [41]
           7.163084457
                         7.094952999
                                                     6.960543066
                                                                   6.894341896
##
     [46]
           6.828844448
                         6.764064050
                                       6.700004302
                                                     6.636659475
                                                                   6.574015013
##
     [51]
                                                     6.329876718
           6.512048136
                         6.450728525
                                       6.390019076
                                                                   6.270253279
##
     [56]
           6.211096370
                         6.152350307
                                       6.093957014
                                                     6.035856930
                                                                   5.977989895
##
     [61]
            5.920295988
                         5.862716341
                                       5.805193886
                                                     5.747674051
                                                                   5.690105386
##
     [66]
           5.632440126
                         5.574634668
                                       5.516649992
                                                     5.458451987
                                                                   5.400011710
##
     [71]
            5.341305570
                         5.282315436
                                       5.223028672
                                                     5.163438109
                                                                   5.103541946
##
     [76]
            5.043343593
                         4.982851463
                                       4.922078704
                                                     4.861042891
                                                                   4.799765678
##
           4.738272413
                         4.676591730
                                       4.614755109
                                                     4.552796439
                                                                   4.490751553
     [81]
##
     [86]
           4.428657773
                         4.366553457
                                       4.304477558
                                                     4.242469201
                                                                   4.180567279
##
     [91]
           4.118810083
                         4.057234969
                                       3.995878054
                                                     3.934773964
                                                                   3.873955626
##
     [96]
           3.813454098
                         3.753298468
                                       3.693515778
                                                     3.634131021
                                                                   3.575167164
##
    [101]
           3.516645234
                         3.458584432
                                       3.401002294
                                                     3.343914876
                                                                   3.287336975
##
           3.231282364
                         3.175764044
                                       3.120794505
                                                     3.066385986
    [106]
                                                                   3.012550729
##
    \lceil 111 \rceil
           2.959301223
                         2.906650428
                                       2.854611971
                                                     2.803200314
                                                                   2.752430891
##
    [116]
           2.702320197
                         2.652885840
                                       2.604146549
                                                     2.556122130
                                                                   2.508833379
##
    [121]
            2.462301949
                         2.416550168
                                       2.371600816
                                                     2.327476865
                                                                   2.284201180
##
                         2.200283548
                                                     2.120015715
    [126]
           2.241796193
                                       2.159683736
                                                                   2.081296521
##
    [131]
            2.043540896
                         2.006760914
                                       1.970965638
                                                     1.936160792
                                                                   1.902348477
##
           1.869526920
                         1.837690262
                                       1.806828409
                                                     1.776926921
                                                                   1.747966960
    [136]
##
    [141]
           1.719925297
                         1.692774369
                                       1.666482392
                                                     1.641013525
                                                                   1.616328083
##
    [146]
           1.592382798
                         1.569131109
                                       1.546523503
                                                     1.524507863
                                                                   1.503029860
##
    [151]
           1.482033341
                         1.461460738
                                       1.441253477
                                                     1.421352380
                                                                   1.401698067
##
    [156]
           1.382231331
                         1.362893509
                                       1.343626825
                                                     1.324374702
                                                                   1.305082060
##
    [161]
           1.285695576
                         1.266163915
                                       1.246437933
                                                     1.226470855
                                                                   1.206218412
##
    [166]
           1.185638966
                         1.164693600
                                       1.143346189
                                                     1.121563453
                                                                   1.099314993
##
    [171]
           1.076573311
                         1.053313824
                                       1.029514870
                                                     1.005157715
                                                                   0.980226552
##
    [176]
           0.954708517
                         0.928593698
                                       0.901875168
                                                     0.874549017
                                                                   0.846614409
##
    [181]
           0.818073647
                         0.788932260
                                       0.759199106
                                                     0.728886493
                                                                   0.698010313
                                       0.602216375
##
    [186]
           0.666590196
                         0.634649678
                                                     0.569322169
                                                                   0.536003394
    [191]
##
           0.502301027
                         0.468260862
                                       0.433933685
                                                     0.399375418
                                                                   0.364647246
    [196]
           0.329815706
                         0.294952738
                                       0.260135687
                                                     0.225447250
                                                                   0.190975358
```

```
0.156812990
                         0.123057905  0.089812303  0.057182383
##
    [201]
                                                                   0.025277828
##
    [206] -0.005788813 -0.035902829 -0.064948135 -0.092808145 -0.119366722
##
    [211] -0.144509186 -0.168123370 -0.190100723 -0.210337412 -0.228735434
##
    [216] -0.245203698 -0.259659055 -0.272027267 -0.282243871 -0.290254939
##
    [221] -0.296017699 -0.299501006 -0.300685645 -0.299564472 -0.296142360
##
    [226] -0.290435981 -0.282473397 -0.272293500 -0.259945279 -0.245486968
##
          -0.228985059 -0.210513228 -0.190151189 -0.167983496 -0.144098326
    [231]
    [236]
##
          -0.118586270 -0.091539144 -0.063048853 -0.033206328
                                                                  -0.002100545
##
    [241]
           0.030182348
                         0.063559793
                                       0.097953460
                                                     0.133289750
                                                                   0.169500173
##
                         0.244296296
                                       0.282772052
                                                     0.321901896
                                                                   0.361643917
    [246]
           0.206521585
                                       0.484191685
##
    [251]
           0.401960901
                         0.442819892
                                                     0.526050250
                                                                   0.568372130
##
    [256]
           0.611135799
                         0.654321021
                                       0.697908223
                                                     0.741877885
                                                                   0.786209983
##
                         0.875875974
    [261]
           0.830883495
                                       0.921163226
                                                     0.966719074
                                                                   1.012515248
##
    [266]
           1.058521391
                         1.104705190
                                       1.151032642
                                                     1.197468445
                                                                   1.243976527
                         1.337065399
                                                                   1.476376260
##
    [271]
           1.290520694
                                       1.383576629
                                                     1.430022887
##
           1.522613573
                         1.568717593
                                       1.614678274
                                                     1.660494035
                                                                   1.706173028
    [276]
##
    [281]
           1.751734395
                         1.797209485
                                       1.842642994
                                                     1.888094018
                                                                   1.933636989
##
    [286]
           1.979362448
                         2.025377643
                                       2.071806912
                                                     2.118791813
                                                                   2.166490977
##
    [291]
            2.215079639
                         2.264748827
                                       2.315704183
                                                     2.368164374
                                                                   2.422359103
##
    [296]
           2.478526700
                         2.536911291
                                       2.597759589
                                                     2.661317310
                                                                   2.727825291
##
    [301]
            2.797515355
                         2.870606035
                                       2.947298227
                                                     3.027770905
                                                                   3.112177016
##
    [306]
           3.200639670
                         3.293248758
                                       3.390058108
                                                     3.491083276
                                                                   3.596300050
##
    [311]
            3.705643723
                         3.819009156
                                       3.936251623
                                                     4.057188408
                                                                   4.181601080
##
    [316]
           4.309238373
                         4.439819557
                                       4.573038182
                                                     4.708566081
                                                                   4.846057508
##
    [321]
           4.985153294
                         5.125484918
                                       5.266678401
                                                     5.408357961
                                                                   5.550149350
##
    [326]
            5.691682859
                         5.832595951
                                       5.972535513
                                                     6.111159739
                                                                   6.248139655
##
           6.383160299
                         6.515921594
                                       6.646138934
                                                     6.773543525
                                                                   6.897882507
    [331]
##
    [336]
           7.018918893
                         7.136431353
                                       7.250213873
                                                     7.360075318
                                                                   7.465838916
##
    [341]
           7.567341693
                         7.664433868
                                       7.756978227
                                                     7.844849500
                                                                   7.927933724
##
           8.006127639
                         8.079338092
                                       8.147481470
                                                     8.210483166
                                                                   8.268277082
    [346]
##
    [351]
           8.320805161
                         8.368016968
                                       8.409869308
                                                     8.446325879
                                                                   8.477356979
                                                                   8.550523749
##
    [356]
           8.502939246
                         8.523055441
                                       8.537694278
                                                     8.546850293
##
    [361]
           8.548720595
                         8.541452452
                                       8.528736649
                                                     8.510596299
                                                                   8.487060406
##
    [366]
           8.458164027
                         8.423948460
                                       8.384461475
                                                     8.339757591
                                                                   8.289898379
##
    [371]
           8.234952809
                         8.174997629
                                       8.110117780
                                                     8.040406842
                                                                   7.965967503
##
    [376]
           7.886912056
                         7.803362917
                                       7.715453150
                                                     7.623327005
                                                                   7.527140444
##
    [381]
           7.427061664
                         7.323271584
                                       7.215964302
                                                     7.105347489
                                                                   6.991642710
##
                                       6.634428616
    [386]
           6.875085655
                         6.755926247
                                                     6.510870903
                                                                   6.385544870
##
    [391]
           6.258755302
                         6.130819154
                                       6.002064445
                                                     5.872828856
                                                                   5.743458037
##
    [396]
           5.614303601
                         5.485720818
                                       5.358066007
                                                     5.231693656
                                                                   5.106953304
##
    [401]
                         4.863722001
                                       4.745874980
                                                                   4.519193164
           4.984186229
                                                     4.630940832
##
    [406]
           4.410880357
                         4.306222716
                                       4.205410001
                                                     4.108599445
                                                                   4.015914309
##
    [411]
            3.927443043
                         3.843239060
                                       3.763321161
                                                     3.687674572
                                                                   3.616252562
##
    [416]
           3.548978598
                         3.485748944
                                       3.426435629
                                                     3.370889689
                                                                   3.318944575
##
    [421]
           3.270419645
                         3.225123632
                                       3.182858016
                                                     3.143420219
                                                                   3.106606569
##
    [426]
           3.072214985
                         3.040047337
                                       3.009911486
                                                     2.981622968
                                                                   2.955006338
##
    [431]
           2.929896185
                         2.906137820
                                       2.883587686
                                                     2.862113481
                                                                   2.841594063
##
    [436]
           2.821919130
                         2.802988733
                                       2.784712644
                                                     2.767009604
                                                                   2.749806485
##
    [441]
           2.733037399
                         2.716642768
                                       2.700568380
                                                     2.684764469
                                                                   2.669184806
##
    [446]
           2.653785852
                        2.638525960
                                       2.623364655
                                                     2.608261992
                                                                   2.593177997
```

```
##
    [451]
           2.578072215
                         2.562903337
                                      2.547628930
                                                    2.532205270
                                                                  2.516587250
##
    [456]
           2.500728391
                         2.484580928
                                      2.468095969
                                                    2.451223726
                                                                  2.433913802
##
    [461]
           2.416115527
                         2.397778335
                                      2.378852172
                                                    2.359287927
                                                                  2.339037872
                                                                  2.225982600
##
    [466]
           2.318056110
                         2.296299020
                                      2.273725683
                                                    2.250298305
##
    [471]
           2.200748152
                         2.174568746
                                      2.147422655
                                                    2.119292888
                                                                  2.090167399
##
    [476]
           2.060039242
                         2.028906686
                                      1.996773283
                                                    1.963647880
                                                                  1.929544593
##
                                      1.821585604
                                                    1.783813545
                                                                  1.745208822
    [481]
           1.894482726
                         1.858486643
##
    [486]
           1.705813918
                         1.665675107
                                      1.624842088
                                                    1.583367592
                                                                  1.541306953
##
    [491]
           1.498717665
                         1.455658918
                                      1.412191121
                                                    1.368375417
                                                                  1.324273190
##
    [496]
           1.279945585
                         1.235453021
                                      1.190854732
                                                    1.146208311
                                                                  1.101569292
##
    [501]
           1.056990747
                         1.012522926
                                      0.968212924
                                                    0.924104400
                                                                  0.880237327
##
    [506]
           0.836647796
                         0.793367862
                                      0.750425439
                                                    0.707844246
                                                                  0.665643793
##
           0.623839417
                         0.582442362
                                      0.541459893
                                                    0.500895456
                                                                  0.460748862
    [511]
##
    [516]
           0.421016504
                         0.381691598
                                      0.342764446
                                                    0.304222704
                                                                  0.266051675
           0.228234597
                         0.190752934
                                      0.153586670
                                                    0.116714592
                                                                  0.080114569
##
    [521]
##
    [526]
           0.043763816
                         0.007639146 -0.028282789 -0.064025275 -0.099611331
##
    [531] -0.135063518 -0.170403757 -0.205653175 -0.240831949 -0.275959175
##
    [536] -0.311052741 -0.346129205 -0.381203687 -0.416289765 -0.451399366
##
    [541] -0.486542666 -0.521727988 -0.556961699 -0.592248096 -0.627589303
##
    [546] -0.662985150 -0.698433054 -0.733927895 -0.769461889 -0.805024455
##
    [551] -0.840602084 -0.876178207 -0.911733063 -0.947243578 -0.982683243
    [556] -1.018022012 -1.053226203 -1.088258431 -1.123077544 -1.157638602
##
    [561] -1.191892871 -1.225787857 -1.259267370 -1.292271637 -1.324737445
##
##
    [566] -1.356598339 -1.387784861 -1.418224840 -1.447843731 -1.476565003
    [571] -1.504310577 -1.531001304 -1.556557494 -1.580899479 -1.603948214
##
##
    [576] -1.625625897 -1.645856625 -1.664567043 -1.681687014 -1.697150270
    [581] -1.710895054 -1.722864734 -1.733008375 -1.741281275 -1.747645432
##
    [586] -1.752069958 -1.754531415 -1.755014070 -1.753510074 -1.750019550
##
    [591] -1.744550596 -1.737119194 -1.727749048 -1.716471322 -1.703324320
##
##
    [596] -1.688353079 -1.671608916 -1.653148908 -1.633035337 -1.611335092
##
    [601] -1.588119057 -1.563461469 -1.537439280 -1.510131518 -1.481618650
##
    [606] -1.451981975 -1.421303027 -1.389663007 -1.357142252 -1.323819727
    [611] \ -1.289772561 \ -1.255075613 \ -1.219801075 \ -1.184018109 \ -1.147792521
##
    [616] -1.111186460 -1.074258150 -1.037061648 -0.999646623 -0.962058159
##
##
    [621] -0.924336573 -0.886517249 -0.848630481 -0.810701335 -0.772749511
    [626] -0.734789219 -0.696829054 -0.658871889 -0.620914765 -0.582948793
##
    [631] -0.544959072 -0.506924606 -0.468818255 -0.430606684 -0.392250358
##
##
    [636] -0.353703549 -0.314914383 -0.275824928 -0.236371328 -0.196483986
##
    [641] -0.156087805 -0.115102501 -0.073442975 -0.031019766
                                                                 0.012260414
                         0.101780229
                                      0.148219648
                                                    0.195913963
##
    [646]
           0.056494071
                                                                  0.244964738
##
    [651]
           0.295472456
                         0.347535436
                                      0.401248709
                                                    0.456702843
                                                                  0.513982753
##
    [656]
           0.573166502
                         0.634324113
                                      0.697516420
                                                    0.762793973
                                                                  0.830196020
##
    [661]
           0.899749583
                         0.971468662
                                      1.045353562
                                                    1.121390383
                                                                  1.199550662
##
    [666]
           1.279791193
                         1.362054023
                                      1.446266618
                                                    1.532342208
                                                                  1.620180293
##
    [671]
           1.709667304
                         1.800677396
                                      1.893073378
                                                    1.986707722
                                                                  2.081423676
##
    [676]
           2.177056419
                         2.273434266
                                      2.370379882
                                                    2.467711502
                                                                  2.565244125
##
    [681]
           2.662790672
                         2.760163101
                                      2.857173449
                                                    2.953634813
                                                                  3.049362251
##
    [686]
           3.144173595
                         3.237890190
                                      3.330337537
                                                    3.421345857
                                                                  3.510750573
##
    [691]
           3.598392714
                         3.684119237
                                      3.767783293
                                                    3.849244418
                                                                  3.928368669
    [696]
           4.005028712 4.079103861
                                     4.150480074 4.219049917
                                                                 4.284712501
```

```
##
    [701]
           4.347373391 4.406944493
                                      4.463343933
                                                   4.516495918
                                                                 4.566330590
##
    [706]
           4.612783877
                        4.655797340
                                      4.695318022
                                                   4.731298299
                                                                 4.763695733
##
    [711]
           4.792472934
                        4.817597430
                                      4.839041546
                                                   4.856782286
                                                                 4.870801237
##
    [716]
           4.881084477
                        4.887622495
                                      4.890410126
                                                   4.889446501
                                                                 4.884735002
##
    [721]
           4.876283243
                        4.864103054
                                      4.848210481
                                                    4.828625804
                                                                 4.805373567
##
    [726]
           4.778482619
                        4.747986169
                                      4.713921858
                                                    4.676331842
                                                                 4.635262882
##
           4.590766456
                        4.542898870
                                      4.491721391
                                                    4.437300380
                                                                 4.379707438
    [731]
##
    [736]
           4.319019553
                        4.255319257
                                      4.188694780
                                                   4.119240211
                                                                 4.047055645
                        3.894927822
##
    [741]
           3.972247334
                                      3.815216070
                                                    3.733237560
                                                                 3.649124376
##
    [746]
           3.563015256
                        3.475055610
                                      3.385397501
                                                    3.294199567
                                                                 3.201626904
           3.107850872
##
    [751]
                        3.013048845
                                      2.917403879
                                                    2.821104300
                                                                 2.724343198
                        2.530228975
                                      2.433280039
##
    [756]
           2.627317841
                                                    2.336676266
                                                                 2.240623695
##
                        2.050993714
                                      1.957822164
                                                    1.866010949
                                                                 1.775752156
    [761]
           2.145328081
##
    [766]
           1.687231017
                        1.600624484
                                      1.516099796
                                                    1.433813089
                                                                 1.353908063
           1.276514727
                        1.201748267
                                      1.129708043
                                                    1.060476745
                                                                 0.994119732
##
    [771]
##
           0.930684566
                        0.870200756
                                      0.812679707
                                                    0.758114902
                                                                 0.706482280
    [776]
##
    [781]
           0.657740834
                        0.611833389
                                      0.568687559
                                                   0.528216861
                                                                 0.490321949
##
                        0.421805940
                                      0.390934302
                                                   0.362140337
    [786]
           0.454891962
                                                                 0.335281706
                                                   0.244238027
##
    [791]
           0.310211914
                        0.286781750
                                      0.264840654
                                                                 0.224824443
##
    [796]
           0.206452777
                        0.188979223
                                      0.172264227
                                                   0.156173298
                                                                 0.140577726
##
           0.125355205
                        0.110390343
                                      0.095575101
                                                   0.080809129
    [801]
                                                                 0.066000029
##
    [806]
           0.051063545
                        0.035923679
                                      0.020512750
                                                   0.004771392 -0.011351496
    [811] -0.027898847 -0.044905570 -0.062398722 -0.080397725 -0.098914607
##
##
    [816] -0.117954274 -0.137514805 -0.157587777 -0.178158608 -0.199206914
    [821] -0.220706901 -0.242627759 -0.264934077 -0.287586277 -0.310541058
##
##
    [826] -0.333751848 -0.357169272 -0.380741626 -0.404415353 -0.428135532
    [831] -0.451846354 -0.475491611 -0.499015165 -0.522361425 -0.545475798
##
    [836] -0.568305132 -0.590798140 -0.612905801 -0.634581734 -0.655782547
##
    [841] -0.676468148 -0.696602029 -0.716151507 -0.735087924 -0.753386818
##
##
    [846] -0.771028035 -0.787995815 -0.804278827 -0.819870161 -0.834767292
##
    [851] -0.848971986 -0.862490192 -0.875331882 -0.887510871 -0.899044607
##
    [856] -0.909953939 -0.920262862 -0.929998254 -0.939189592 -0.947868668
    [861] -0.956069298 -0.963827034 -0.971178871 -0.978162973 -0.984818400
##
    [866] -0.991184846 -0.997302398 -1.003211304 -1.008951761 -1.014563723
##
##
    [871] -1.020086724 -1.025559720 -1.031020960 -1.036507861 -1.042056911
##
    [876] -1.047703592 -1.053482311 -1.059426354 -1.065567848 -1.071937747
    [881] -1.078565815 -1.085480628 -1.092709584 -1.100278915 -1.108213708
##
##
    [886] -1.116537924 -1.125274426 -1.134445000 -1.144070378 -1.154170252
    [891] -1.164763295 -1.175867163 -1.187498499 -1.199672922 -1.212405012
##
    [896] -1.225708283 -1.239595144 -1.254076847 -1.269163427 -1.284863629
##
##
    [901] -1.301184815 -1.318132870 -1.335712083 -1.353925026 -1.372772416
##
    [906] -1.392252962 -1.412363210 -1.433097369 -1.454447137 -1.476401511
##
    [911] -1.498946596 -1.522065413 -1.545737698 -1.569939704 -1.594644008
    [916] -1.619819324 -1.645430315 -1.671437434 -1.697796761 -1.724459878
##
##
    [921] -1.751373749 -1.778480643 -1.805718082 -1.833018823 -1.860310889
##
    [926] -1.887517637 -1.914557885 -1.941346088 -1.967792575 -1.993803850
##
    [931] -2.019282955 -2.044129906 -2.068242191 -2.091515348 -2.113843597
    [936] -2.135120552 -2.155239985 -2.174096646 -2.191587141 -2.207610835
##
##
    [941] -2.222070791 -2.234874728 -2.245935968 -2.255174379 -2.262517287
    [946] -2.267900333 -2.271268281 -2.272575728 -2.271787736 -2.268880344
```

```
[951] -2.263840963 -2.256668637 -2.247374172 -2.235980114 -2.222520584
    [956] -2.207040977 -2.189597518 -2.170256681 -2.149094500 -2.126195761
##
    [961] -2.101653105 -2.075566048 -2.048039941 -2.019184880 -1.989114586
##
##
    [966] -1.957945279 -1.925794537 -1.892780186 -1.859019206 -1.824626684
    [971] -1.789714810 -1.754391932 -1.718761673 -1.682922116 -1.646965061
##
    [976] -1.610975356 -1.575030302 -1.539199141 -1.503542605 -1.468112561
##
    [981] -1.432951714 -1.398093392 -1.363561403 -1.329369963 -1.295523697
    [986] -1.262017705 -1.228837706 -1.195960245 -1.163352972 -1.130974988
##
    [991] -1.098777264 -1.066703124 -1.034688795 -1.002664033 -0.970552801
##
    [996] -0.938274019 -0.905742373 -0.872869179 -0.839563294 -0.805732077
  [1001] -0.771282389 -0.736121608 -0.700158679 -0.663305159 -0.625476261
  [1006] -0.586591880 -0.546577581 -0.505365551 -0.462895481 -0.419115380
  [1011] -0.373982299 -0.327462964 -0.279534289 -0.230183789 -0.179409856
## [1016] -0.127221919 -0.073640471 -0.018696980 0.037566338
                                                               0.095096843
           0.153831918
                        0.213699501
                                    0.274618715
                                                  0.336500560
                                                                0.399248673
## [1021]
## [1026]
           0.462760126
                        0.526926261
                                     0.591633543
                                                  0.656764413
                                                                0.722198141
## [1031]
           0.787811653
                        0.853480340
                                     0.919078819
                                                  0.984481666
                                                                1.049564086
                       1.178275322
                                     1.241663055
                                                  1.304249167
## [1036]
           1.114202542
                                                                1.365920279
## [1041]
           1.426566558
                        1.486082007
                                     1.544364706
                                                  1.601317013
                                                                1.656845713
## [1046]
           1.710862132
                        1.763282211
                                     1.814026550
                                                  1.863020424
                                                                1.910193767
           1.955481141
                        1.998821680
                                     2.040159026
                                                   2.079441237
                                                                2.116620704
## [1051]
## [1056]
           2.151654039
                        2.184501973
                                     2.215129237
                                                   2.243504453
                                                                2.269600005
                        2.314859793
## [1061]
           2.293391930
                                     2.333986575
                                                  2.350758554
                                                                2.365165195
## [1066]
           2.377199040
                        2.386855602
                                     2.394133264
                                                   2.399033179
                                                                2.401559175
## [1071]
           2.401717662
                        2.399517549
                                     2.394970154
                                                  2.388089124
                                                                2.378890359
## [1076]
           2.367391932
                        2.353614017
                                     2.337578817
                                                   2.319310494
                                                                2.298835097
## [1081]
           2.276180500
                        2.251376328
                                     2.224453893
                                                  2.195446127
                                                                2.164387512
## [1086]
           2.131314017
                        2.096263023
                                     2.059273258
                                                  2.020384727
                                                                1.979638637
                        1.892744194
                                                  1.798940892
## [1091]
           1.937077327
                                     1.846683619
                                                                1.749562137
## [1096]
           1.698594232
                       1.646084743
                                     1.592081838
                                                  1.536634221
                                                                1.479791057
                                                  1.239458503
## [1101]
           1.421601900
                       1.362116630
                                     1.301385385
                                                               1.176386467
                        1.047009293
                                     0.980805425
                                                  0.913658878
## [1106]
           1.112219855
                                                                0.845620242
## [1111]
           0.776740055
                        0.707068801
                                     0.636656912
                                                  0.565554781
                                                                0.493812784
## [1116]
           0.421481315
                        0.348610817 0.275251841 0.201455091
                                                               0.127271492
  [1121]
           0.052752255 -0.022051051 -0.097086424 -0.172301352 -0.247642736
  [1126] -0.323056821 -0.398489117 -0.473884343 -0.549186365 -0.624338151
## [1131] -0.699281739 -0.773958214 -0.848307704 -0.922269398 -0.995781573
## [1136] -1.068781656 -1.141206295 -1.212991459 -1.284072567 -1.354384626
## [1141] -1.423862406 -1.492440632 -1.560054192 -1.626638378 -1.692129125
## [1146] -1.756463281 -1.819578882 -1.881415431 -1.941914186 -2.001018447
## [1151] -2.058673838 -2.114828576 -2.169433735 -2.222443485 -2.273815312
## [1156] -2.323510214 -2.371492868 -2.417731761 -2.462199294 -2.504871847
## [1161] -2.545729807 -2.584757566 -2.621943476 -2.657279775 -2.690762480
## [1166] -2.722391254 -2.752169245 -2.780102906 -2.806201794 -2.830478367
## [1171] -2.852947762 -2.873627579 -2.892537666 -2.909699912 -2.925138045
## [1176] -2.938877457 -2.950945038 -2.961369037 -2.970178941 -2.977405388
## [1181] -2.983080095 -2.987235820 -2.989906344 -2.991126478 -2.990932092
## [1186] -2.989360161 -2.986448828 -2.982237479 -2.976766827 -2.970078998
## [1191] -2.962217620 -2.953227905 -2.943156730 -2.932052693 -2.919966170
## [1196] -2.906949339 -2.893056192 -2.878342520 -2.862865866 -2.846685468
```

```
## [1201] -2.829862153 -2.812458220 -2.794537288 -2.776164117 -2.757404408
## [1206] -2.738324577 -2.718991508 -2.699472287 -2.679833924 -2.660143057
## [1211] -2.640465647 -2.620866675 -2.601409821 -2.582157155 -2.563168828
## [1216] -2.544502764 -2.526214367 -2.508356234 -2.490977887 -2.474125516
## [1221] -2.457841742 -2.442165401 -2.427131348 -2.412770281 -2.399108595
## [1226] -2.386168255 -2.373966701 -2.362516774 -2.351826673 -2.341899939
## [1231] -2.332735468 -2.324327551 -2.316665946 -2.309735977 -2.303518661
## [1236] -2.297990867 -2.293125500 -2.288891718 -2.285255169 -2.282178262
## [1241] -2.279620458 -2.277538589 -2.275887194 -2.274618881 -2.273684705
## [1246] -2.273034560 -2.272617582 -2.272382571 -2.272278402 -2.272254459
## [1251] -2.272261045 -2.272249807 -2.272174131 -2.271989539 -2.271654054
## [1256] -2.271128548 -2.270377061 -2.269367085 -2.268069816 -2.266460363
## [1261] -2.264517920 -2.262225886 -2.259571948 -2.256548107 -2.253150664
## [1266] -2.249380153 -2.245241227 -2.240742503 -2.235896354 -2.230718669
## [1271] -2.225228569 -2.219448092 -2.213401838 -2.207116603 -2.200620974
## [1276] -2.193944917 -2.187119348 -2.180175692 -2.173145445 -2.166059730
## [1281] -2.158948861 -2.151841913 -2.144766304 -2.137747398 -2.130808121
## [1286] -2.123968605 -2.117245850 -2.110653424 -2.104201185 -2.097895037
## [1291] -2.091736726 -2.085723668 -2.079848813 -2.074100557 -2.068462682
## [1296] -2.062914356 -2.057430158 -2.051980159 -2.046530045 -2.041041284
## [1301] -2.035471335 -2.029773910 -2.023899274 -2.017794586 -2.011404291
## [1306] -2.004670540 -1.997533655 -1.989932622 -1.981805617 -1.973090556
## [1311] -1.963725661 -1.953650047 -1.942804306 -1.931131103 -1.918575758
## [1316] -1.905086811 -1.890616575 -1.875121649 -1.858563398 -1.840908390
## [1321] -1.822128778 -1.802202624 -1.781114166 -1.758854012 -1.735419263
## [1326] -1.710813575 -1.685047129 -1.658136547 -1.630104727 -1.600980611
## [1331] -1.570798890 -1.539599655 -1.507427985 -1.474333499 -1.440369862
## [1336] -1.405594263 -1.370066869 -1.333850260 -1.297008861 -1.259608368
## [1341] -1.221715186 -1.183395874 -1.144716611 -1.105742692 -1.066538041
## [1346] -1.027164769 -0.987682759 -0.948149299 -0.908618745 -0.869142238
## [1351] -0.829767457 -0.790538414 -0.751495305 -0.712674384 -0.674107902
## [1356] -0.635824068 -0.597847063 -0.560197086 -0.522890434 -0.485939628
## [1361] -0.449353558 -0.413137665 -0.377294153 -0.341822218 -0.306718311
## [1366] -0.271976413 -0.237588331 -0.203544005 -0.169831836 -0.136439014
## [1371] -0.103351855 -0.070556144 -0.038037474 -0.005781588
                                                              0.026225295
          0.057996147  0.089542824  0.120875767  0.152003719
                                                               0.182933460
## [1376]
## [1381]
           0.213669570
                        0.244214205
                                     0.274566909
                                                 0.304724443
                                                               0.334680648
## [1386]
          0.364426331
                        0.393949187
                                     0.423233737
                                                  0.452261314
                                                               0.481010056
## [1391]
           0.509454943
                        0.537567850
                                     0.565317629
                                                 0.592670216
                                                               0.619588755
                                                  0.722096225
## [1396]
           0.646033744
                        0.671963197
                                     0.697332825
                                                               0.746205086
                                                               0.855133725
## [1401]
           0.769609395
                        0.792257660
                                     0.814097127
                                                  0.835074013
## [1406]
           0.874221093
                        0.892280586
                                     0.909256541
                                                  0.925093378
                                                               0.939735806
## [1411]
           0.953129039
                        0.965218987
                                     0.975952458
                                                  0.985277339
                                                               0.993142779
## [1416]
           0.999499363
                        1.004299279
                                     1.007496481
                                                  1.009046844
                                                               1.008908316
                                     0.997973027
                                                  0.990704943
## [1421]
           1.007041067
                        1.003407626
                                                               0.981573820
## [1426]
           0.970553015
                        0.957618923
                                     0.942751111
                                                  0.925932452
                                                               0.907149256
## [1431]
           0.886391399
                        0.863652465
                                     0.838929869
                                                  0.812225002
                                                               0.783543358
## [1436]
           0.752894670
                        0.720293048
                                     0.685757102
                                                  0.649310078
                                                               0.610979978
## [1441]
          0.570799681
                        0.528807051
                                     0.485045040
                                                  0.439561778
                                                               0.392410643
## [1446] 0.343650325 0.293344856 0.241563625 0.188381362 0.133878093
```

```
0.078139054 0.021254575 -0.036680088 -0.095564965 -0.155295631
## [1456] -0.215763523 -0.276856315 -0.338458347 -0.400451121 -0.462713849
## [1461] -0.525124077 -0.587558347 -0.649892940 -0.712004646 -0.773771599
## [1466] -0.835074140 -0.895795715 -0.955823783 -1.015050741 -1.073374837
## [1471] -1.130701061 -1.186942003 -1.242018659 -1.295861171 -1.348409491
## [1476] -1.399613940 -1.449435675 -1.497847026 -1.544831719 -1.590384960
## [1481] -1.634513388 -1.677234892 -1.718578295 -1.758582913 -1.797297987
## [1486] -1.834782008 -1.871101941 -1.906332365 -1.940554532 -1.973855378
## [1491] -2.006326489 -2.038063030 -2.069162677 -2.099724536 -2.129848085
## [1496] -2.159632130 -2.189173814 -2.218567650 -2.247904620 -2.277271323
## [1501] -2.306749191 -2.336413764 -2.366334039 -2.396571881 -2.427181506
## [1506] -2.458209039 -2.489692129 -2.521659647 -2.554131433 -2.587118129
## [1511] -2.620621061 -2.654632193 -2.689134145 -2.724100270 -2.759494795
## [1516] -2.795273028 -2.831381625 -2.867758912 -2.904335286 -2.941033657
## [1521] -2.977769973 -3.014453786 -3.050988889 -3.087274009 -3.123203550
## [1526] -3.158668387 -3.193556713 -3.227754918 -3.261148504 -3.293623030
## [1531] -3.325065065 -3.355363160 -3.384408800 -3.412097356 -3.438328998
## [1536] -3.463009574 -3.486051434 -3.507374190 -3.526905405 -3.544581190
## [1541] -3.560346710 -3.574156595 -3.585975233 -3.595776964 -3.603546157
## [1546] -3.609277180 -3.612974262 -3.614651258 -3.614331314 -3.612046448
## [1551] -3.607837060 -3.601751373 -3.593844822 -3.584179403 -3.572822992
## [1556] -3.559848652 -3.545333928 -3.529360149 -3.512011749 -3.493375604
## [1561] -3.473540404 -3.452596054 -3.430633126 -3.407742342 -3.384014114
## [1566] -3.359538121 -3.334402937 -3.308695709 -3.282501866 -3.255904888
## [1571] -3.228986097 -3.201824493 -3.174496621 -3.147076470 -3.119635389
## [1576] -3.092242032 -3.064962323 -3.037859430 -3.010993759 -2.984422945
## [1581] -2.958201869 -2.932382661 -2.907014715 -2.882144708 -2.857816608
## [1586] -2.834071694 -2.810948562 -2.788483135 -2.766708667 -2.745655747
## [1591] -2.725352297 -2.705823567 -2.687092129 -2.669177871 -2.652097984
## [1596] -2.635866957 -2.620496563 -2.605995855 -2.592371158 -2.579626068
## [1601] -2.567761456 -2.556775471 -2.546663558 -2.537418477 -2.529030332
## [1606] -2.521486607 -2.514772217 -2.508869562 -2.503758597 -2.499416911
## [1611] -2.495819817 -2.492940458 -2.490749918 -2.489217353 -2.488310124
## [1616] -2.487993952 -2.488233073 -2.488990413 -2.490227766 -2.491905980
## [1621] -2.493985151 -2.496424828 -2.499184212 -2.502222362 -2.505498409
## [1626] -2.508971752 -2.512602268 -2.516350508 -2.520177884 -2.524046854
## [1631] -2.527921090 -2.531765635 -2.535547046 -2.539233519 -2.542794995
## [1636] -2.546203252 -2.549431972 -2.552456784 -2.555255297 -2.557807099
## [1641] -2.560093742 -2.562098701 -2.563807317 -2.565206717 -2.566285718
## [1646] -2.567034712 -2.567445537 -2.567511338 -2.567226411 -2.566586043
## [1651] -2.565586347 -2.564224088 -2.562496512 -2.560401177 -2.557935786
## [1656] -2.555098023 -2.551885410 -2.548295158 -2.544324045 -2.539968303
## [1661] -2.535223522 -2.530084572 -2.524545546 -2.518599721 -2.512239544
## [1666] -2.505456637 -2.498241819 -2.490585160 -2.482476051 -2.473903288
## [1671] -2.464855189 -2.455319720 -2.445284640 -2.434737662 -2.423666626
## [1676] -2.412059688 -2.399905510 -2.387193462 -2.373913829 -2.360058010
## [1681] -2.345618727 -2.330590220 -2.314968442 -2.298751237 -2.281938507
## [1686] -2.264532371 -2.246537291 -2.227960198 -2.208810576 -2.189100538
## [1691] -2.168844870 -2.148061051 -2.126769247 -2.104992276 -2.082755551
## [1696] -2.060086992 -2.037016914 -2.013577890 -1.989804593 -1.965733609
```

```
## [1701] -1.941403235 -1.916853259 -1.892124718 -1.867259644 -1.842300801
## [1706] -1.817291407 -1.792274844 -1.767294377 -1.742392851 -1.717612400
## [1711] -1.692994148 -1.668577920 -1.644401952 -1.620502605 -1.596914098
## [1716] -1.573668236 -1.550794161 -1.528318109 -1.506263184 -1.484649146
## [1721] -1.463492220 -1.442804914 -1.422595868 -1.402869718 -1.383626982
## [1726] -1.364863972 -1.346572733 -1.328741005 -1.311352216 -1.294385506
## [1731] -1.277815783 -1.261613804 -1.245746306 -1.230176158 -1.214862558
## [1736] -1.199761268 -1.184824884 -1.170003146 -1.155243291 -1.140490442
## [1741] -1.125688030 -1.110778263 -1.095702619 -1.080402374 -1.064819161
## [1746] -1.048895543 -1.032575621 -1.015805634 -0.998534585 -0.980714857
## [1751] -0.962302819 -0.943259431 -0.923550810 -0.903148777 -0.882031358
## [1756] -0.860183250 -0.837596221 -0.814269462 -0.790209868 -0.765432252
## [1761] -0.739959492 -0.713822592 -0.687060676 -0.659720906 -0.631858322
## [1766] -0.603535614 -0.574822828 -0.545797003 -0.516541760 -0.487146836
## [1771] -0.457707574 -0.428324380 -0.399102151 -0.370149679 -0.341579047
## [1776] -0.313505013 -0.286044398 -0.259315476 -0.233437382 -0.208529526
## [1781] -0.184711034 -0.162100214 -0.140814037 -0.120967656 -0.102673946
## [1786] -0.086043076 -0.071182107 -0.058194620 -0.047180365 -0.038234942
## [1791] -0.031449497 -0.026910449 -0.024699223 -0.024892007 -0.027559524
## [1796] -0.032766808 -0.040572994 -0.051031116 -0.064187898 -0.080083566
## [1801] -0.098751636 -0.120218723 -0.144504333 -0.171620653 -0.201572339
## [1806] -0.234356297 -0.269961459 -0.308368551 -0.349549866 -0.393469020
## [1811] -0.440080726 -0.489330556 -0.541154718 -0.595479844 -0.652222791
## [1816] -0.711290468 -0.772579695 -0.835977094 -0.901359038 -0.968591647
## [1821] -1.037530857 -1.108022572 -1.179902898 -1.252998494 -1.327127021
## [1826] -1.402097736 -1.477712208 -1.553765186 -1.630045624 -1.706337855
## [1831] -1.782422927 -1.858080096 -1.933088457 -2.007228723 -2.080285108
## [1836] -2.152047311 -2.222312559 -2.290887684 -2.357591190 -2.422255269
## [1841] -2.484727723 -2.544873746 -2.602577521 -2.657743591 -2.710297968
## [1846] -2.760188945 -2.807387587 -2.851887893 -2.893706606 -2.932882700
## [1851] -2.969476529 -3.003568679 -3.035258547 -3.064662684 -3.091912931
## [1856] -3.117154421 -3.140543457 -3.162245338 -3.182432163 -3.201280658
## [1861] -3.218970058 -3.235680082 -3.251589022 -3.266871958 -3.281699140
## [1866] -3.296234516 -3.310634433 -3.325046508 -3.339608655 -3.354448291
## [1871] -3.369681677 -3.385413428 -3.401736141 -3.418730169 -3.436463502
## [1876] -3.454991767 -3.474358321 -3.494594443 -3.515719607 -3.537741833
## [1881] -3.560658108 -3.584454876 -3.609108585 -3.634586288 -3.660846302
## [1886] -3.687838904 -3.715507083 -3.743787315 -3.772610386 -3.801902238
## [1891] -3.831584837 -3.861577068 -3.891795631 -3.922155952 -3.952573081
## [1896] -3.982962585 -4.013241422 -4.043328778 -4.073146870 -4.102621700
## [1901] -4.131683750 -4.160268607 -4.188317517 -4.215777853 -4.242603492
## [1906] -4.268755104 -4.294200331 -4.318913877 -4.342877490 -4.366079851
## [1911] -4.388516356 -4.410188820 -4.431105083 -4.451278546 -4.470727637
## [1916] -4.489475214 -4.507547919 -4.524975500 -4.541790099 -4.558025523
## [1921] -4.573716519 -4.588898041 -4.603604542 -4.617869284 -4.631723683
## [1926] -4.645196693 -4.658314236 -4.671098685 -4.683568403 -4.695737343
## [1931] -4.707614714 -4.719204712 -4.730506321 -4.741513181 -4.752213530
## [1936] -4.762590216 -4.772620774 -4.782277575 -4.791528046 -4.800334944
## [1941] -4.808656704 -4.816447838 -4.823659393 -4.830239458 -4.836133717
## [1946] -4.841286045 -4.845639133 -4.849135149 -4.851716409 -4.853326069
```

```
## [1951] -4.853908816 -4.853411561 -4.851784110 -4.848979824 -4.844956239
## [1956] -4.839675653 -4.833105664 -4.825219655 -4.815997213 -4.805424488
## [1961] -4.793494473 -4.780207213 -4.765569934 -4.749597091 -4.732310341
## [1966] -4.713738434 -4.693917036 -4.672888469 -4.650701402 -4.627410464
## [1971] -4.603075821 -4.577762691 -4.551540833 -4.524483998 -4.496669356
## [1976] -4.468176918 -4.439088933 -4.409489298 -4.379462968 -4.349095374
## [1981] -4.318471862 -4.287677149 -4.256794803 -4.225906756 -4.195092837
## [1986] -4.164430342 -4.133993641 -4.103853807 -4.074078288 -4.044730611
## [1991] -4.015870112 -3.987551709 -3.959825698 -3.932737581 -3.906327927
## [1996] -3.880632256 -3.855680953 -3.831499207 -3.808106974 -3.785518967
## [2001] -3.763744662 -3.742788333 -3.722649106 -3.703321032 -3.684793185
## [2006] -3.667049772 -3.650070273 -3.633829592 -3.618298232 -3.603442485
## [2011] -3.589224643 -3.575603230 -3.562533244 -3.549966425 -3.537851531
## [2016] -3.526134641 -3.514759461 -3.503667650 -3.492799160 -3.482092579
## [2021] -3.471485493 -3.460914845 -3.450317304 -3.439629637 -3.428789073
## [2026] -3.417733672 -3.406402683 -3.394736895 -3.382678970 -3.370173769
## [2031] -3.357168653 -3.343613767 -3.329462301 -3.314670721 -3.299198979
## [2036] -3.283010689 -3.266073276 -3.248358091 -3.229840502 -3.210499942
## [2041] -3.190319943 -3.169288125 -3.147396166 -3.124639746 -3.101018464
## [2046] -3.076535733 -3.051198660 -3.025017906 -2.998007536 -2.970184852
## [2051] -2.941570223 -2.912186912 -2.882060890 -2.851220662 -2.819697083
## [2056] -2.787523184 -2.754734001 -2.721366407 -2.687458955 -2.653051724
## [2061] -2.618186172 -2.582905003 -2.547252031 -2.511272058 -2.475010754
## [2066] -2.438514545 -2.401830500 -2.365006226 -2.328089764 -2.291129479
## [2071] -2.254173962 -2.217271916 -2.180472052 -2.143822975 -2.107373065
## [2076] -2.071170357 -2.035262414 -1.999696194 -1.964517913 -1.929772896
## [2081] -1.895505434 -1.861758621 -1.828574201 -1.795992398 -1.764051751
## [2086] -1.732788940 -1.702238616 -1.672433229 -1.643402850 -1.615175007
## [2091] -1.587774511 -1.561223297 -1.535540267 -1.510741138 -1.486838306
## [2096] -1.463840713 -1.441753734 -1.420579073 -1.400314678 -1.380954670
## [2101] -1.362489300 -1.344904917 -1.328183964 -1.312305000 -1.297242748
## [2106] -1.282968165 -1.269448551 -1.256647679 -1.244525963 -1.233040658
## [2111] -1.222146085 -1.211793903 -1.201933400 -1.192511827 -1.183474756
## [2116] -1.174766476 -1.166330406 -1.158109549 -1.150046951 -1.142086197
## [2121] -1.134171904 -1.126250238 -1.118269432 -1.110180298 -1.101936740
## [2126] -1.093496252 -1.084820393 -1.075875244 -1.066631828 -1.057066492
## [2131] -1.047161254 -1.036904092 -1.026289185 -1.015317101 -1.003994919
## [2136] -0.992336293 -0.980361460 -0.968097175 -0.955576591 -0.942839081
## [2141] -0.929930002 -0.916900403 -0.903806693 -0.890710251 -0.877677017
## [2146] -0.864777033 -0.852083965 -0.839674608 -0.827628369 -0.816026745
## [2151] -0.804952798 -0.794490628 -0.784724855 -0.775740113 -0.767620555
## [2156] -0.760449376 -0.754308354 -0.749277418 -0.745434235 -0.742853819
## [2161] -0.741608174 -0.741765950 -0.743392132 -0.746547756 -0.751289634
## [2166] -0.757670124 -0.765736901 -0.775532762 -0.787095445 -0.800457470
## [2171] -0.815645996 -0.832682691 -0.851583627 -0.872359180 -0.895013954
## [2176] -0.919546708 -0.945950313 -0.974211706 -1.004311873 -1.036225840
## [2181] -1.069922681 -1.105365547 -1.142511710 -1.181312625 -1.221714024
## [2186] -1.263656021 -1.307073255 -1.351895047 -1.398045605 -1.445444243
## [2191] -1.494005646 -1.543640168 -1.594254165 -1.645750372 -1.698028315
## [2196] -1.750984765 -1.804514233 -1.858509501 -1.912862194 -1.967463382
```

```
## [2201] -2.022204216 -2.076976588 -2.131673818 -2.186191345 -2.240427433
## [2206] -2.294283876 -2.347666690 -2.400486788 -2.452660624 -2.504110804
## [2211] -2.554766638 -2.604564646 -2.653448987 -2.701371821 -2.748293581
## [2216] -2.794183161 -2.839018015 -2.882784151 -2.925476041 -2.967096425
## [2221] -3.007656026 -3.047173180 -3.085673374 -3.123188712 -3.159757317
## [2226] -3.195422663 -3.230232868 -3.264239939 -3.297498999 -3.330067483
## [2231] -3.362004341 -3.393369229 -3.424221723 -3.454620550 -3.484622846
## [2236] -3.514283456 -3.543654266 -3.572783598 -3.601715645 -3.630489971
## [2241] -3.659141069 -3.687697977 -3.716183973 -3.744616319 -3.773006086
## [2246] -3.801358039 -3.829670599 -3.857935859 -3.886139683 -3.914261862
## [2251] -3.942276338 -3.970151490 -3.997850483 -4.025331673 -4.052549072
## [2256] -4.079452860 -4.105989941 -4.132104552 -4.157738894 -4.182833803
## [2261] -4.207329438 -4.231165982 -4.254284355 -4.276626916 -4.298138158
## [2266] -4.318765376 -4.338459310 -4.357174739 -4.374871028 -4.391512620
## [2271] -4.407069453 -4.421517311 -4.434838091 -4.447019991 -4.458057608
## [2276] -4.467951947 -4.476710350 -4.484346335 -4.490879351 -4.496334460
## [2281] -4.500741945 -4.504136860 -4.506558516 -4.508049927 -4.508657220
## [2286] -4.508429012 -4.507415776 -4.505669196 -4.503241528 -4.500184968
## [2291] -4.496551044 -4.492390033 -4.487750416 -4.482678370 -4.477217310
## [2296] -4.471407481 -4.465285605 -4.458884587 -4.452233278 -4.445356303
## [2301] -4.438273949 -4.431002116 -4.423552330 -4.415931815 -4.408143624
## [2306] -4.400186831 -4.392056765 -4.383745311 -4.375241242 -4.366530603
## [2311] -4.357597131 -4.348422701 -4.338987811 -4.329272079 -4.319254757
## [2316] -4.308915256 -4.298233671 -4.287191301 -4.275771157 -4.263958456
## [2321] -4.251741082 -4.239110022 -4.226059762 -4.212588641 -4.198699155
## [2326] -4.184398211 -4.169697329 -4.154612775 -4.139165649 -4.123381903
## [2331] -4.107292299 -4.090932311 -4.074341974 -4.057565666 -4.040651854
## [2336] -4.023652783 -4.006624127 -3.989624602 -3.972715552 -3.955960500
## [2341] -3.939424688 -3.923174597 -3.907277461 -3.891800771 -3.876811791
## [2346] -3.862377066 -3.848561951 -3.835430148 -3.823043258 -3.811460358
## [2351] -3.800737598 -3.790927817 -3.782080193 -3.774239916 -3.767447887
## [2356] -3.761740451 -3.757149154 -3.753700535 -3.751415947 -3.750311405
## [2361] -3.750397468 -3.751679150 -3.754155867 -3.757821405 -3.762663927
## [2366] -3.768666008 -3.775804707 -3.784051655 -3.793373197 -3.803730543
## [2371] -3.815079970 -3.827373037 -3.840556849 -3.854574335 -3.869364567
## [2376] -3.884863101 -3.901002346 -3.917711962 -3.934919271 -3.952549698
## [2381] -3.970527219 -3.988774832 -4.007215023 -4.025770246 -4.044363399
## [2386] -4.062918290 -4.081360089 -4.099615771 -4.117614522 -4.135288122
## [2391] -4.152571291 -4.169401994 -4.185721694 -4.201475566 -4.216612647
## [2396] -4.231085932 -4.244852418 -4.257873082 -4.270112805 -4.281540237
## [2401] -4.292127612 -4.301850510 -4.310687575 -4.318620191 -4.325632133
## [2406] -4.331709184 -4.336838738 -4.341009392 -4.344210544 -4.346431987
## [2411] -4.347663532 -4.347894643 -4.347114119 -4.345309802 -4.342468343
## [2416] -4.338575014 -4.333613581 -4.327566240 -4.320413613 -4.312134821
## [2421] -4.302707611 -4.292108562 -4.280313350 -4.267297077 -4.253034652
## [2426] -4.237501232 -4.220672700 -4.202526184 -4.183040598 -4.162197206
## [2431] -4.139980190 -4.116377212 -4.091379965 -4.064984697 -4.037192690
## [2436] -4.008010707 -3.977451367 -3.945533466 -3.912282220 -3.877729433
## [2441] -3.841913586 -3.804879837 -3.766679944 -3.727372098 -3.687020680
## [2446] -3.645695943 -3.603473624 -3.560434487 -3.516663821 -3.472250884
```

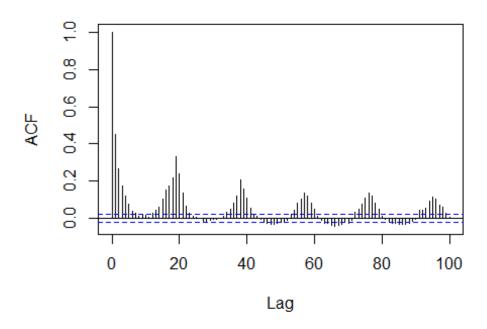
```
## [2451] -3.427288312 -3.381871499 -3.336097962 -3.290066688 -3.243877490
## [2456] -3.197630366 -3.151424868 -3.105359502 -3.059531146 -3.014034509
## [2461] -2.968961618 -2.924401352 -2.880439012 -2.837155939 -2.794629175
## [2466] -2.752931168 -2.712129520 -2.672286788 -2.633460311 -2.595702094
## [2471] -2.559058726 -2.523571330 -2.489275556 -2.456201604 -2.424374281
## [2476] -2.393813083 -2.364532308 -2.336541190 -2.309844064 -2.284440539
## [2481] -2.260325708 -2.237490357 -2.215921202 -2.195601140 -2.176509503
## [2486] -2.158622332 -2.141912656 -2.126350783 -2.111904586 -2.098539811
## [2491] -2.086220370 -2.074908645 -2.064565793 -2.055152042 -2.046626989
## [2496] -2.038949889 -2.032079944 -2.025976574 -2.020599684 -2.015909921
## [2501] -2.011868915 -2.008439508 -2.005585967 -2.003274181 -2.001471844
## [2506] -2.000148614 -1.999276263 -1.998828799 -1.998782573 -1.999116374
## [2511] -1.999811490 -2.000851768 -2.002223641 -2.003916150 -2.005920939
## [2516] -2.008232241 -2.010846849 -2.013764066 -2.016985654 -2.020515759
## [2521] -2.024360836 -2.028529556 -2.033032710 -2.037883102 -2.043095440
## [2526] -2.048686214 -2.054673576 -2.061077215 -2.067918221 -2.075218954
## [2531] -2.083002907 -2.091294567 -2.100119273 -2.109503069 -2.119472562
## [2536] -2.130054773 -2.141276983 -2.153166584 -2.165750923 -2.179057144
## [2541] -2.193112030 -2.207941837 -2.223572135 -2.240027639 -2.257332040
## [2546] -2.275507833 -2.294576148 -2.314556576 -2.335466994 -2.357323390
## [2551] -2.380139693 -2.403927598 -2.428696401 -2.454452828 -2.481200878
## [2556] -2.508941667 -2.537673280 -2.567390634 -2.598085350 -2.629745635
## [2561] -2.662356186 -2.695898099 -2.730348805 -2.765682023 -2.801867731
## [2566] -2.838872166 -2.876657848 -2.915183629 -2.954404773 -2.994273066
## [2571] -3.034736954 -3.075741721 -3.117229693 -3.159140476 -3.201411228
## [2576] -3.243976964 -3.286770890 -3.329724762 -3.372769280 -3.415834498
## [2581] -3.458850249 -3.501746601 -3.544454302 -3.586905241 -3.629032909
## [2586] -3.670772844 -3.712063061 -3.752844471 -3.793061253 -3.832661213
## [2591] -3.871596076 -3.909821756 -3.947298552 -3.983991299 -4.019869454
## [2596] -4.054907124 -4.089083019 -4.122380354 -4.154786678 -4.186293647
## [2601] -4.216896737 -4.246594911 -4.275390230 -4.303287434 -4.330293482
## [2606] -4.356417075 -4.381668160 -4.406057426 -4.429595810 -4.452294002
## [2611] -4.474161984 -4.495208588 -4.515441094 -4.534864877 -4.553483094
## [2616] -4.571296441 -4.588302961 -4.604497925 -4.619873778 -4.634420159
## [2621] -4.648123987 -4.660969628 -4.672939120 -4.684012470 -4.694168022
## [2626] -4.703382864 -4.711633304 -4.718895384 -4.725145421 -4.730360592
## [2631] -4.734519519 -4.737602870 -4.739593951 -4.740479285 -4.740249161
## [2636] -4.738898149 -4.736425564 -4.732835879 -4.728139070 -4.722350883
## [2641] -4.715493039 -4.707593339 -4.698685700 -4.688810097 -4.678012427
## [2646] -4.666344285 -4.653862670 -4.640629612 -4.626711739 -4.612179781
## [2651] -4.597108030 -4.581573754 -4.565656585 -4.549437876 -4.533000058
## [2656] -4.516425981 -4.499798265 -4.483198662 -4.466707440 -4.450402787
## [2661] -4.434360249 -4.418652209 -4.403347394 -4.388510436 -4.374201476
## [2666] -4.360475805 -4.347383570 -4.334969512 -4.323272765 -4.312326694
## [2671] -4.302158790 -4.292790601 -4.284237715 -4.276509790 -4.269610618
## [2676] -4.263538238 -4.258285085 -4.253838174 -4.250179328 -4.247285432
## [2681] -4.245128722 -4.243677105 -4.242894504 -4.242741230 -4.243174373
## [2686] -4.244148218 -4.245614675 -4.247523719 -4.249823843 -4.252462520
## [2691] -4.255386660 -4.258543075 -4.261878927 -4.265342174 -4.268882001
## [2696] -4.272449228 -4.275996701 -4.279479649 -4.282856020 -4.286086772
```

```
## [2701] -4.289136138 -4.291971840 -4.294565273 -4.296891632 -4.298930006
## [2706] -4.300663422 -4.302078842 -4.303167119 -4.303922911 -4.304344552
## [2711] -4.304433889 -4.304196076 -4.303639347 -4.302774757 -4.301615896
## [2716] -4.300178592 -4.298480592 -4.296541237 -4.294381136 -4.292021827
## [2721] -4.289485456 -4.286794451 -4.283971216 -4.281037836 -4.278015800
## [2726] -4.274925742 -4.271787217 -4.268618483 -4.265436329 -4.262255921
## [2731] -4.259090675 -4.255952172 -4.252850088 -4.249792169 -4.246784220
## [2736] -4.243830140 -4.240931969 -4.238089972 -4.235302744 -4.232567341
## [2741] -4.229879427 -4.227233444 -4.224622796 -4.222040052 -4.219477147
## [2746] -4.216925607 -4.214376762 -4.211821974 -4.209252852 -4.206661468
## [2751] -4.204040558 -4.201383718 -4.198685573 -4.195941940 -4.193149956
## [2756] -4.190308193 -4.187416733 -4.184477226 -4.181492904 -4.178468574
## [2761] -4.175410566 -4.172326650 -4.169225923 -4.166118647 -4.163016068
## [2766] -4.159930186 -4.156873508 -4.153858753 -4.150898544 -4.148005063
## [2771] -4.145189689 -4.142462615 -4.139832445 -4.137305784 -4.134886818
## [2776] -4.132576886 -4.130374059 -4.128272724 -4.126263173 -4.124331218
## [2781] -4.122457817 -4.120618739 -4.118784254 -4.116918871 -4.114981113
## [2786] -4.112923355 -4.110691716 -4.108226016 -4.105459812 -4.102320503
## [2791] -4.098729528 -4.094602649 -4.089850329 -4.084378206 -4.078087670
## [2796] -4.070876536 -4.062639816 -4.053270597 -4.042660993 -4.030703200
## [2801] -4.017290610 -4.002318997 -3.985687744 -3.967301103 -3.947069467
## [2806] -3.924910629 -3.900751011 -3.874526837 -3.846185231 -3.815685208
## [2811] -3.782998551 -3.748110543 -3.711020543 -3.671742390 -3.630304635
## [2816] -3.586750576 -3.541138122 -3.493539467 -3.444040590 -3.392740596
## [2821] -3.339750910 -3.285194343 -3.229204042 -3.171922362 -3.113499666
## [2826] -3.054093086 -2.993865261 -2.932983070 -2.871616393 -2.809936896
## [2831] -2.748116870 -2.686328132 -2.624740992 -2.563523300 -2.502839580
## [2836] -2.442850240 -2.383710873 -2.325571645 -2.268576759 -2.212864004
## [2841] -2.158564375 -2.105801765 -2.054692715 -2.005346231 -1.957863647
## [2846] -1.912338534 -1.868856655 -1.827495948 -1.788326548 -1.751410825
## [2851] -1.716803451 -1.684551483 -1.654694457 -1.627264497 -1.602286432
## [2856] -1.579777921 -1.559749581 -1.542205125 -1.527141498 -1.514549020
## [2861] -1.504411531 -1.496706542 -1.491405390 -1.488473394 -1.487870025
## [2866] -1.489549078 -1.493458855 -1.499542358 -1.507737498 -1.517977314
## [2871] -1.530190209 -1.544300206 -1.560227222 -1.577887362 -1.597193236
## [2876] -1.618054302 -1.640377229 -1.664066288 -1.689023766 -1.715150406
## [2881] -1.742345865 -1.770509207 -1.799539395 -1.829335820 -1.859798833
## [2886] -1.890830287 -1.922334084 -1.954216726 -1.986387856 -2.018760783
## [2891] -2.051253001 -2.083786666 -2.116289055 -2.148692981 -2.180937161
## [2896] -2.212966539 -2.244732546 -2.276193308 -2.307313781 -2.338065822
## [2901] -2.368428193 -2.398386492 -2.427933011 -2.457066535 -2.485792063
## [2906] -2.514120478 -2.542068146 -2.569656476 -2.596911421 -2.623862944
## [2911] -2.650544452 -2.676992194 -2.703244654 -2.729341916 -2.755325036
## [2916] -2.781235406 -2.807114135 -2.833001439 -2.858936047 -2.884954640
## [2921] -2.911091317 -2.937377090 -2.963839421 -2.990501800 -3.017383364
## [2926] -3.044498565 -3.071856883 -3.099462591 -3.127314574 -3.155406194
## [2931] -3.183725218 -3.212253796 -3.240968492 -3.269840381 -3.298835194
## [2936] -3.327913520 -3.357031072 -3.386139000 -3.415184266 -3.444110063
## [2941] -3.472856294 -3.501360097 -3.529556409 -3.557378576 -3.584758998
## [2946] -3.611629801 -3.637923537 -3.663573889 -3.688516403 -3.712689195
```

```
## [2951] -3.736033670 -3.758495207 -3.780023822 -3.800574791 -3.820109221
## [2956] -3.838594570 -3.856005096 -3.872322242 -3.887534927 -3.901639767
## [2961] -3.914641206 -3.926551545 -3.937390899 -3.947187050 -3.955975222
## [2966] -3.963797766 -3.970703774 -3.976748617 -3.981993426 -3.986504509
## [2971] -3.990352730 -3.993612846 -3.996362816 -3.998683096 -4.000655918
## [2976] -4.002364572 -4.003892691 -4.005323553 -4.006739402 -4.008220787
## [2981] -4.009845947 -4.011690212 -4.013825456 -4.016319579 -4.019236036
## [2986] -4.022633410 -4.026565022 -4.031078589 -4.036215928 -4.042012697
## [2991] -4.048498183 -4.055695133 -4.063619625 -4.072280980 -4.081681717
## [2996] -4.091817550 -4.102677416 -4.114243559 -4.126491640 -4.139390895
## [3001] -4.152904328 -4.166988956 -4.181596077 -4.196671598 -4.212156386
## [3006] -4.227986676 -4.244094508 -4.260408204 -4.276852889 -4.293351040
## [3011] -4.309823074 -4.326187961 -4.342363870 -4.358268828 -4.373821402
## [3016] -4.388941387 -4.403550502 -4.417573080 -4.430936745 -4.443573074
## [3021] -4.455418227 -4.466413550 -4.476506119 -4.485649249 -4.493802933
## [3026] -4.500934219 -4.507017519 -4.512034834 -4.515975913 -4.518838314
## [3031] -4.520627402 -4.521356249 -4.521045470 -4.519722967 -4.517423619
## [3036] -4.514188897 -4.510066419 -4.505109461 -4.499376417 -4.492930233
## [3041] -4.485837804 -4.478169364 -4.469997854 -4.461398301 -4.452447192
## [3046] -4.443221868 -4.433799930 -4.424258674 -4.414674550 -4.405122659
## [3051] -4.395676277 -4.386406423 -4.377381465 -4.368666766 -4.360324363
## [3056] -4.352412702 -4.344986396 -4.338096033 -4.331788014 -4.326104435
## [3061] -4.321082992 -4.316756929 -4.313155009 -4.310301519 -4.308216291
## [3066] -4.306914761 -4.306408037 -4.306702996 -4.307802393 -4.309704988
## [3071] -4.312405688 -4.315895701 -4.320162697 -4.325190984 -4.330961686
## [3076] -4.337452929 -4.344640030 -4.352495687 -4.360990178 -4.370091549
## [3081] -4.379765809 -4.389977117 -4.400687972 -4.411859391 -4.423451088
## [3086] -4.435421643 -4.447728666 -4.460328954 -4.473178638 -4.486233327
## [3091] -4.499448240 -4.512778330 -4.526178405 -4.539603238 -4.553007672
## [3096] -4.566346721 -4.579575661 -4.592650125 -4.605526189 -4.618160458
## [3101] -4.630510156 -4.642533207 -4.654188331 -4.665435131 -4.676234192
## [3106] -4.686547180 -4.696336951 -4.705567663 -4.714204890 -4.722215754
## [3111] -4.729569048 -4.736235376 -4.742187285 -4.747399411 -4.751848618
## [3116] -4.755514133 -4.758377686 -4.760423635 -4.761639085 -4.762013995
## [3121] -4.761541266 -4.760216815 -4.758039623 -4.755011764 -4.751138399
## [3126] -4.746427747 -4.740891024 -4.734542344 -4.727398590 -4.719479250
## [3131] -4.710806212 -4.701403536 -4.691297179 -4.680514696 -4.669084910
## [3136] -4.657037555 -4.644402893 -4.631211312 -4.617492910 -4.603277065
## [3141] -4.588591999 -4.573464342 -4.557918699 -4.541977226 -4.525659222
## [3146] -4.508980743 -4.491954238 -4.474588227 -4.456887005 -4.438850399
## [3151] -4.420473569 -4.401746865 -4.382655745 -4.363180748 -4.343297542
## [3156] -4.322977041 -4.302185593 -4.280885241 -4.259034064 -4.236586592
## [3161] -4.213494297 -4.189706153 -4.165169267 -4.139829575 -4.113632593
## [3166] -4.086524219 -4.058451571 -4.029363859 -3.999213271 -3.967955867
## [3171] -3.935552453 -3.901969446 -3.867179682 -3.831163190 -3.793907879
## [3176] -3.755410157 -3.715675450 -3.674718624 -3.632564284 -3.589246971
## [3181] -3.544811220 -3.499311507 -3.452812068 -3.405386605 -3.357117871
## [3186] -3.308097161 -3.258423700 -3.208203957 -3.157550877 -3.106583072
## [3191] -3.055423952 -3.004200839 -2.953044055 -2.902086018 -2.851460329
## [3196] -2.801300893 -2.751741058 -2.702912793 -2.654945905 -2.607967305
```

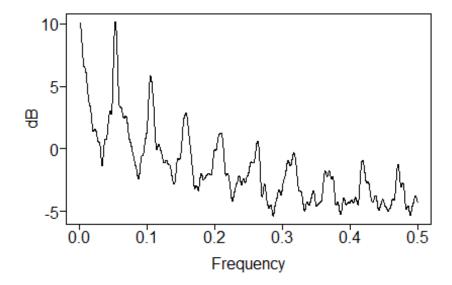
```
## [3201] -2.562100327 -2.517464093 -2.474172941 -2.432335900 -2.392056227
## [3206] -2.353430997 -2.316550735 -2.281499111 -2.248352675 -2.217180639
## [3211] -2.188044698 -2.160998894 -2.136089515 -2.113355031 -2.092826058
## [3216] -2.074525355 -2.058467851 -2.044660702 -2.033103364 -2.023787710
## [3221] -2.016698154 -2.011811820 -2.009098722 -2.008521980 -2.010038063
## [3226] -2.013597057 -2.019142967 -2.026614048 -2.035943166 -2.047058194
## [3231] -2.059882437 -2.074335094 -2.090331748 -2.107784887 -2.126604463
## [3236] -2.146698467 -2.167973537 -2.190335586 -2.213690445 -2.237944522
## [3241] -2.263005464 -2.288782820 -2.315188697 -2.342138400 -2.369551054
## [3246] -2.397350184 -2.425464269 -2.453827237 -2.482378915 -2.511065402
## [3251] -2.539839389 -2.568660395 -2.597494920 -2.626316527 -2.655105828
## [3256] -2.683850393 -2.712544571 -2.741189231 -2.769791421 -2.798363965
## [3261] -2.826924976 -2.855497330 -2.884108071 -2.912787785 -2.941569931
## [3266] -2.970490160 -2.999585605 -3.028894176 -3.058453849 -3.088301981
## [3271] -3.118474627 -3.149005895 -3.179927338 -3.211267376 -3.243050769
## [3276] -3.275298143 -3.308025566 -3.341244181 -3.374959907 -3.409173190
## [3281] -3.443878831 -3.479065871 -3.514717544 -3.550811298 -3.587318877
## [3286] -3.624206472 -3.661434931 -3.698960032 -3.736732815 -3.774699963
## [3291] -3.812804244 -3.850984991 -3.889178625 -3.927319220 -3.965339085
## [3296] -4.003169380 -4.040740738 -4.077983897 -4.114830325 -4.151212837
## [3301] -4.187066190 -4.222327648 -4.256937504 -4.290839566 -4.323981575
## [3306] -4.356315570 -4.387798181 -4.418390852 -4.448059987 -4.476777019
## [3311] -4.504518400 -4.531265514 -4.557004515 -4.581726097 -4.605425197
## [3316] -4.628100638 -4.649754727 -4.670392809 -4.690022784 -4.708654611
## [3321] -4.726299792 -4.742970862 -4.758680876 -4.773442929 -4.787269689
## [3326] -4.800172975 -4.812163377 -4.823249921 -4.833439796 -4.842738137
## [3331] -4.851147876 -4.858669656 -4.865301811 -4.871040420 -4.875879418
## [3336] -4.879810778 -4.882824746 -4.884910142 -4.886054698 -4.886245451
## [3341] -4.885469164 -4.883712783 -4.880963909 -4.877211284 -4.872445279
## [3346] -4.866658374 -4.859845623 -4.852005098 -4.843138295 -4.833250500
## [3351] -4.822351114 -4.810453915 -4.797577269 -4.783744275 -4.768982849
## [3356] -4.753325737 -4.736810465 -4.719479227 -4.701378701 -4.682559817
## [3361] -4.663077463 -4.642990147 -4.622359608 -4.601250399 -4.579729433
## [3366] -4.557865507 -4.535728814 -4.513390440 -4.490921861 -4.468394442
## [3371] -4.445878947 -4.423445065 -4.401160948 -4.379092781 -4.357304376
## [3376] -4.335856790 -4.314807988 -4.294212524 -4.274121271 -4.254581178
## [3381] -4.235635069 -4.217321473 -4.199674498 -4.182723731 -4.166494179
## [3386] -4.151006247 -4.136275737 -4.122313894 -4.109127471 -4.096718828
## [3391] -4.085086060 -4.074223149 -4.064120146 -4.054763367 -4.046135624
## [3396] -4.038216472 -4.030982467 -4.024407459 -4.018462883 -4.013118078
## [3401] -4.008340614 -4.004096621 -4.000351143 -3.997068483 -3.994212557
## [3406] -3.991747250 -3.989636770 -3.987845995 -3.986340813 -3.985088458
## [3411] -3.984057821 -3.983219760 -3.982547376 -3.982016280 -3.981604829
## [3416] -3.981294337 -3.981069260 -3.980917347 -3.980829759 -3.980801158
acf(flightdf$avg dep delay, lag.max = 100)
```

Series flightdf\$avg_dep_delay



parzen.wge(flightdf\$avg_dep_delay, trunc = 300)

Parzen Window Truncation point: M = 300



```
## $frea
      [1] 0.0001461988 0.0002923977 0.0004385965 0.0005847953 0.0007309942
##
      [6] 0.0008771930 0.0010233918 0.0011695906 0.0013157895 0.0014619883
##
##
     [11] 0.0016081871 0.0017543860 0.0019005848 0.0020467836 0.0021929825
     [16] 0.0023391813 0.0024853801 0.0026315789 0.0027777778 0.0029239766
##
     [21] 0.0030701754 0.0032163743 0.0033625731 0.0035087719 0.0036549708
##
##
     [26] 0.0038011696 0.0039473684 0.0040935673 0.0042397661 0.0043859649
     [31] 0.0045321637 0.0046783626 0.0048245614 0.0049707602 0.0051169591
##
     [36] 0.0052631579 0.0054093567 0.0055555556 0.0057017544 0.0058479532
##
     [41] 0.0059941520 0.0061403509 0.0062865497 0.0064327485 0.0065789474
##
     [46] 0.0067251462 0.0068713450 0.0070175439 0.0071637427 0.0073099415
##
     [51] 0.0074561404 0.0076023392 0.0077485380 0.0078947368 0.0080409357
##
     [56] 0.0081871345 0.0083333333 0.0084795322 0.0086257310 0.0087719298
##
##
     [61] 0.0089181287 0.0090643275 0.0092105263 0.0093567251 0.0095029240
##
     [66] 0.0096491228 0.0097953216 0.0099415205 0.0100877193 0.0102339181
     [71] 0.0103801170 0.0105263158 0.0106725146 0.0108187135 0.0109649123
##
##
     [76] 0.011111111 0.0112573099 0.0114035088 0.0115497076 0.0116959064
     [81] 0.0118421053 0.0119883041 0.0121345029 0.0122807018 0.0124269006
##
     [86] 0.0125730994 0.0127192982 0.0128654971 0.0130116959 0.0131578947
##
##
     [91] 0.0133040936 0.0134502924 0.0135964912 0.0137426901 0.0138888889
##
     [96] 0.0140350877 0.0141812865 0.0143274854 0.0144736842 0.0146198830
    [101] 0.0147660819 0.0149122807 0.0150584795 0.0152046784 0.0153508772
##
    [106] 0.0154970760 0.0156432749 0.0157894737 0.0159356725 0.0160818713
##
##
    [111] 0.0162280702 0.0163742690 0.0165204678 0.01666666667 0.0168128655
    [116] 0.0169590643 0.0171052632 0.0172514620 0.0173976608 0.0175438596
##
##
    [121] 0.0176900585 0.0178362573 0.0179824561 0.0181286550 0.0182748538
    [126] 0.0184210526 0.0185672515 0.0187134503 0.0188596491 0.0190058480
##
    [131] 0.0191520468 0.0192982456 0.0194444444 0.0195906433 0.0197368421
##
    [136] 0.0198830409 0.0200292398 0.0201754386 0.0203216374 0.0204678363
##
    [141] \ 0.0206140351 \ 0.0207602339 \ 0.0209064327 \ 0.0210526316 \ 0.0211988304
##
    [146] 0.0213450292 0.0214912281 0.0216374269 0.0217836257 0.0219298246
##
##
    [151] 0.0220760234 0.0222222222 0.0223684211 0.0225146199 0.0226608187
    [156] 0.0228070175 0.0229532164 0.0230994152 0.0232456140 0.0233918129
##
    [161] 0.0235380117 0.0236842105 0.0238304094 0.0239766082 0.0241228070
##
    [166] 0.0242690058 0.0244152047 0.0245614035 0.0247076023 0.0248538012
##
    [171] 0.0250000000 0.0251461988 0.0252923977 0.0254385965 0.0255847953
##
    [176] 0.0257309942 0.0258771930 0.0260233918 0.0261695906 0.0263157895
##
##
    [181] 0.0264619883 0.0266081871 0.0267543860 0.0269005848 0.0270467836
    [186] 0.0271929825 0.0273391813 0.0274853801 0.0276315789 0.0277777778
##
    [191] 0.0279239766 0.0280701754 0.0282163743 0.0283625731 0.0285087719
##
    [196] 0.0286549708 0.0288011696 0.0289473684 0.0290935673 0.0292397661
    [201] 0.0293859649 0.0295321637 0.0296783626 0.0298245614 0.0299707602
##
    [206] 0.0301169591 0.0302631579 0.0304093567 0.0305555556 0.0307017544
##
    [211] 0.0308479532 0.0309941520 0.0311403509 0.0312865497 0.0314327485
##
    [216] 0.0315789474 0.0317251462 0.0318713450 0.0320175439 0.0321637427
##
##
    [221] 0.0323099415 0.0324561404 0.0326023392 0.0327485380 0.0328947368
##
    [226] 0.0330409357 0.0331871345 0.033333333 0.0334795322 0.0336257310
    [231] 0.0337719298 0.0339181287 0.0340643275 0.0342105263 0.0343567251
##
##
    [236] 0.0345029240 0.0346491228 0.0347953216 0.0349415205 0.0350877193
  [241] 0.0352339181 0.0353801170 0.0355263158 0.0356725146 0.0358187135
```

```
[246] 0.0359649123 0.0361111111 0.0362573099 0.0364035088 0.0365497076
    [251] 0.0366959064 0.0368421053 0.0369883041 0.0371345029 0.0372807018
##
##
    [256] 0.0374269006 0.0375730994 0.0377192982 0.0378654971 0.0380116959
    [261] 0.0381578947 0.0383040936 0.0384502924 0.0385964912 0.0387426901
##
    [266] 0.0388888889 0.0390350877 0.0391812865 0.0393274854 0.0394736842
##
    [271] 0.0396198830 0.0397660819 0.0399122807 0.0400584795 0.0402046784
##
    [276] 0.0403508772 0.0404970760 0.0406432749 0.0407894737 0.0409356725
##
    [281] 0.0410818713 0.0412280702 0.0413742690 0.0415204678 0.0416666667
##
    [286] 0.0418128655 0.0419590643 0.0421052632 0.0422514620 0.0423976608
##
    [291] 0.0425438596 0.0426900585 0.0428362573 0.0429824561 0.0431286550
    [296] 0.0432748538 0.0434210526 0.0435672515 0.0437134503 0.0438596491
##
    [301] 0.0440058480 0.0441520468 0.0442982456 0.0444444444 0.0445906433
##
##
    [306] 0.0447368421 0.0448830409 0.0450292398 0.0451754386 0.0453216374
##
    [311] 0.0454678363 0.0456140351 0.0457602339 0.0459064327 0.0460526316
    [316] 0.0461988304 0.0463450292 0.0464912281 0.0466374269 0.0467836257
##
    [321] 0.0469298246 0.0470760234 0.0472222222 0.0473684211 0.0475146199
    [326] 0.0476608187 0.0478070175 0.0479532164 0.0480994152 0.0482456140
    [331] 0.0483918129 0.0485380117 0.0486842105 0.0488304094 0.0489766082
##
    [336] 0.0491228070 0.0492690058 0.0494152047 0.0495614035 0.0497076023
##
##
    [341] 0.0498538012 0.0500000000 0.0501461988 0.0502923977 0.0504385965
    [346] 0.0505847953 0.0507309942 0.0508771930 0.0510233918 0.0511695906
##
    [351] 0.0513157895 0.0514619883 0.0516081871 0.0517543860 0.0519005848
##
    [356] 0.0520467836 0.0521929825 0.0523391813 0.0524853801 0.0526315789
##
##
    [361] 0.0527777778 0.0529239766 0.0530701754 0.0532163743 0.0533625731
    [366] 0.0535087719 0.0536549708 0.0538011696 0.0539473684 0.0540935673
##
##
    [371] 0.0542397661 0.0543859649 0.0545321637 0.0546783626 0.0548245614
    [376] 0.0549707602 0.0551169591 0.0552631579 0.0554093567 0.0555555556
##
    [381] 0.0557017544 0.0558479532 0.0559941520 0.0561403509 0.0562865497
##
    [386] 0.0564327485 0.0565789474 0.0567251462 0.0568713450 0.0570175439
##
##
    [391] 0.0571637427 0.0573099415 0.0574561404 0.0576023392 0.0577485380
    [396] 0.0578947368 0.0580409357 0.0581871345 0.0583333333 0.0584795322
##
    [401] 0.0586257310 0.0587719298 0.0589181287 0.0590643275 0.0592105263
##
##
    [406] 0.0593567251 0.0595029240 0.0596491228 0.0597953216 0.0599415205
    [411] 0.0600877193 0.0602339181 0.0603801170 0.0605263158 0.0606725146
##
##
    [416] 0.0608187135 0.0609649123 0.0611111111 0.0612573099 0.0614035088
    [421] 0.0615497076 0.0616959064 0.0618421053 0.0619883041 0.0621345029
##
    [426] 0.0622807018 0.0624269006 0.0625730994 0.0627192982 0.0628654971
##
##
    [431] 0.0630116959 0.0631578947 0.0633040936 0.0634502924 0.0635964912
    [436] 0.0637426901 0.0638888889 0.0640350877 0.0641812865 0.0643274854
##
    [441] 0.0644736842 0.0646198830 0.0647660819 0.0649122807 0.0650584795
##
    [446] 0.0652046784 0.0653508772 0.0654970760 0.0656432749 0.0657894737
##
    [451] 0.0659356725 0.0660818713 0.0662280702 0.0663742690 0.0665204678
    [456] 0.0666666667 0.0668128655 0.0669590643 0.0671052632 0.0672514620
##
    [461] 0.0673976608 0.0675438596 0.0676900585 0.0678362573 0.0679824561
##
    [466] 0.0681286550 0.0682748538 0.0684210526 0.0685672515 0.0687134503
##
##
    [471] 0.0688596491 0.0690058480 0.0691520468 0.0692982456 0.0694444444
##
    [476] 0.0695906433 0.0697368421 0.0698830409 0.0700292398 0.0701754386
    [481] 0.0703216374 0.0704678363 0.0706140351 0.0707602339 0.0709064327
##
##
    [486] 0.0710526316 0.0711988304 0.0713450292 0.0714912281 0.0716374269
  [491] 0.0717836257 0.0719298246 0.0720760234 0.0722222222 0.0723684211
```

```
[496] 0.0725146199 0.0726608187 0.0728070175 0.0729532164 0.0730994152
    [501] 0.0732456140 0.0733918129 0.0735380117 0.0736842105 0.0738304094
##
##
    [506] 0.0739766082 0.0741228070 0.0742690058 0.0744152047 0.0745614035
    [511] 0.0747076023 0.0748538012 0.0750000000 0.0751461988 0.0752923977
##
    [516] 0.0754385965 0.0755847953 0.0757309942 0.0758771930 0.0760233918
##
    [521] 0.0761695906 0.0763157895 0.0764619883 0.0766081871 0.0767543860
##
    [526] 0.0769005848 0.0770467836 0.0771929825 0.0773391813 0.0774853801
##
    [531] 0.0776315789 0.0777777778 0.0779239766 0.0780701754 0.0782163743
##
    [536] 0.0783625731 0.0785087719 0.0786549708 0.0788011696 0.0789473684
##
    [541] 0.0790935673 0.0792397661 0.0793859649 0.0795321637 0.0796783626
    [546] 0.0798245614 0.0799707602 0.0801169591 0.0802631579 0.0804093567
##
    [551] 0.0805555556 0.0807017544 0.0808479532 0.0809941520 0.0811403509
##
##
    [556] 0.0812865497 0.0814327485 0.0815789474 0.0817251462 0.0818713450
##
    [561] 0.0820175439 0.0821637427 0.0823099415 0.0824561404 0.0826023392
    [566] 0.0827485380 0.0828947368 0.0830409357 0.0831871345 0.0833333333
##
    [571] 0.0834795322 0.0836257310 0.0837719298 0.0839181287 0.0840643275
##
    [576] 0.0842105263 0.0843567251 0.0845029240 0.0846491228 0.0847953216
##
    [581] 0.0849415205 0.0850877193 0.0852339181 0.0853801170 0.0855263158
##
    [586] 0.0856725146 0.0858187135 0.0859649123 0.0861111111 0.0862573099
##
    [591] 0.0864035088 0.0865497076 0.0866959064 0.0868421053 0.0869883041
    [596] 0.0871345029 0.0872807018 0.0874269006 0.0875730994 0.0877192982
##
    [601] 0.0878654971 0.0880116959 0.0881578947 0.0883040936 0.0884502924
##
    [606] 0.0885964912 0.0887426901 0.0888888889 0.0890350877 0.0891812865
##
##
    [611] 0.0893274854 0.0894736842 0.0896198830 0.0897660819 0.0899122807
    [616] 0.0900584795 0.0902046784 0.0903508772 0.0904970760 0.0906432749
##
##
    [621] 0.0907894737 0.0909356725 0.0910818713 0.0912280702 0.0913742690
    [626] 0.0915204678 0.0916666667 0.0918128655 0.0919590643 0.0921052632
##
    [631] 0.0922514620 0.0923976608 0.0925438596 0.0926900585 0.0928362573
##
    [636] 0.0929824561 0.0931286550 0.0932748538 0.0934210526 0.0935672515
##
##
    [641] 0.0937134503 0.0938596491 0.0940058480 0.0941520468 0.0942982456
    [646] 0.0944444444 0.0945906433 0.0947368421 0.0948830409 0.0950292398
##
    [651] 0.0951754386 0.0953216374 0.0954678363 0.0956140351 0.0957602339
##
##
    [656] 0.0959064327 0.0960526316 0.0961988304 0.0963450292 0.0964912281
    [661] 0.0966374269 0.0967836257 0.0969298246 0.0970760234 0.0972222222
##
    [666] 0.0973684211 0.0975146199 0.0976608187 0.0978070175 0.0979532164
##
    [671] 0.0980994152 0.0982456140 0.0983918129 0.0985380117 0.0986842105
##
    [676] 0.0988304094 0.0989766082 0.0991228070 0.0992690058 0.0994152047
##
##
    [681] 0.0995614035 0.0997076023 0.0998538012 0.1000000000 0.1001461988
    [686] 0.1002923977 0.1004385965 0.1005847953 0.1007309942 0.1008771930
##
    [691] 0.1010233918 0.1011695906 0.1013157895 0.1014619883 0.1016081871
##
##
    [696] 0.1017543860 0.1019005848 0.1020467836 0.1021929825 0.1023391813
##
    [701] 0.1024853801 0.1026315789 0.1027777778 0.1029239766 0.1030701754
    [706] 0.1032163743 0.1033625731 0.1035087719 0.1036549708 0.1038011696
##
    [711] 0.1039473684 0.1040935673 0.1042397661 0.1043859649 0.1045321637
##
    [716] 0.1046783626 0.1048245614 0.1049707602 0.1051169591 0.1052631579
##
##
    [721] 0.1054093567 0.1055555556 0.1057017544 0.1058479532 0.1059941520
##
    [726] 0.1061403509 0.1062865497 0.1064327485 0.1065789474 0.1067251462
    [731] 0.1068713450 0.1070175439 0.1071637427 0.1073099415 0.1074561404
##
##
    [736] 0.1076023392 0.1077485380 0.1078947368 0.1080409357 0.1081871345
  [741] 0.1083333333 0.1084795322 0.1086257310 0.1087719298 0.1089181287
```

```
[746] 0.1090643275 0.1092105263 0.1093567251 0.1095029240 0.1096491228
    [751] 0.1097953216 0.1099415205 0.1100877193 0.1102339181 0.1103801170
##
    [756] 0.1105263158 0.1106725146 0.1108187135 0.1109649123 0.1111111111
##
    [761] 0.1112573099 0.1114035088 0.1115497076 0.1116959064 0.1118421053
##
    [766] 0.1119883041 0.1121345029 0.1122807018 0.1124269006 0.1125730994
##
    [771] 0.1127192982 0.1128654971 0.1130116959 0.1131578947 0.1133040936
##
    [776] 0.1134502924 0.1135964912 0.1137426901 0.1138888889 0.1140350877
##
    [781] 0.1141812865 0.1143274854 0.1144736842 0.1146198830 0.1147660819
##
    [786] 0.1149122807 0.1150584795 0.1152046784 0.1153508772 0.1154970760
##
    [791] 0.1156432749 0.1157894737 0.1159356725 0.1160818713 0.1162280702
    [796] 0.1163742690 0.1165204678 0.1166666667 0.1168128655 0.1169590643
##
    [801] 0.1171052632 0.1172514620 0.1173976608 0.1175438596 0.1176900585
##
    [806] 0.1178362573 0.1179824561 0.1181286550 0.1182748538 0.1184210526
##
##
    [811] 0.1185672515 0.1187134503 0.1188596491 0.1190058480 0.1191520468
    [816] 0.1192982456 0.1194444444 0.1195906433 0.1197368421 0.1198830409
##
    [821] 0.1200292398 0.1201754386 0.1203216374 0.1204678363 0.1206140351
    [826] 0.1207602339 0.1209064327 0.1210526316 0.1211988304 0.1213450292
    [831] 0.1214912281 0.1216374269 0.1217836257 0.1219298246 0.1220760234
##
    [836] 0.122222222 0.1223684211 0.1225146199 0.1226608187 0.1228070175
##
##
    [841] 0.1229532164 0.1230994152 0.1232456140 0.1233918129 0.1235380117
##
    [846] 0.1236842105 0.1238304094 0.1239766082 0.1241228070 0.1242690058
    [851] 0.1244152047 0.1245614035 0.1247076023 0.1248538012 0.1250000000
##
    [856] 0.1251461988 0.1252923977 0.1254385965 0.1255847953 0.1257309942
##
##
    [861] 0.1258771930 0.1260233918 0.1261695906 0.1263157895 0.1264619883
    [866] 0.1266081871 0.1267543860 0.1269005848 0.1270467836 0.1271929825
##
##
    [871] 0.1273391813 0.1274853801 0.1276315789 0.1277777778 0.1279239766
    [876] 0.1280701754 0.1282163743 0.1283625731 0.1285087719 0.1286549708
##
    [881] 0.1288011696 0.1289473684 0.1290935673 0.1292397661 0.1293859649
##
    [886] 0.1295321637 0.1296783626 0.1298245614 0.1299707602 0.1301169591
##
##
    [891] 0.1302631579 0.1304093567 0.1305555556 0.1307017544 0.1308479532
    [896] 0.1309941520 0.1311403509 0.1312865497 0.1314327485 0.1315789474
##
    [901] 0.1317251462 0.1318713450 0.1320175439 0.1321637427 0.1323099415
##
##
    [906] 0.1324561404 0.1326023392 0.1327485380 0.1328947368 0.1330409357
    [911] 0.1331871345 0.1333333333 0.1334795322 0.1336257310 0.1337719298
##
    [916] 0.1339181287 0.1340643275 0.1342105263 0.1343567251 0.1345029240
##
    [921] 0.1346491228 0.1347953216 0.1349415205 0.1350877193 0.1352339181
##
    [926] 0.1353801170 0.1355263158 0.1356725146 0.1358187135 0.1359649123
##
##
    [931] 0.1361111111 0.1362573099 0.1364035088 0.1365497076 0.1366959064
    [936] 0.1368421053 0.1369883041 0.1371345029 0.1372807018 0.1374269006
##
    [941] 0.1375730994 0.1377192982 0.1378654971 0.1380116959 0.1381578947
##
    [946] 0.1383040936 0.1384502924 0.1385964912 0.1387426901 0.1388888889
##
    [951] 0.1390350877 0.1391812865 0.1393274854 0.1394736842 0.1396198830
    [956] 0.1397660819 0.1399122807 0.1400584795 0.1402046784 0.1403508772
##
    [961] 0.1404970760 0.1406432749 0.1407894737 0.1409356725 0.1410818713
##
    [966] 0.1412280702 0.1413742690 0.1415204678 0.1416666667 0.1418128655
##
##
    [971] 0.1419590643 0.1421052632 0.1422514620 0.1423976608 0.1425438596
##
    [976] 0.1426900585 0.1428362573 0.1429824561 0.1431286550 0.1432748538
   [981] 0.1434210526 0.1435672515 0.1437134503 0.1438596491 0.1440058480
##
    [986] 0.1441520468 0.1442982456 0.1444444444 0.1445906433 0.1447368421
## [991] 0.1448830409 0.1450292398 0.1451754386 0.1453216374 0.1454678363
```

```
## [996] 0.1456140351 0.1457602339 0.1459064327 0.1460526316 0.1461988304
## [1001] 0.1463450292 0.1464912281 0.1466374269 0.1467836257 0.1469298246
## [1006] 0.1470760234 0.1472222222 0.1473684211 0.1475146199 0.1476608187
## [1011] 0.1478070175 0.1479532164 0.1480994152 0.1482456140 0.1483918129
## [1016] 0.1485380117 0.1486842105 0.1488304094 0.1489766082 0.1491228070
## [1021] 0.1492690058 0.1494152047 0.1495614035 0.1497076023 0.1498538012
## [1026] 0.1500000000 0.1501461988 0.1502923977 0.1504385965 0.1505847953
## [1031] 0.1507309942 0.1508771930 0.1510233918 0.1511695906 0.1513157895
## [1036] 0.1514619883 0.1516081871 0.1517543860 0.1519005848 0.1520467836
## [1041] 0.1521929825 0.1523391813 0.1524853801 0.1526315789 0.1527777778
## [1046] 0.1529239766 0.1530701754 0.1532163743 0.1533625731 0.1535087719
## [1051] 0.1536549708 0.1538011696 0.1539473684 0.1540935673 0.1542397661
## [1056] 0.1543859649 0.1545321637 0.1546783626 0.1548245614 0.1549707602
## [1061] 0.1551169591 0.1552631579 0.1554093567 0.1555555556 0.1557017544
## [1066] 0.1558479532 0.1559941520 0.1561403509 0.1562865497 0.1564327485
## [1071] 0.1565789474 0.1567251462 0.1568713450 0.1570175439 0.1571637427
## [1076] 0.1573099415 0.1574561404 0.1576023392 0.1577485380 0.1578947368
## [1081] 0.1580409357 0.1581871345 0.1583333333 0.1584795322 0.1586257310
## [1086] 0.1587719298 0.1589181287 0.1590643275 0.1592105263 0.1593567251
## [1091] 0.1595029240 0.1596491228 0.1597953216 0.1599415205 0.1600877193
## [1096] 0.1602339181 0.1603801170 0.1605263158 0.1606725146 0.1608187135
## [1101] 0.1609649123 0.1611111111 0.1612573099 0.1614035088 0.1615497076
## [1106] 0.1616959064 0.1618421053 0.1619883041 0.1621345029 0.1622807018
## [1111] 0.1624269006 0.1625730994 0.1627192982 0.1628654971 0.1630116959
## [1116] 0.1631578947 0.1633040936 0.1634502924 0.1635964912 0.1637426901
## [1121] 0.1638888889 0.1640350877 0.1641812865 0.1643274854 0.1644736842
## [1126] 0.1646198830 0.1647660819 0.1649122807 0.1650584795 0.1652046784
## [1131] 0.1653508772 0.1654970760 0.1656432749 0.1657894737 0.1659356725
## [1136] 0.1660818713 0.1662280702 0.1663742690 0.1665204678 0.16666666667
## [1141] 0.1668128655 0.1669590643 0.1671052632 0.1672514620 0.1673976608
## [1146] 0.1675438596 0.1676900585 0.1678362573 0.1679824561 0.1681286550
## [1151] 0.1682748538 0.1684210526 0.1685672515 0.1687134503 0.1688596491
## [1156] 0.1690058480 0.1691520468 0.1692982456 0.1694444444 0.1695906433
## [1161] 0.1697368421 0.1698830409 0.1700292398 0.1701754386 0.1703216374
## [1166] 0.1704678363 0.1706140351 0.1707602339 0.1709064327 0.1710526316
## [1171] 0.1711988304 0.1713450292 0.1714912281 0.1716374269 0.1717836257
## [1176] 0.1719298246 0.1720760234 0.1722222222 0.1723684211 0.1725146199
## [1181] 0.1726608187 0.1728070175 0.1729532164 0.1730994152 0.1732456140
## [1186] 0.1733918129 0.1735380117 0.1736842105 0.1738304094 0.1739766082
## [1191] 0.1741228070 0.1742690058 0.1744152047 0.1745614035 0.1747076023
## [1196] 0.1748538012 0.1750000000 0.1751461988 0.1752923977 0.1754385965
## [1201] 0.1755847953 0.1757309942 0.1758771930 0.1760233918 0.1761695906
## [1206] 0.1763157895 0.1764619883 0.1766081871 0.1767543860 0.1769005848
## [1211] 0.1770467836 0.1771929825 0.1773391813 0.1774853801 0.1776315789
## [1216] 0.177777778 0.1779239766 0.1780701754 0.1782163743 0.1783625731
## [1221] 0.1785087719 0.1786549708 0.1788011696 0.1789473684 0.1790935673
## [1226] 0.1792397661 0.1793859649 0.1795321637 0.1796783626 0.1798245614
## [1231] 0.1799707602 0.1801169591 0.1802631579 0.1804093567 0.1805555556
## [1236] 0.1807017544 0.1808479532 0.1809941520 0.1811403509 0.1812865497
## [1241] 0.1814327485 0.1815789474 0.1817251462 0.1818713450 0.1820175439
```

```
## [1246] 0.1821637427 0.1823099415 0.1824561404 0.1826023392 0.1827485380
## [1251] 0.1828947368 0.1830409357 0.1831871345 0.1833333333 0.1834795322
## [1256] 0.1836257310 0.1837719298 0.1839181287 0.1840643275 0.1842105263
## [1261] 0.1843567251 0.1845029240 0.1846491228 0.1847953216 0.1849415205
## [1266] 0.1850877193 0.1852339181 0.1853801170 0.1855263158 0.1856725146
## [1271] 0.1858187135 0.1859649123 0.1861111111 0.1862573099 0.1864035088
## [1276] 0.1865497076 0.1866959064 0.1868421053 0.1869883041 0.1871345029
## [1281] 0.1872807018 0.1874269006 0.1875730994 0.1877192982 0.1878654971
## [1286] 0.1880116959 0.1881578947 0.1883040936 0.1884502924 0.1885964912
## [1291] 0.1887426901 0.1888888889 0.1890350877 0.1891812865 0.1893274854
## [1296] 0.1894736842 0.1896198830 0.1897660819 0.1899122807 0.1900584795
## [1301] 0.1902046784 0.1903508772 0.1904970760 0.1906432749 0.1907894737
## [1306] 0.1909356725 0.1910818713 0.1912280702 0.1913742690 0.1915204678
## [1311] 0.1916666667 0.1918128655 0.1919590643 0.1921052632 0.1922514620
## [1316] 0.1923976608 0.1925438596 0.1926900585 0.1928362573 0.1929824561
## [1321] 0.1931286550 0.1932748538 0.1934210526 0.1935672515 0.1937134503
## [1326] 0.1938596491 0.1940058480 0.1941520468 0.1942982456 0.1944444444
## [1331] 0.1945906433 0.1947368421 0.1948830409 0.1950292398 0.1951754386
## [1336] 0.1953216374 0.1954678363 0.1956140351 0.1957602339 0.1959064327
## [1341] 0.1960526316 0.1961988304 0.1963450292 0.1964912281 0.1966374269
## [1346] 0.1967836257 0.1969298246 0.1970760234 0.1972222222 0.1973684211
## [1351] 0.1975146199 0.1976608187 0.1978070175 0.1979532164 0.1980994152
## [1356] 0.1982456140 0.1983918129 0.1985380117 0.1986842105 0.1988304094
## [1361] 0.1989766082 0.1991228070 0.1992690058 0.1994152047 0.1995614035
## [1366] 0.1997076023 0.1998538012 0.2000000000 0.2001461988 0.2002923977
## [1371] 0.2004385965 0.2005847953 0.2007309942 0.2008771930 0.2010233918
## [1376] 0.2011695906 0.2013157895 0.2014619883 0.2016081871 0.2017543860
## [1381] 0.2019005848 0.2020467836 0.2021929825 0.2023391813 0.2024853801
## [1386] 0.2026315789 0.2027777778 0.2029239766 0.2030701754 0.2032163743
## [1391] 0.2033625731 0.2035087719 0.2036549708 0.2038011696 0.2039473684
## [1396] 0.2040935673 0.2042397661 0.2043859649 0.2045321637 0.2046783626
## [1401] 0.2048245614 0.2049707602 0.2051169591 0.2052631579 0.2054093567
## [1406] 0.2055555556 0.2057017544 0.2058479532 0.2059941520 0.2061403509
## [1411] 0.2062865497 0.2064327485 0.2065789474 0.2067251462 0.2068713450
## [1416] 0.2070175439 0.2071637427 0.2073099415 0.2074561404 0.2076023392
## [1421] 0.2077485380 0.2078947368 0.2080409357 0.2081871345 0.2083333333
## [1426] 0.2084795322 0.2086257310 0.2087719298 0.2089181287 0.2090643275
## [1431] 0.2092105263 0.2093567251 0.2095029240 0.2096491228 0.2097953216
## [1436] 0.2099415205 0.2100877193 0.2102339181 0.2103801170 0.2105263158
## [1441] 0.2106725146 0.2108187135 0.2109649123 0.2111111111 0.2112573099
## [1446] 0.2114035088 0.2115497076 0.2116959064 0.2118421053 0.2119883041
## [1451] 0.2121345029 0.2122807018 0.2124269006 0.2125730994 0.2127192982
## [1456] 0.2128654971 0.2130116959 0.2131578947 0.2133040936 0.2134502924
## [1461] 0.2135964912 0.2137426901 0.2138888889 0.2140350877 0.2141812865
## [1466] 0.2143274854 0.2144736842 0.2146198830 0.2147660819 0.2149122807
## [1471] 0.2150584795 0.2152046784 0.2153508772 0.2154970760 0.2156432749
## [1476] 0.2157894737 0.2159356725 0.2160818713 0.2162280702 0.2163742690
## [1481] 0.2165204678 0.2166666667 0.2168128655 0.2169590643 0.2171052632
## [1486] 0.2172514620 0.2173976608 0.2175438596 0.2176900585 0.2178362573
## [1491] 0.2179824561 0.2181286550 0.2182748538 0.2184210526 0.2185672515
```

```
## [1496] 0.2187134503 0.2188596491 0.2190058480 0.2191520468 0.2192982456
## [1501] 0.2194444444 0.2195906433 0.2197368421 0.2198830409 0.2200292398
## [1506] 0.2201754386 0.2203216374 0.2204678363 0.2206140351 0.2207602339
## [1511] 0.2209064327 0.2210526316 0.2211988304 0.2213450292 0.2214912281
## [1516] 0.2216374269 0.2217836257 0.2219298246 0.2220760234 0.2222222222
## [1521] 0.2223684211 0.2225146199 0.2226608187 0.2228070175 0.2229532164
## [1526] 0.2230994152 0.2232456140 0.2233918129 0.2235380117 0.2236842105
## [1531] 0.2238304094 0.2239766082 0.2241228070 0.2242690058 0.2244152047
## [1536] 0.2245614035 0.2247076023 0.2248538012 0.2250000000 0.2251461988
## [1541] 0.2252923977 0.2254385965 0.2255847953 0.2257309942 0.2258771930
## [1546] 0.2260233918 0.2261695906 0.2263157895 0.2264619883 0.2266081871
## [1551] 0.2267543860 0.2269005848 0.2270467836 0.2271929825 0.2273391813
## [1556] 0.2274853801 0.2276315789 0.2277777778 0.2279239766 0.2280701754
## [1561] 0.2282163743 0.2283625731 0.2285087719 0.2286549708 0.2288011696
## [1566] 0.2289473684 0.2290935673 0.2292397661 0.2293859649 0.2295321637
## [1571] 0.2296783626 0.2298245614 0.2299707602 0.2301169591 0.2302631579
## [1576] 0.2304093567 0.2305555556 0.2307017544 0.2308479532 0.2309941520
## [1581] 0.2311403509 0.2312865497 0.2314327485 0.2315789474 0.2317251462
## [1586] 0.2318713450 0.2320175439 0.2321637427 0.2323099415 0.2324561404
## [1591] 0.2326023392 0.2327485380 0.2328947368 0.2330409357 0.2331871345
## [1596] 0.2333333333 0.2334795322 0.2336257310 0.2337719298 0.2339181287
## [1601] 0.2340643275 0.2342105263 0.2343567251 0.2345029240 0.2346491228
## [1606] 0.2347953216 0.2349415205 0.2350877193 0.2352339181 0.2353801170
## [1611] 0.2355263158 0.2356725146 0.2358187135 0.2359649123 0.2361111111
## [1616] 0.2362573099 0.2364035088 0.2365497076 0.2366959064 0.2368421053
## [1621] 0.2369883041 0.2371345029 0.2372807018 0.2374269006 0.2375730994
## [1626] 0.2377192982 0.2378654971 0.2380116959 0.2381578947 0.2383040936
## [1631] 0.2384502924 0.2385964912 0.2387426901 0.2388888889 0.2390350877
## [1636] 0.2391812865 0.2393274854 0.2394736842 0.2396198830 0.2397660819
## [1641] 0.2399122807 0.2400584795 0.2402046784 0.2403508772 0.2404970760
## [1646] 0.2406432749 0.2407894737 0.2409356725 0.2410818713 0.2412280702
## [1651] 0.2413742690 0.2415204678 0.2416666667 0.2418128655 0.2419590643
## [1656] 0.2421052632 0.2422514620 0.2423976608 0.2425438596 0.2426900585
## [1661] 0.2428362573 0.2429824561 0.2431286550 0.2432748538 0.2434210526
## [1666] 0.2435672515 0.2437134503 0.2438596491 0.2440058480 0.2441520468
## [1671] 0.2442982456 0.2444444444 0.2445906433 0.2447368421 0.2448830409
## [1676] 0.2450292398 0.2451754386 0.2453216374 0.2454678363 0.2456140351
## [1681] 0.2457602339 0.2459064327 0.2460526316 0.2461988304 0.2463450292
## [1686] 0.2464912281 0.2466374269 0.2467836257 0.2469298246 0.2470760234
## [1691] 0.247222222 0.2473684211 0.2475146199 0.2476608187 0.2478070175
## [1696] 0.2479532164 0.2480994152 0.2482456140 0.2483918129 0.2485380117
## [1701] 0.2486842105 0.2488304094 0.2489766082 0.2491228070 0.2492690058
## [1706] 0.2494152047 0.2495614035 0.2497076023 0.2498538012 0.2500000000
## [1711] 0.2501461988 0.2502923977 0.2504385965 0.2505847953 0.2507309942
## [1716] 0.2508771930 0.2510233918 0.2511695906 0.2513157895 0.2514619883
## [1721] 0.2516081871 0.2517543860 0.2519005848 0.2520467836 0.2521929825
## [1726] 0.2523391813 0.2524853801 0.2526315789 0.2527777778 0.2529239766
## [1731] 0.2530701754 0.2532163743 0.2533625731 0.2535087719 0.2536549708
## [1736] 0.2538011696 0.2539473684 0.2540935673 0.2542397661 0.2543859649
## [1741] 0.2545321637 0.2546783626 0.2548245614 0.2549707602 0.2551169591
```

```
## [1746] 0.2552631579 0.2554093567 0.2555555556 0.2557017544 0.2558479532
## [1751] 0.2559941520 0.2561403509 0.2562865497 0.2564327485 0.2565789474
## [1756] 0.2567251462 0.2568713450 0.2570175439 0.2571637427 0.2573099415
## [1761] 0.2574561404 0.2576023392 0.2577485380 0.2578947368 0.2580409357
## [1766] 0.2581871345 0.2583333333 0.2584795322 0.2586257310 0.2587719298
## [1771] 0.2589181287 0.2590643275 0.2592105263 0.2593567251 0.2595029240
## [1776] 0.2596491228 0.2597953216 0.2599415205 0.2600877193 0.2602339181
## [1781] 0.2603801170 0.2605263158 0.2606725146 0.2608187135 0.2609649123
## [1786] 0.2611111111 0.2612573099 0.2614035088 0.2615497076 0.2616959064
## [1791] 0.2618421053 0.2619883041 0.2621345029 0.2622807018 0.2624269006
## [1796] 0.2625730994 0.2627192982 0.2628654971 0.2630116959 0.2631578947
## [1801] 0.2633040936 0.2634502924 0.2635964912 0.2637426901 0.26388888889
## [1806] 0.2640350877 0.2641812865 0.2643274854 0.2644736842 0.2646198830
## [1811] 0.2647660819 0.2649122807 0.2650584795 0.2652046784 0.2653508772
## [1816] 0.2654970760 0.2656432749 0.2657894737 0.2659356725 0.2660818713
## [1821] 0.2662280702 0.2663742690 0.2665204678 0.2666666667 0.2668128655
## [1826] 0.2669590643 0.2671052632 0.2672514620 0.2673976608 0.2675438596
## [1831] 0.2676900585 0.2678362573 0.2679824561 0.2681286550 0.2682748538
## [1836] 0.2684210526 0.2685672515 0.2687134503 0.2688596491 0.2690058480
## [1841] 0.2691520468 0.2692982456 0.2694444444 0.2695906433 0.2697368421
## [1846] 0.2698830409 0.2700292398 0.2701754386 0.2703216374 0.2704678363
## [1851] 0.2706140351 0.2707602339 0.2709064327 0.2710526316 0.2711988304
## [1856] 0.2713450292 0.2714912281 0.2716374269 0.2717836257 0.2719298246
## [1861] 0.2720760234 0.2722222222 0.2723684211 0.2725146199 0.2726608187
## [1866] 0.2728070175 0.2729532164 0.2730994152 0.2732456140 0.2733918129
## [1871] 0.2735380117 0.2736842105 0.2738304094 0.2739766082 0.2741228070
## [1876] 0.2742690058 0.2744152047 0.2745614035 0.2747076023 0.2748538012
## [1881] 0.2750000000 0.2751461988 0.2752923977 0.2754385965 0.2755847953
## [1886] 0.2757309942 0.2758771930 0.2760233918 0.2761695906 0.2763157895
## [1891] 0.2764619883 0.2766081871 0.2767543860 0.2769005848 0.2770467836
## [1896] 0.2771929825 0.2773391813 0.2774853801 0.2776315789 0.2777777778
## [1901] 0.2779239766 0.2780701754 0.2782163743 0.2783625731 0.2785087719
## [1906] 0.2786549708 0.2788011696 0.2789473684 0.2790935673 0.2792397661
## [1911] 0.2793859649 0.2795321637 0.2796783626 0.2798245614 0.2799707602
## [1916] 0.2801169591 0.2802631579 0.2804093567 0.2805555556 0.2807017544
## [1921] 0.2808479532 0.2809941520 0.2811403509 0.2812865497 0.2814327485
## [1926] 0.2815789474 0.2817251462 0.2818713450 0.2820175439 0.2821637427
## [1931] 0.2823099415 0.2824561404 0.2826023392 0.2827485380 0.2828947368
## [1936] 0.2830409357 0.2831871345 0.2833333333 0.2834795322 0.2836257310
## [1941] 0.2837719298 0.2839181287 0.2840643275 0.2842105263 0.2843567251
## [1946] 0.2845029240 0.2846491228 0.2847953216 0.2849415205 0.2850877193
## [1951] 0.2852339181 0.2853801170 0.2855263158 0.2856725146 0.2858187135
## [1956] 0.2859649123 0.2861111111 0.2862573099 0.2864035088 0.2865497076
## [1961] 0.2866959064 0.2868421053 0.2869883041 0.2871345029 0.2872807018
## [1966] 0.2874269006 0.2875730994 0.2877192982 0.2878654971 0.2880116959
## [1971] 0.2881578947 0.2883040936 0.2884502924 0.2885964912 0.2887426901
## [1976] 0.2888888889 0.2890350877 0.2891812865 0.2893274854 0.2894736842
## [1981] 0.2896198830 0.2897660819 0.2899122807 0.2900584795 0.2902046784
## [1986] 0.2903508772 0.2904970760 0.2906432749 0.2907894737 0.2909356725
## [1991] 0.2910818713 0.2912280702 0.2913742690 0.2915204678 0.2916666667
```

```
## [1996] 0.2918128655 0.2919590643 0.2921052632 0.2922514620 0.2923976608
## [2001] 0.2925438596 0.2926900585 0.2928362573 0.2929824561 0.2931286550
## [2006] 0.2932748538 0.2934210526 0.2935672515 0.2937134503 0.2938596491
## [2011] 0.2940058480 0.2941520468 0.2942982456 0.2944444444 0.2945906433
## [2016] 0.2947368421 0.2948830409 0.2950292398 0.2951754386 0.2953216374
## [2021] 0.2954678363 0.2956140351 0.2957602339 0.2959064327 0.2960526316
## [2026] 0.2961988304 0.2963450292 0.2964912281 0.2966374269 0.2967836257
## [2031] 0.2969298246 0.2970760234 0.2972222222 0.2973684211 0.2975146199
## [2036] 0.2976608187 0.2978070175 0.2979532164 0.2980994152 0.2982456140
## [2041] 0.2983918129 0.2985380117 0.2986842105 0.2988304094 0.2989766082
## [2046] 0.2991228070 0.2992690058 0.2994152047 0.2995614035 0.2997076023
## [2051] 0.2998538012 0.3000000000 0.3001461988 0.3002923977 0.3004385965
## [2056] 0.3005847953 0.3007309942 0.3008771930 0.3010233918 0.3011695906
## [2061] 0.3013157895 0.3014619883 0.3016081871 0.3017543860 0.3019005848
## [2066] 0.3020467836 0.3021929825 0.3023391813 0.3024853801 0.3026315789
## [2071] 0.3027777778 0.3029239766 0.3030701754 0.3032163743 0.3033625731
## [2076] 0.3035087719 0.3036549708 0.3038011696 0.3039473684 0.3040935673
## [2081] 0.3042397661 0.3043859649 0.3045321637 0.3046783626 0.3048245614
## [2086] 0.3049707602 0.3051169591 0.3052631579 0.3054093567 0.3055555556
## [2091] 0.3057017544 0.3058479532 0.3059941520 0.3061403509 0.3062865497
## [2096] 0.3064327485 0.3065789474 0.3067251462 0.3068713450 0.3070175439
## [2101] 0.3071637427 0.3073099415 0.3074561404 0.3076023392 0.3077485380
## [2106] 0.3078947368 0.3080409357 0.3081871345 0.3083333333 0.3084795322
## [2111] 0.3086257310 0.3087719298 0.3089181287 0.3090643275 0.3092105263
## [2116] 0.3093567251 0.3095029240 0.3096491228 0.3097953216 0.3099415205
## [2121] 0.3100877193 0.3102339181 0.3103801170 0.3105263158 0.3106725146
## [2126] 0.3108187135 0.3109649123 0.3111111111 0.3112573099 0.3114035088
## [2131] 0.3115497076 0.3116959064 0.3118421053 0.3119883041 0.3121345029
## [2136] 0.3122807018 0.3124269006 0.3125730994 0.3127192982 0.3128654971
## [2141] 0.3130116959 0.3131578947 0.3133040936 0.3134502924 0.3135964912
## [2146] 0.3137426901 0.3138888889 0.3140350877 0.3141812865 0.3143274854
## [2151] 0.3144736842 0.3146198830 0.3147660819 0.3149122807 0.3150584795
## [2156] 0.3152046784 0.3153508772 0.3154970760 0.3156432749 0.3157894737
## [2161] 0.3159356725 0.3160818713 0.3162280702 0.3163742690 0.3165204678
## [2166] 0.3166666667 0.3168128655 0.3169590643 0.3171052632 0.3172514620
## [2171] 0.3173976608 0.3175438596 0.3176900585 0.3178362573 0.3179824561
## [2176] 0.3181286550 0.3182748538 0.3184210526 0.3185672515 0.3187134503
## [2181] 0.3188596491 0.3190058480 0.3191520468 0.3192982456 0.3194444444
## [2186] 0.3195906433 0.3197368421 0.3198830409 0.3200292398 0.3201754386
## [2191] 0.3203216374 0.3204678363 0.3206140351 0.3207602339 0.3209064327
## [2196] 0.3210526316 0.3211988304 0.3213450292 0.3214912281 0.3216374269
## [2201] 0.3217836257 0.3219298246 0.3220760234 0.3222222222 0.3223684211
## [2206] 0.3225146199 0.3226608187 0.3228070175 0.3229532164 0.3230994152
## [2211] 0.3232456140 0.3233918129 0.3235380117 0.3236842105 0.3238304094
## [2216] 0.3239766082 0.3241228070 0.3242690058 0.3244152047 0.3245614035
## [2221] 0.3247076023 0.3248538012 0.3250000000 0.3251461988 0.3252923977
## [2226] 0.3254385965 0.3255847953 0.3257309942 0.3258771930 0.3260233918
## [2231] 0.3261695906 0.3263157895 0.3264619883 0.3266081871 0.3267543860
## [2236] 0.3269005848 0.3270467836 0.3271929825 0.3273391813 0.3274853801
## [2241] 0.3276315789 0.3277777778 0.3279239766 0.3280701754 0.3282163743
```

```
## [2246] 0.3283625731 0.3285087719 0.3286549708 0.3288011696 0.3289473684
## [2251] 0.3290935673 0.3292397661 0.3293859649 0.3295321637 0.3296783626
## [2256] 0.3298245614 0.3299707602 0.3301169591 0.3302631579 0.3304093567
## [2261] 0.3305555556 0.3307017544 0.3308479532 0.3309941520 0.3311403509
## [2266] 0.3312865497 0.3314327485 0.3315789474 0.3317251462 0.3318713450
## [2271] 0.3320175439 0.3321637427 0.3323099415 0.3324561404 0.3326023392
## [2276] 0.3327485380 0.3328947368 0.3330409357 0.3331871345 0.3333333333
## [2281] 0.3334795322 0.3336257310 0.3337719298 0.3339181287 0.3340643275
## [2286] 0.3342105263 0.3343567251 0.3345029240 0.3346491228 0.3347953216
## [2291] 0.3349415205 0.3350877193 0.3352339181 0.3353801170 0.3355263158
## [2296] 0.3356725146 0.3358187135 0.3359649123 0.3361111111 0.3362573099
## [2301] 0.3364035088 0.3365497076 0.3366959064 0.3368421053 0.3369883041
## [2306] 0.3371345029 0.3372807018 0.3374269006 0.3375730994 0.3377192982
## [2311] 0.3378654971 0.3380116959 0.3381578947 0.3383040936 0.3384502924
## [2316] 0.3385964912 0.3387426901 0.3388888889 0.3390350877 0.3391812865
## [2321] 0.3393274854 0.3394736842 0.3396198830 0.3397660819 0.3399122807
## [2326] 0.3400584795 0.3402046784 0.3403508772 0.3404970760 0.3406432749
## [2331] 0.3407894737 0.3409356725 0.3410818713 0.3412280702 0.3413742690
## [2336] 0.3415204678 0.3416666667 0.3418128655 0.3419590643 0.3421052632
## [2341] 0.3422514620 0.3423976608 0.3425438596 0.3426900585 0.3428362573
## [2346] 0.3429824561 0.3431286550 0.3432748538 0.3434210526 0.3435672515
## [2351] 0.3437134503 0.3438596491 0.3440058480 0.3441520468 0.3442982456
## [2356] 0.3444444444 0.3445906433 0.3447368421 0.3448830409 0.3450292398
## [2361] 0.3451754386 0.3453216374 0.3454678363 0.3456140351 0.3457602339
## [2366] 0.3459064327 0.3460526316 0.3461988304 0.3463450292 0.3464912281
## [2371] 0.3466374269 0.3467836257 0.3469298246 0.3470760234 0.3472222222
## [2376] 0.3473684211 0.3475146199 0.3476608187 0.3478070175 0.3479532164
## [2381] 0.3480994152 0.3482456140 0.3483918129 0.3485380117 0.3486842105
## [2386] 0.3488304094 0.3489766082 0.3491228070 0.3492690058 0.3494152047
## [2391] 0.3495614035 0.3497076023 0.3498538012 0.3500000000 0.3501461988
## [2396] 0.3502923977 0.3504385965 0.3505847953 0.3507309942 0.3508771930
## [2401] 0.3510233918 0.3511695906 0.3513157895 0.3514619883 0.3516081871
## [2406] 0.3517543860 0.3519005848 0.3520467836 0.3521929825 0.3523391813
## [2411] 0.3524853801 0.3526315789 0.3527777778 0.3529239766 0.3530701754
## [2416] 0.3532163743 0.3533625731 0.3535087719 0.3536549708 0.3538011696
## [2421] 0.3539473684 0.3540935673 0.3542397661 0.3543859649 0.3545321637
## [2426] 0.3546783626 0.3548245614 0.3549707602 0.3551169591 0.3552631579
## [2431] 0.3554093567 0.3555555556 0.3557017544 0.3558479532 0.3559941520
## [2436] 0.3561403509 0.3562865497 0.3564327485 0.3565789474 0.3567251462
## [2441] 0.3568713450 0.3570175439 0.3571637427 0.3573099415 0.3574561404
## [2446] 0.3576023392 0.3577485380 0.3578947368 0.3580409357 0.3581871345
## [2451] 0.358333333 0.3584795322 0.3586257310 0.3587719298 0.3589181287
## [2456] 0.3590643275 0.3592105263 0.3593567251 0.3595029240 0.3596491228
## [2461] 0.3597953216 0.3599415205 0.3600877193 0.3602339181 0.3603801170
## [2466] 0.3605263158 0.3606725146 0.3608187135 0.3609649123 0.3611111111
## [2471] 0.3612573099 0.3614035088 0.3615497076 0.3616959064 0.3618421053
## [2476] 0.3619883041 0.3621345029 0.3622807018 0.3624269006 0.3625730994
## [2481] 0.3627192982 0.3628654971 0.3630116959 0.3631578947 0.3633040936
## [2486] 0.3634502924 0.3635964912 0.3637426901 0.3638888889 0.3640350877
## [2491] 0.3641812865 0.3643274854 0.3644736842 0.3646198830 0.3647660819
```

```
## [2496] 0.3649122807 0.3650584795 0.3652046784 0.3653508772 0.3654970760
## [2501] 0.3656432749 0.3657894737 0.3659356725 0.3660818713 0.3662280702
## [2506] 0.3663742690 0.3665204678 0.3666666667 0.3668128655 0.3669590643
## [2511] 0.3671052632 0.3672514620 0.3673976608 0.3675438596 0.3676900585
## [2516] 0.3678362573 0.3679824561 0.3681286550 0.3682748538 0.3684210526
## [2521] 0.3685672515 0.3687134503 0.3688596491 0.3690058480 0.3691520468
## [2526] 0.3692982456 0.3694444444 0.3695906433 0.3697368421 0.3698830409
## [2531] 0.3700292398 0.3701754386 0.3703216374 0.3704678363 0.3706140351
## [2536] 0.3707602339 0.3709064327 0.3710526316 0.3711988304 0.3713450292
## [2541] 0.3714912281 0.3716374269 0.3717836257 0.3719298246 0.3720760234
## [2546] 0.3722222222 0.3723684211 0.3725146199 0.3726608187 0.3728070175
## [2551] 0.3729532164 0.3730994152 0.3732456140 0.3733918129 0.3735380117
## [2556] 0.3736842105 0.3738304094 0.3739766082 0.3741228070 0.3742690058
## [2561] 0.3744152047 0.3745614035 0.3747076023 0.3748538012 0.3750000000
## [2566] 0.3751461988 0.3752923977 0.3754385965 0.3755847953 0.3757309942
## [2571] 0.3758771930 0.3760233918 0.3761695906 0.3763157895 0.3764619883
## [2576] 0.3766081871 0.3767543860 0.3769005848 0.3770467836 0.3771929825
## [2581] 0.3773391813 0.3774853801 0.3776315789 0.3777777778 0.3779239766
## [2586] 0.3780701754 0.3782163743 0.3783625731 0.3785087719 0.3786549708
## [2591] 0.3788011696 0.3789473684 0.3790935673 0.3792397661 0.3793859649
## [2596] 0.3795321637 0.3796783626 0.3798245614 0.3799707602 0.3801169591
## [2601] 0.3802631579 0.3804093567 0.3805555556 0.3807017544 0.3808479532
## [2606] 0.3809941520 0.3811403509 0.3812865497 0.3814327485 0.3815789474
## [2611] 0.3817251462 0.3818713450 0.3820175439 0.3821637427 0.3823099415
## [2616] 0.3824561404 0.3826023392 0.3827485380 0.3828947368 0.3830409357
## [2621] 0.3831871345 0.3833333333 0.3834795322 0.3836257310 0.3837719298
## [2626] 0.3839181287 0.3840643275 0.3842105263 0.3843567251 0.3845029240
## [2631] 0.3846491228 0.3847953216 0.3849415205 0.3850877193 0.3852339181
## [2636] 0.3853801170 0.3855263158 0.3856725146 0.3858187135 0.3859649123
## [2641] 0.3861111111 0.3862573099 0.3864035088 0.3865497076 0.3866959064
## [2646] 0.3868421053 0.3869883041 0.3871345029 0.3872807018 0.3874269006
## [2651] 0.3875730994 0.3877192982 0.3878654971 0.3880116959 0.3881578947
## [2656] 0.3883040936 0.3884502924 0.3885964912 0.3887426901 0.38888888889
## [2661] 0.3890350877 0.3891812865 0.3893274854 0.3894736842 0.3896198830
## [2666] 0.3897660819 0.3899122807 0.3900584795 0.3902046784 0.3903508772
## [2671] 0.3904970760 0.3906432749 0.3907894737 0.3909356725 0.3910818713
## [2676] 0.3912280702 0.3913742690 0.3915204678 0.3916666667 0.3918128655
## [2681] 0.3919590643 0.3921052632 0.3922514620 0.3923976608 0.3925438596
## [2686] 0.3926900585 0.3928362573 0.3929824561 0.3931286550 0.3932748538
## [2691] 0.3934210526 0.3935672515 0.3937134503 0.3938596491 0.3940058480
## [2696] 0.3941520468 0.3942982456 0.3944444444 0.3945906433 0.3947368421
## [2701] 0.3948830409 0.3950292398 0.3951754386 0.3953216374 0.3954678363
## [2706] 0.3956140351 0.3957602339 0.3959064327 0.3960526316 0.3961988304
## [2711] 0.3963450292 0.3964912281 0.3966374269 0.3967836257 0.3969298246
## [2716] 0.3970760234 0.3972222222 0.3973684211 0.3975146199 0.3976608187
## [2721] 0.3978070175 0.3979532164 0.3980994152 0.3982456140 0.3983918129
## [2726] 0.3985380117 0.3986842105 0.3988304094 0.3989766082 0.3991228070
## [2731] 0.3992690058 0.3994152047 0.3995614035 0.3997076023 0.3998538012
## [2736] 0.400000000 0.4001461988 0.4002923977 0.4004385965 0.4005847953
## [2741] 0.4007309942 0.4008771930 0.4010233918 0.4011695906 0.4013157895
```

```
## [2746] 0.4014619883 0.4016081871 0.4017543860 0.4019005848 0.4020467836
## [2751] 0.4021929825 0.4023391813 0.4024853801 0.4026315789 0.4027777778
## [2756] 0.4029239766 0.4030701754 0.4032163743 0.4033625731 0.4035087719
## [2761] 0.4036549708 0.4038011696 0.4039473684 0.4040935673 0.4042397661
## [2766] 0.4043859649 0.4045321637 0.4046783626 0.4048245614 0.4049707602
## [2771] 0.4051169591 0.4052631579 0.4054093567 0.4055555556 0.4057017544
## [2776] 0.4058479532 0.4059941520 0.4061403509 0.4062865497 0.4064327485
## [2781] 0.4065789474 0.4067251462 0.4068713450 0.4070175439 0.4071637427
## [2786] 0.4073099415 0.4074561404 0.4076023392 0.4077485380 0.4078947368
## [2791] 0.4080409357 0.4081871345 0.4083333333 0.4084795322 0.4086257310
## [2796] 0.4087719298 0.4089181287 0.4090643275 0.4092105263 0.4093567251
## [2801] 0.4095029240 0.4096491228 0.4097953216 0.4099415205 0.4100877193
## [2806] 0.4102339181 0.4103801170 0.4105263158 0.4106725146 0.4108187135
## [2811] 0.4109649123 0.4111111111 0.4112573099 0.4114035088 0.4115497076
## [2816] 0.4116959064 0.4118421053 0.4119883041 0.4121345029 0.4122807018
## [2821] 0.4124269006 0.4125730994 0.4127192982 0.4128654971 0.4130116959
## [2826] 0.4131578947 0.4133040936 0.4134502924 0.4135964912 0.4137426901
## [2831] 0.4138888889 0.4140350877 0.4141812865 0.4143274854 0.4144736842
## [2836] 0.4146198830 0.4147660819 0.4149122807 0.4150584795 0.4152046784
## [2841] 0.4153508772 0.4154970760 0.4156432749 0.4157894737 0.4159356725
## [2846] 0.4160818713 0.4162280702 0.4163742690 0.4165204678 0.4166666667
## [2851] 0.4168128655 0.4169590643 0.4171052632 0.4172514620 0.4173976608
## [2856] 0.4175438596 0.4176900585 0.4178362573 0.4179824561 0.4181286550
## [2861] 0.4182748538 0.4184210526 0.4185672515 0.4187134503 0.4188596491
## [2866] 0.4190058480 0.4191520468 0.4192982456 0.4194444444 0.4195906433
## [2871] 0.4197368421 0.4198830409 0.4200292398 0.4201754386 0.4203216374
## [2876] 0.4204678363 0.4206140351 0.4207602339 0.4209064327 0.4210526316
## [2881] 0.4211988304 0.4213450292 0.4214912281 0.4216374269 0.4217836257
## [2886] 0.4219298246 0.4220760234 0.4222222222 0.4223684211 0.4225146199
## [2891] 0.4226608187 0.4228070175 0.4229532164 0.4230994152 0.4232456140
## [2896] 0.4233918129 0.4235380117 0.4236842105 0.4238304094 0.4239766082
## [2901] 0.4241228070 0.4242690058 0.4244152047 0.4245614035 0.4247076023
## [2906] 0.4248538012 0.4250000000 0.4251461988 0.4252923977 0.4254385965
## [2911] 0.4255847953 0.4257309942 0.4258771930 0.4260233918 0.4261695906
## [2916] 0.4263157895 0.4264619883 0.4266081871 0.4267543860 0.4269005848
## [2921] 0.4270467836 0.4271929825 0.4273391813 0.4274853801 0.4276315789
## [2926] 0.4277777778 0.4279239766 0.4280701754 0.4282163743 0.4283625731
## [2931] 0.4285087719 0.4286549708 0.4288011696 0.4289473684 0.4290935673
## [2936] 0.4292397661 0.4293859649 0.4295321637 0.4296783626 0.4298245614
## [2941] 0.4299707602 0.4301169591 0.4302631579 0.4304093567 0.4305555556
## [2946] 0.4307017544 0.4308479532 0.4309941520 0.4311403509 0.4312865497
## [2951] 0.4314327485 0.4315789474 0.4317251462 0.4318713450 0.4320175439
## [2956] 0.4321637427 0.4323099415 0.4324561404 0.4326023392 0.4327485380
## [2961] 0.4328947368 0.4330409357 0.4331871345 0.4333333333 0.4334795322
## [2966] 0.4336257310 0.4337719298 0.4339181287 0.4340643275 0.4342105263
## [2971] 0.4343567251 0.4345029240 0.4346491228 0.4347953216 0.4349415205
## [2976] 0.4350877193 0.4352339181 0.4353801170 0.4355263158 0.4356725146
## [2981] 0.4358187135 0.4359649123 0.4361111111 0.4362573099 0.4364035088
## [2986] 0.4365497076 0.4366959064 0.4368421053 0.4369883041 0.4371345029
## [2991] 0.4372807018 0.4374269006 0.4375730994 0.4377192982 0.4378654971
```

```
## [2996] 0.4380116959 0.4381578947 0.4383040936 0.4384502924 0.4385964912
## [3001] 0.4387426901 0.4388888889 0.4390350877 0.4391812865 0.4393274854
## [3006] 0.4394736842 0.4396198830 0.4397660819 0.4399122807 0.4400584795
## [3011] 0.4402046784 0.4403508772 0.4404970760 0.4406432749 0.4407894737
## [3016] 0.4409356725 0.4410818713 0.4412280702 0.4413742690 0.4415204678
## [3021] 0.4416666667 0.4418128655 0.4419590643 0.4421052632 0.4422514620
## [3026] 0.4423976608 0.4425438596 0.4426900585 0.4428362573 0.4429824561
## [3031] 0.4431286550 0.4432748538 0.4434210526 0.4435672515 0.4437134503
## [3036] 0.4438596491 0.4440058480 0.4441520468 0.4442982456 0.4444444444
## [3041] 0.4445906433 0.4447368421 0.4448830409 0.4450292398 0.4451754386
## [3046] 0.4453216374 0.4454678363 0.4456140351 0.4457602339 0.4459064327
## [3051] 0.4460526316 0.4461988304 0.4463450292 0.4464912281 0.4466374269
## [3056] 0.4467836257 0.4469298246 0.4470760234 0.4472222222 0.4473684211
## [3061] 0.4475146199 0.4476608187 0.4478070175 0.4479532164 0.4480994152
## [3066] 0.4482456140 0.4483918129 0.4485380117 0.4486842105 0.4488304094
## [3071] 0.4489766082 0.4491228070 0.4492690058 0.4494152047 0.4495614035
## [3076] 0.4497076023 0.4498538012 0.4500000000 0.4501461988 0.4502923977
## [3081] 0.4504385965 0.4505847953 0.4507309942 0.4508771930 0.4510233918
## [3086] 0.4511695906 0.4513157895 0.4514619883 0.4516081871 0.4517543860
## [3091] 0.4519005848 0.4520467836 0.4521929825 0.4523391813 0.4524853801
## [3096] 0.4526315789 0.4527777778 0.4529239766 0.4530701754 0.4532163743
## [3101] 0.4533625731 0.4535087719 0.4536549708 0.4538011696 0.4539473684
## [3106] 0.4540935673 0.4542397661 0.4543859649 0.4545321637 0.4546783626
## [3111] 0.4548245614 0.4549707602 0.4551169591 0.4552631579 0.4554093567
## [3116] 0.4555555556 0.4557017544 0.4558479532 0.4559941520 0.4561403509
## [3121] 0.4562865497 0.4564327485 0.4565789474 0.4567251462 0.4568713450
## [3126] 0.4570175439 0.4571637427 0.4573099415 0.4574561404 0.4576023392
## [3131] 0.4577485380 0.4578947368 0.4580409357 0.4581871345 0.4583333333
## [3136] 0.4584795322 0.4586257310 0.4587719298 0.4589181287 0.4590643275
## [3141] 0.4592105263 0.4593567251 0.4595029240 0.4596491228 0.4597953216
## [3146] 0.4599415205 0.4600877193 0.4602339181 0.4603801170 0.4605263158
## [3151] 0.4606725146 0.4608187135 0.4609649123 0.4611111111 0.4612573099
## [3156] 0.4614035088 0.4615497076 0.4616959064 0.4618421053 0.4619883041
## [3161] 0.4621345029 0.4622807018 0.4624269006 0.4625730994 0.4627192982
## [3166] 0.4628654971 0.4630116959 0.4631578947 0.4633040936 0.4634502924
## [3171] 0.4635964912 0.4637426901 0.4638888889 0.4640350877 0.4641812865
## [3176] 0.4643274854 0.4644736842 0.4646198830 0.4647660819 0.4649122807
## [3181] 0.4650584795 0.4652046784 0.4653508772 0.4654970760 0.4656432749
## [3186] 0.4657894737 0.4659356725 0.4660818713 0.4662280702 0.4663742690
## [3191] 0.4665204678 0.4666666667 0.4668128655 0.4669590643 0.4671052632
## [3196] 0.4672514620 0.4673976608 0.4675438596 0.4676900585 0.4678362573
## [3201] 0.4679824561 0.4681286550 0.4682748538 0.4684210526 0.4685672515
## [3206] 0.4687134503 0.4688596491 0.4690058480 0.4691520468 0.4692982456
## [3211] 0.4694444444 0.4695906433 0.4697368421 0.4698830409 0.4700292398
## [3216] 0.4701754386 0.4703216374 0.4704678363 0.4706140351 0.4707602339
## [3221] 0.4709064327 0.4710526316 0.4711988304 0.4713450292 0.4714912281
## [3226] 0.4716374269 0.4717836257 0.4719298246 0.4720760234 0.4722222222
## [3231] 0.4723684211 0.4725146199 0.4726608187 0.4728070175 0.4729532164
## [3236] 0.4730994152 0.4732456140 0.4733918129 0.4735380117 0.4736842105
## [3241] 0.4738304094 0.4739766082 0.4741228070 0.4742690058 0.4744152047
```

```
## [3246] 0.4745614035 0.4747076023 0.4748538012 0.4750000000 0.4751461988
## [3251] 0.4752923977 0.4754385965 0.4755847953 0.4757309942 0.4758771930
## [3256] 0.4760233918 0.4761695906 0.4763157895 0.4764619883 0.4766081871
## [3261] 0.4767543860 0.4769005848 0.4770467836 0.4771929825 0.4773391813
## [3266] 0.4774853801 0.4776315789 0.4777777778 0.4779239766 0.4780701754
## [3271] 0.4782163743 0.4783625731 0.4785087719 0.4786549708 0.4788011696
## [3276] 0.4789473684 0.4790935673 0.4792397661 0.4793859649 0.4795321637
## [3281] 0.4796783626 0.4798245614 0.4799707602 0.4801169591 0.4802631579
## [3286] 0.4804093567 0.4805555556 0.4807017544 0.4808479532 0.4809941520
## [3291] 0.4811403509 0.4812865497 0.4814327485 0.4815789474 0.4817251462
## [3296] 0.4818713450 0.4820175439 0.4821637427 0.4823099415 0.4824561404
## [3301] 0.4826023392 0.4827485380 0.4828947368 0.4830409357 0.4831871345
## [3306] 0.4833333333 0.4834795322 0.4836257310 0.4837719298 0.4839181287
## [3311] 0.4840643275 0.4842105263 0.4843567251 0.4845029240 0.4846491228
## [3316] 0.4847953216 0.4849415205 0.4850877193 0.4852339181 0.4853801170
## [3321] 0.4855263158 0.4856725146 0.4858187135 0.4859649123 0.4861111111
## [3326] 0.4862573099 0.4864035088 0.4865497076 0.4866959064 0.4868421053
## [3331] 0.4869883041 0.4871345029 0.4872807018 0.4874269006 0.4875730994
## [3336] 0.4877192982 0.4878654971 0.4880116959 0.4881578947 0.4883040936
## [3341] 0.4884502924 0.4885964912 0.4887426901 0.48888888889 0.4890350877
## [3346] 0.4891812865 0.4893274854 0.4894736842 0.4896198830 0.4897660819
## [3351] 0.4899122807 0.4900584795 0.4902046784 0.4903508772 0.4904970760
## [3356] 0.4906432749 0.4907894737 0.4909356725 0.4910818713 0.4912280702
## [3361] 0.4913742690 0.4915204678 0.4916666667 0.4918128655 0.4919590643
## [3366] 0.4921052632 0.4922514620 0.4923976608 0.4925438596 0.4926900585
## [3371] 0.4928362573 0.4929824561 0.4931286550 0.4932748538 0.4934210526
## [3376] 0.4935672515 0.4937134503 0.4938596491 0.4940058480 0.4941520468
## [3381] 0.4942982456 0.4944444444 0.4945906433 0.4947368421 0.4948830409
## [3386] 0.4950292398 0.4951754386 0.4953216374 0.4954678363 0.4956140351
## [3391] 0.4957602339 0.4959064327 0.4960526316 0.4961988304 0.4963450292
## [3396] 0.4964912281 0.4966374269 0.4967836257 0.4969298246 0.4970760234
## [3401] 0.4972222222 0.4973684211 0.4975146199 0.4976608187 0.4978070175
## [3406] 0.4979532164 0.4980994152 0.4982456140 0.4983918129 0.4985380117
## [3411] 0.4986842105 0.4988304094 0.4989766082 0.4991228070 0.4992690058
## [3416] 0.4994152047 0.4995614035 0.4997076023 0.4998538012 0.5000000000
##
## $pzgram
##
      [1] 10.100467337 10.086837479 10.064185389 10.032607709
                                                               9.992239990
                                     9.820341127
##
          9.943256932 9.885872677
                                                  9.746956283
                                                               9.666052572
      [6]
          9.578005126 9.483229995
                                     9.382184219
                                                 9.275365739
##
     [11]
                                                               9.163313058
##
     [16]
          9.046604583 8.925857569
                                    8.801726557
                                                  8.674901188
                                                               8.546103287
##
     [21]
           8.416083074 8.285614369
                                     8.155488682 8.026508066
                                                               7.899476674
##
     [26]
          7.775190983
                      7.654428741
                                     7.537936763
                                                 7.426417790
                                                               7.320516761
                                     7.041815275
##
     [31]
           7.220806923
                      7.127776324
                                                 6.963205421
                                                              6.892111043
##
                       6.772506574
                                     6.723700997
                                                  6.681824852
                                                               6.646433077
     [36]
           6.828573118
##
     [41]
           6.616977723 6.592821145
                                     6.573251133 6.557497317
                                                               6.544748160
##
     [46]
          6.534167910 6.524912949
                                     6.516147096 6.507055541
                                                               6.496857183
          6.484815301 6.470246522
##
     [51]
                                     6.452528173 6.431104123 6.405489275
     [56]
##
           6.375272852
                        6.340120653
                                     6.299776420
                                                  6.254062445
                                                               6.202879508
##
     [61] 6.146206230 6.084097875 6.016684606 5.944169186 5.866824090
```

```
##
     [66]
            5.784987958
                          5.699061327
                                        5.609501578
                                                      5.516817021
                                                                    5.421560077
##
     [71]
            5.324319534
                          5.225711885
                                        5.126371817
                                                      5.026941962
                                                                    4.928062084
##
     [76]
           4.830357927
                         4.734430003
                                        4.640842641
                                                      4.550113637
                                                                    4.462704831
##
     [81]
           4.379013946
                         4.299367938
                                        4.224018064
                                                      4.153136792
                                                                   4.086816560
##
     [86]
           4.025070339
                          3.967833846
                                        3.914969201
                                                      3.866269778
                                                                    3.821465980
##
     [91]
           3.780231675
                          3.742191045
                                        3.706925642
                                                      3.673981493
                                                                    3.642876139
                                        3.555484905
##
     [96]
                          3.584150831
                                                      3.526578902
            3.613105541
                                                                    3.496908594
##
    [101]
           3.465960745
                          3.433239485
                                        3.398272731
                                                      3.360618688
                                                                    3.319872457
##
    [106]
            3.275672729
                          3.227708579
                                        3.175726304
                                                      3.119536270
                                                                    3.059019671
##
    \lceil 111 \rceil
            2.994135103
                          2.924924788
                                        2.851520258
                                                      2.774147240
                                                                    2.693129428
                                        2.432947760
##
    [116]
            2.608890774
                          2.521955842
                                                      2.342583252
                                                                    2.251664252
##
    [121]
            2.161065677
                          2.071719068
                                        1.984592010
                                                      1.900663559
                                                                    1.820896247
##
                                                      1.560391439
                                                                    1.513150879
    [126]
           1.746205651
                         1.677428923
                                        1.615293998
##
    [131]
            1.473823861
                         1.442474437
                                        1.418978303
                                                      1.403030547
                                                                    1.394161353
           1.391758385
                         1.395094110
                                                      1.415678114
                                                                    1.431170715
##
    [136]
                                        1.403356071
##
           1.448948931
                          1.468156821
                                        1.487987664
                                                      1.507699641
                                                                    1.526626995
    [141]
##
    [146]
           1.544186902
                         1.559882493
                                        1.573302526
                                                      1.584118283
                                                                    1.592078264
##
    [151]
           1.597001232
                         1.598768132
                                        1.597313373
                                                      1.592615912
                                                                    1.584690537
##
    [156]
            1.573579722
                         1.559346349
                                        1.542067564
                                                      1.521829991
                                                                    1.498726432
##
           1.472854144
                         1.444314708
                                        1.413215417
                                                      1.379672045
                                                                    1.343812790
    [161]
                         1.265750992
                                        1.223912634
##
    [166]
           1.305783091
                                                      1.180497452
                                                                    1.135772593
    [171]
##
           1.090046080
                         1.043668261
                                        0.997031074
                                                      0.950564790
                                                                    0.904731906
##
    [176]
           0.860018072
                         0.816920030
                                        0.775930805
                                                      0.737522567
                                                                    0.702127843
##
    [181]
           0.670119960
                         0.641793787
                                        0.617347936
                                                      0.596869598
                                                                    0.580323085
##
    [186]
           0.567542949
                          0.558232226
                                        0.551966026
                                                      0.548200271
                                                                    0.546285057
##
    [191]
           0.545481830
                         0.544983378
                                        0.543935555
                                                      0.541459703
                                                                    0.536674839
##
           0.528718862
                         0.516768246
                                       0.500055896
                                                      0.477887056
                                                                    0.449653308
    [196]
##
    [201]
           0.414844843
                         0.373061250
                                        0.324021111
                                                      0.267570690
                                                                    0.203691948
##
    [206]
           0.132510052
                         0.054300415 -0.030504803 -0.121311024 -0.217356836
##
    [211]
          -0.317711545 -0.421275566 -0.526784781 -0.632820122 -0.737823732
##
    [216] -0.840122956 -0.937963132 -1.029549617 -1.113098661 -1.186895671
##
    [221] -1.249358221 -1.299099990 -1.334990912 -1.356208453 -1.362275233
##
    [226] -1.353079266 -1.328874825 -1.290263953 -1.238160751 -1.173742196
##
    [231] -1.098390308 -1.013630743 -0.921072489 -0.822352403 -0.719087197
##
    [236]
          -0.612834252
                        -0.505061586 -0.397126529
                                                    -0.290262076
                                                                   -0.185569652
##
                                        0.106456144
                                                                   0.275976960
    [241]
          -0.084016905
                         0.013560771
                                                     0.194084466
##
    [246]
           0.351774084
                         0.421218969
                                        0.484151317
                                                      0.540501931
                                                                   0.590287932
##
                         0.670642341
                                        0.701642940
                                                      0.726937860
                                                                    0.746925488
    [251]
           0.633608683
##
    [256]
           0.762072867
                          0.772913083
                                        0.780042123
                                                      0.784114925
                                                                    0.785840315
##
    [261]
           0.785974562
                         0.785313272
                                        0.784681438
                                                      0.784921492
                                                                    0.786879364
##
                          0.799253311
                                        0.811229002
                                                      0.828004320
                                                                    0.850182144
    [266]
           0.791388668
##
    [271]
           0.878262375
                         0.912626889
                                        0.953527644
                                                      1.001078704
                                                                    1.055252742
##
    [276]
           1.115882272
                          1.182665588
                                        1.255177026
                                                      1.332880932
                                                                    1.415148476
##
    [281]
            1.501276376
                         1.590506507
                                        1.682045481
                                                      1.775083362
                                                                    1.868810851
##
    [286]
           1.962434469
                         2.055189445
                                        2.146350156
                                                      2.235238161
                                                                    2.321227928
##
    [291]
            2.403750466
                         2.482295127
                                        2.556409854
                                                      2.625700207
                                                                    2.689827455
##
    [296]
           2.748506076
                         2.801500964
                                        2.848624657
                                                      2.889734919
                                                                    2.924732967
##
    [301]
           2.953562702
                          2.976211256
                                        2.992711196
                                                      3.003144740
                                                                    3.007650301
##
    [306]
            3.006431684
                          2.999770195
                                        2.988039850
                                                      2.971725749
                                                                    2.951445479
##
           2.927973128
                         2.902265087
                                       2.875486288
                                                     2.849034811
                                                                   2.824561985
    [311]
```

```
##
    [316]
           2.803984141
                         2.789481346
                                       2.783477763
                                                     2.788598296
                                                                   2.807597093
##
    [321]
           2.843255778
                         2.898253147
                                       2.975013196
                                                     3.075544039
                                                                   3.201285064
##
    [326]
           3.352981982
                         3.530607825
                                       3.733342225
                                                     3.959612436
                                                                   4.207189795
##
    [331]
           4.473327175
                         4.754918485
                                       5.048660900
                                                     5.351203744
                                                                   5.659273127
    [336]
##
           5.969767113
                         6.279820961
                                       6.586845337
                                                     6.888542283
                                                                   7.182904270
##
    [341]
           7.468201428
                         7.742961307
                                       8.005944608
                                                     8.256119415
                                                                   8.492635670
##
                                       9.113967842
                         8.922058757
                                                     9.290185646
                                                                   9.450452768
    [346]
           8.714801037
##
    [351]
           9.594580126
                         9.722438002
                                       9.833946863
                                                     9.929069734 10.007805954
##
    [356] 10.070186131 10.116268147 10.146134104 10.159888086 10.157654676
##
    [361]
          10.139578155 10.105822344 10.056571057
                                                     9.992029165
                                                                   9.912424252
           9.818008907
##
    [366]
                         9.709063646
                                       9.585900519
                                                     9.448867434
                                                                   9.298353237
##
    [371]
           9.134793591
                         8.958677677
                                       8.770555727
                                                     8.571047365
                                                                   8.360850675
                                                     7.430435529
##
                         7.911635223
                                       7.674493156
    [376]
           8.140751858
                                                                   7.180697839
##
    [381]
           6.926647141
                         6.669784635
                                       6.411743538
                                                     6.154280776
                                                                   5.899260947
                         5.404386341
                                       5.168523142
                                                     4.942986017
                                                                   4.729604779
##
    [386]
           5.648631239
##
    [391]
           4.530028744
                         4.345661571
                                       4.177602385
                                                     4.026598761
                                                                   3.893016496
##
    [396]
           3.776829485
                         3.677630922
                                       3.594664610
                                                     3.526873050
                                                                   3.472957401
##
    [401]
           3.431443680
                         3.400749683
                                       3.379247932
                                                     3.365321158
                                                                   3.357408219
##
    [406]
           3.354039623
                         3.353862860
                                       3.355658465
                                                     3.358348187
                                                                   3.360996768
##
           3.362808859
                         3.363122459
                                       3.361400042
                                                     3.357218374
                                                                   3.350257755
    [411]
                         3.327174496
                                                     3.291267928
##
    [416]
           3.340291274
                                       3.310835851
                                                                   3.268519755
##
    [421]
           3.242690106
                         3.213921828
                                       3.182397104
                                                     3.148333583
                                                                   3.111981219
##
    [426]
           3.073619688
                         3.033556192
                                       2.992123441
                                                     2.949677628
                                                                   2.906596145
##
           2.863274868
                         2.820124776
                                       2.777567774
                                                     2.736031573
                                                                   2.695943582
    [431]
##
    [436]
           2.657723816
                         2.621776914
                                       2.588483454
                                                     2.558190828
                                                                   2.531204033
##
    [441]
           2.507776786
                         2.488103394
                                       2.472311856
                                                     2.460458571
                                                                   2.452525028
##
    [446]
                         2.447964252
                                       2.450927081
                                                     2.456998955
                                                                   2.465815553
           2.448416698
##
    [451]
           2.476963478
                         2.489990327
                                       2.504415348
                                                     2.519740214
                                                                   2.535459518
##
    [456]
           2.551070594
                         2.566082403
                                       2.580023268
                                                     2.592447333
                                                                   2.602939699
##
           2.611120261
                         2.616646308
                                       2.619214009
                                                     2.618558916
                                                                   2.614455661
    [461]
##
    [466]
           2.606717013
                         2.595192460
                                       2.579766502
                                                     2.560356803
                                                                   2.536912354
                         2.477861874
                                       2.442296514
                                                     2.402775915
                                                                   2.359386361
##
    [471]
           2.509411777
##
    [476]
           2.312240341
                         2.261477105
                                       2.207263560
                                                     2.149795411
                                                                   2.089298438
##
    [481]
           2.026029732
                         1.960278705
                                       1.892367685
                                                     1.822651839
                                                                   1.751518218
##
    [486]
           1.679383686
                         1.606691521
                                       1.533906549
                                                     1.461508680
                                                                   1.389984851
##
    [491]
           1.319819440
                         1.251483366
                                       1.185422188
                                                     1.122043660
                                                                   1.061705302
##
    [496]
           1.004702616
                         0.951258626
                                       0.901515411
                                                     0.855528200
                                                                   0.813262505
##
                         0.739315247
                                       0.707137081
                                                                   0.650606023
    [501]
           0.774594575
                                                     0.677704440
##
    [506]
           0.625389232
                         0.601575691
                                       0.578677207
                                                     0.556211517
                                                                   0.533717211
##
    [511]
           0.510767337
                         0.486981273
                                       0.462034589
                                                     0.435666669
                                                                   0.407685998
##
    [516]
           0.377973036
                         0.346480694
                                       0.313232454
                                                     0.278318214
                                                                   0.241887992
##
    [521]
           0.204143668
                         0.165328999
                                       0.125718193
                                                     0.085603419
                                                                   0.045281693
##
    [526]
           0.005041629 -0.034849384 -0.074157012 -0.112690237 -0.150309542
##
    [531] -0.186932584 -0.222537045 -0.257160498 -0.290897310 -0.323892751
##
    [536] -0.356334632 -0.388442943 -0.420458038 -0.452627957 -0.485195530
##
    [541] -0.518385835 -0.552394584 -0.587377911 -0.623443985 -0.660646779
##
    [546] -0.698982240 -0.738387047 -0.778740033 -0.819866283 -0.861543836
    [551] -0.903512793 -0.945486553 -0.987164778 -1.028247575 -1.068450273
##
##
    [556] -1.107518106 -1.145240049 -1.181461048 -1.216091948 -1.249116506
    [561] -1.280595046 -1.310664499 -1.339534771 -1.367481641 -1.394836523
```

```
[566] -1.421973642 -1.449295242 -1.477215517 -1.506143935 -1.536468614
##
    [571] -1.568540289 -1.602657364 -1.639052412 -1.677880407 -1.719208919
##
    [576] -1.763010428 -1.809156892 -1.857416692 -1.907454069 -1.958831190
    [581] -2.011012944 -2.063374595 -2.115212344 -2.165756819 -2.214189369
##
##
    [586] -2.259660932 -2.301313067 -2.338300548 -2.369814754 -2.395106915
    [591] -2.413510192 -2.424459521 -2.427508248 -2.422340705 -2.408780169
##
##
    [596] -2.386791906 -2.356481389 -2.318088045 -2.271975194 -2.218617011
##
    [601] -2.158583438 -2.092523969 -2.021151164 -1.945224580 -1.865535657
##
    [606] -1.782893898 -1.698114508 -1.612007539 -1.525368431 -1.438969810
    [611] -1.353554344 -1.269828429 -1.188456519 -1.110055911 -1.035191830
##
##
    [616] -0.964372700 -0.898045528 -0.836591333 -0.780320635 -0.729469001
    [621] -0.684192710 -0.644564628 -0.610570419 -0.582105254 -0.558971238
##
##
    [626] -0.540875819 -0.527431480 -0.518157073 -0.512481165 -0.509747806
##
    [631] -0.509225068 -0.510116681 -0.511576959 -0.512729037 -0.512686224
    [636] -0.510575996 -0.505565853 -0.496889957 -0.483875214 -0.465965318
##
##
    [641] -0.442741205 -0.413936511 -0.379446908 -0.339332586 -0.293813698
##
    [646] -0.243259082 -0.188169091 -0.129153725 -0.066907528 -0.002182754
##
                                       0.199036309
    [651]
           0.064237744
                         0.131566638
                                                    0.265920373
                                                                  0.331552207
##
    [656]
           0.395340326
                         0.456780704
                                       0.515466288
                                                    0.571093984
                                                                  0.623469502
##
           0.672510373
                         0.718247426
                                       0.760824958
                                                    0.800499716
                                                                  0.837638729
    [661]
                                       0.939085096
##
    [666]
           0.872715933
                         0.906307421
                                                    0.971808404
                                                                  1.005313829
##
    [671]
           1.040501806
                         1.078320779
                                       1.119748240
                                                    1.165768764
                                                                  1.217349293
##
    [676]
           1.275412218
                         1.340807109
                                       1.414282261
                                                    1.496457457
                                                                  1.587799508
##
                         1.798971359
                                       1.918818130
                                                    2.047857608
                                                                  2.185616288
    [681]
           1.688602101
##
    [686]
           2.331445754
                         2.484542250
                                       2.643970692
                                                    2.808691494
                                                                  2.977588638
##
    [691]
           3.149497463
                         3.323230933
                                       3.497603438
                                                    3.671451488
                                                                  3.843650998
##
           4.013131109
                         4.178884699
                                       4.339975894
                                                    4.495544962
                                                                  4.644811022
    [696]
##
    [701]
           4.787072994
                         4.921709192
                                       5.048175928
                                                    5.166005426
                                                                  5.274803311
##
    [706]
           5.374245864
                         5.464077212
                                       5.544106548
                                                    5.614205465
                                                                  5.674305427
##
           5.724395405
                         5.764519645
                                       5.794775539
                                                    5.815311547
                                                                  5.826325097
    [711]
##
    [716]
           5.828060381
                         5.820805953
                                       5.804892040
                                                    5.780687454
                                                                  5.748596024
                                                    5.550413037
##
    [721]
           5.709052444
                         5.662517473
                                       5.609472441
                                                                  5.485842404
##
    [726]
           5.416263609
                         5.342171606
                                       5.264044873
                                                    5.182336932
                                                                  5.097468042
##
    [731]
           5.009817360
                         4.919715899
                                       4.827440602
                                                    4.733209850
                                                                  4.637180639
##
    [736]
           4.539447642
                         4.440044252
                                       4.338945654
                                                    4.236073839
                                                                  4.131304430
##
    [741]
           4.024475095
                         3.915395282
                                       3.803856960
                                                    3.689646061
                                                                  3.572554312
##
    [746]
           3.452391155
                         3.328995514
                                       3.202247173
                                                    3.072077575
                                                                  2.938479890
##
                         2.661335621
                                       2.518161342
                                                    2.372316198
                                                                  2.224216773
    [751]
           2.801518194
##
    [756]
           2.074377672
                         1.923411697
                                       1.772027603
                                                    1.621025073
                                                                  1.471286561
##
    [761]
           1.323765699
                         1.179472044
                                       1.039452107
                                                    0.904766819
                                                                  0.776465840
##
    [766]
           0.655559456
                         0.542989125
                                       0.439597990
                                                    0.346102949
                                                                  0.263069889
##
    [771]
           0.190893691
                         0.129784304
                                       0.079759837
                                                    0.040647081
                                                                  0.012089310
##
    [776]
          -0.006439333
                        -0.015613980
                                      -0.016235166
                                                   -0.009202507
                                                                  0.004512539
##
    [781]
           0.023893458
                         0.047903884
                                       0.075510438
                                                    0.105702692
                                                                  0.137510050
##
    [786]
           0.170015550
                         0.202366775
                                       0.233784157
                                                    0.263567009
                                                                  0.291097647
##
    [791]
           0.315843918
                         0.337360431
                                       0.355288718
                                                    0.369356494
                                                                  0.379376132
##
    [796]
           0.385242402
                         0.386929489
                                       0.384487249
                                                    0.378036658
                                                                  0.367764363
##
    [801]
           0.353916279
                         0.336790161
                                       0.316727118
                                                    0.294102108
                                                                  0.269313470
##
    [806]
           0.242771667
                         0.214887452
                                       0.186059800
                                                    0.156663966
                                                                  0.127040142
    [811]
           0.097483178
                         0.068233843
                                      0.039472087
                                                    0.011312662 -0.016196645
```

```
[816] -0.043074017 -0.069399885 -0.095310644 -0.120990097 -0.146659055
    [821] -0.172563572 -0.198962344 -0.226113830 -0.254263593 -0.283632347
##
##
    [826] -0.314405106 -0.346721789 -0.380669539 -0.416276960 -0.453510411
    [831] -0.492272442 -0.532402399 -0.573679176 -0.615826052 -0.658517473
##
    [836] -0.701387600 -0.744040357 -0.786060663 -0.827026445 -0.866520987
##
    [841] -0.904145104 -0.939528639 -0.972340770 -1.002298669 -1.029174138
##
##
    [846] -1.052797970 -1.073061912 -1.089918259 -1.103377259 -1.113502653
    [851] -1.120405745 -1.124238499 -1.125186151 -1.123459839 -1.119289668
##
    [856] -1.112918561 -1.104597150 -1.094579836 -1.083122049 -1.070478628
##
##
    [861] -1.056903177 -1.042648151 -1.027965423 -1.013107038 -0.998325869
    [866] -0.983875915 -0.970012021 -0.956988845 -0.945058966 -0.934470096
##
    [871] -0.925461399 -0.918259014 -0.913070911 -0.910081251 -0.909444475
##
##
    [876] -0.911279365 -0.915663321 -0.922627146 -0.932150603 -0.944159008
##
    [881] -0.958521150 -0.975048762 -0.993497779 -1.013571573 -1.034926288
    [886] -1.057178344 -1.079914078 -1.102701379 -1.125103045 -1.146691461
##
##
    [891] -1.167064046 -1.185858814 -1.202769304 -1.217558068 -1.230067976
##
    [896] -1.240230616 -1.248071275 -1.253710155 -1.257359696 -1.259318183
##
    [901] -1.259959957 -1.259722822 -1.259093313 -1.258590590 -1.258749725
##
    [906] -1.260105087 -1.263174459 -1.268444397 -1.276357194 -1.287299737
##
    [911] -1.301594384 -1.319491947 -1.341166767 -1.366713842 -1.396147948
##
    [916] -1.429404653 -1.466343153 -1.506750826 -1.550349416 -1.596802714
##
    [921] -1.645725621 -1.696694393 -1.749257858 -1.802949320 -1.857298819
    [926] -1.911845356 -1.966148658 -2.019800028 -2.072431842 -2.123725273
##
##
    [931] -2.173415903 -2.221296981 -2.267220168 -2.311093798 -2.352878746
##
    [936] -2.392582182 -2.430249525 -2.465955027 -2.499791456 -2.531859311
##
    [941] -2.562256047 -2.591065701 -2.618349284 -2.644136214 -2.668417059
    [946] -2.691137742 -2.712195367 -2.731435778 -2.748652924 -2.763590106
##
    [951] -2.775943170 -2.785365667 -2.791476011 -2.793866585 -2.792114729
##
    [956] -2.785795428 -2.774495435 -2.757828463 -2.735450937 -2.707077709
##
    [961] -2.672497037 -2.631584102 -2.584312307 -2.530761710 -2.471124031
##
    [966] -2.405703886 -2.334916092 -2.259279151 -2.179405233 -2.095987165
##
    [971] -2.009783100 -1.921599601 -1.832273897 -1.742656038 -1.653591559
##
##
    [976] -1.565905188 -1.480385959 -1.397773986 -1.318749033 -1.243920892
    [981] -1.173821561 -1.108899101 -1.049513086 -0.995931526 -0.948329154
##
##
    [986] -0.906787026 -0.871293366 -0.841745671 -0.817954078 -0.799646049
    [991] -0.786472416 -0.778014830 -0.773794630 -0.773283094 -0.775912966
   [996] -0.781091067 -0.788211675 -0.796670279 -0.805877179 -0.815270357
##
## [1001] -0.824326955 -0.832572732 -0.839588925 -0.845016012 -0.848554112
## [1006] -0.849959896 -0.849040175 -0.845642526 -0.839643562 -0.830935635
## [1011] -0.819412870 -0.804957552 -0.787427841 -0.766647811 -0.742400650
## [1016] -0.714425756 -0.682420218 -0.646044965 -0.604935543 -0.558717194
## [1021] -0.507023551 -0.449517953 -0.385916089 -0.316008467 -0.239681111
## [1026] -0.156932934 -0.067888399 0.027195518
                                                 0.127928679
                                                               0.233793483
                                    0.575368055
## [1031]
          0.344156492 0.458285099
                                                  0.694538462
                                                              0.814897843
                       1.055573494
                                     1.174142067
                                                  1.290442185
## [1036]
          0.935539993
                                                               1.403737637
## [1041]
          1.513370949
                       1.618771755
                                     1.719462307
                                                  1.815060390
                                                               1.905279948
## [1046]
          1.989929694
                       2.068909980
                                     2.142208150
                                                  2.209892566
                                                               2.272105461
                      2.381004892
## [1051]
          2.329054748
                                     2.428266961
                                                  2.471187978
                                                               2.510139716
## [1056]
          2.545507127
                       2.577676612
                                     2.607024407
                                                  2.633905369
                                                               2.658642499
## [1061] 2.681517517 2.702762817 2.722555088 2.741010829 2.758183912
```

```
2.774065266 2.788584649
## [1066]
                                    2.801614389 2.812974890
                                                              2.822441634
## [1071]
          2.829753351 2.834621020
                                    2.836737354 2.835786444 2.831453265
## [1076]
          2.823432802
                       2.811438590
                                    2.795210530
                                                 2.774521874
                                                              2.749185310
          2.719058132 2.684046468
                                    2.644108571 2.599257185
                                                              2.549560973
## [1081]
## [1086]
          2.495145003 2.436190277
                                    2.372932261 2.305658380
                                                              2.234704433
## [1091]
          2.160449884 2.083312000
                                    2.003738842
                                                 1.922201127
                                                              1.839183070
          1.755172334
                      1.670649322
                                    1.586076087 1.501885222 1.418469144
## [1096]
## [1101]
          1.336170205
                      1.255272097
                                    1.175992969 1.098480622
                                                              1.022810072
          0.948983626 0.876933518
                                   0.806526975 0.737573499
## [1106]
                                                             0.669833998
## [1111]
          0.603031338
                       0.536861846  0.471007236  0.405146501  0.338967285
## [1116]
          0.272176364
                       ## [1121] -0.078844832 -0.153429970 -0.229574562 -0.307227964 -0.386299483
## [1126] -0.466664550 -0.548172054 -0.630652566 -0.713927089 -0.797815941
## [1131] -0.882147357 -0.966765342 -1.051536357 -1.136354423 -1.221144281
## [1136] -1.305862355 -1.390495334 -1.475056335 -1.559578727 -1.644107811
## [1141] -1.728690676 -1.813364669 -1.898144965 -1.983011826 -2.067898174
## [1146] -2.152678120 -2.237157136 -2.321064541 -2.404048972 -2.485677461
## [1151] -2.565438668 -2.642750737 -2.716974004 -2.787428614 -2.853416744
## [1156] -2.914248768 -2.969272329 -3.017902836 -3.059653627 -3.094163799
## [1161] -3.121221710 -3.140782343 -3.152977121 -3.158115356 -3.156677213
## [1166] -3.149298741 -3.136750162 -3.119909057 -3.099730302 -3.077214678
## [1171] -3.053377846 -3.029221150 -3.005705263 -2.983727340 -2.964101967
## [1176] -2.947545888 -2.934666288 -2.925952267 -2.921769081 -2.922354703
## [1181] -2.927818341 -2.938140598 -2.953175050 -2.972651155 -2.996178489
## [1186] -3.023252401 -3.053261282 -3.085495692 -3.119159611 -3.153384086
## [1191] -3.187243485 -3.219774435 -3.249997399 -3.276940574 -3.299665585
## [1196] -3.317294161 -3.329034729 -3.334207662 -3.332267848 -3.322823234
## [1201] -3.305648182 -3.280690782 -3.248073660 -3.208088281 -3.161183231
## [1206] -3.107947354 -3.049088922 -2.985412194 -2.917792739 -2.847152797
## [1211] -2.774437768 -2.700594658 -2.626553046 -2.553208869 -2.481411108
## [1216] -2.411951252 -2.345555331 -2.282878180 -2.224499605 -2.170922077
## [1221] -2.122569634 -2.079787682 -2.042843453 -2.011926906 -1.987151933
## [1226] -1.968557764 -1.956110516 -1.949704891 -1.949166038 -1.954251657
## [1231] -1.964654449 -1.980005025 -1.999875422 -2.023783397 -2.051197618
## [1236] -2.081543941 -2.114212839 -2.148568098 -2.183956748 -2.219720191
## [1241] -2.255206337 -2.289782502 -2.322848674 -2.353850722 -2.382292975
## [1246] -2.407749623 -2.429874360 -2.448407733 -2.463181781 -2.474121664
## [1251] -2.481244146 -2.484653004 -2.484531577 -2.481132856 -2.474767625
## [1256] -2.465791238 -2.454589665 -2.441565409 -2.427123858 -2.411660561
## [1261] -2.395549812 -2.379134843 -2.362719820 -2.346563755 -2.330876378
## [1266] -2.315815937 -2.301488863 -2.287951190 -2.275211577 -2.263235782
## [1271] -2.251952374 -2.241259473 -2.231032276 -2.221131085 -2.211409576
## [1276] -2.201722972 -2.191935845 -2.181929220 -2.171606718 -2.160899477
## [1281] -2.149769669 -2.138212475 -2.126256455 -2.113962349 -2.101420383
## [1286] -2.088746257 -2.076076050 -2.063560293 -2.051357534 -2.039627685
## [1291] -2.028525473 -2.018194284 -2.008760644 -2.000329573 -1.992980972
## [1296] -1.986767182 -1.981711769 -1.977809585 -1.975028061 -1.973309653
## [1301] -1.972575345 -1.972729005 -1.973662417 -1.975260723 -1.977408017
## [1306] -1.979992796 -1.982912960 -1.986080099 -1.989422766 -1.992888542
## [1311] -1.996444686 -2.000077277 -2.003788797 -2.007594184 -2.011515473
```

```
## [1316] -2.015575194 -2.019788779 -2.024156271 -2.028653679 -2.033224374
## [1321] -2.037770903 -2.042147679 -2.046154949 -2.049534505 -2.051967535
## [1326] -2.053075029 -2.052421079 -2.049519350 -2.043842883 -2.034837235
## [1331] -2.021936784 -2.004583785 -1.982249536 -1.954456750 -1.920802033
## [1336] -1.880977215 -1.834788215 -1.782170210 -1.723198027 -1.658091043
## [1341] -1.587212188 -1.511061153 -1.430262264 -1.345547856 -1.257738251
## [1346] -1.167719525 -1.076420310 -0.984788728 -0.893770389 -0.804288171
## [1351] -0.717224224 -0.633404435 -0.553585401 -0.478443781 -0.408567822
## [1356] -0.344450769 -0.286485883 -0.234962773 -0.190064812 -0.151867454
## [1361] -0.120337346 -0.095332212 -0.076601552 -0.063788311 -0.056431716
## [1366] -0.053971578 -0.055754371 -0.061041458 -0.069019781 -0.078815316
## [1371] -0.089509440 -0.100158228 -0.109814450 -0.117551782 -0.122490455
## [1376] -0.123823302 -0.120840899 -0.112954407 -0.099714677 -0.080826325
## [1381] -0.056155791 -0.025732777 0.010255023 0.051473507 0.097459207
         0.147640577 0.201362117 0.257909870 0.316536883
                                                             0.376487449
## [1386]
## [1391]
         0.437019178 0.497422252 0.557035470 0.615258962 0.671563636
## [1396]
          0.725497545 0.776689484 0.824850140 0.869771143
                                                             0.911322353
          0.949447684 0.984159720
                                   1.015533365
                                               1.043698711 1.068833293
## [1401]
          1.091153882 1.110907960
                                   1.128364986
## [1406]
                                               1.143807618
                                                             1.157523008
## [1411]
          1.169794328 1.180892675
                                    1.191069509
                                                 1.200549784
                                                             1.209525902
          1.218152629 1.226543072
                                   1.234765792 1.242843086
                                                             1.250750447
## [1416]
## [1421]
          1.258417159 1.265727960
                                   1.272525666
                                                1.278614628
                                                             1.283764882
                      1.290186351
                                   1.290870032
## [1426]
          1.287716838
                                               1.289450666
                                                            1.285602612
## [1431]
          1.278997098 1.269307328
                                   1.256213344
                                                1.239406605
                                                             1.218594269
          1.193503159 1.163883422
## [1436]
                                   1.129511897
                                                1.090195198
                                                             1.045772533
## [1441]
          0.996118281 0.941144333 0.880802217 0.815085009
                                                             0.744029017
          0.667715260 0.586270688 0.499869155 0.408732090
## [1446]
                                                             0.313128840
## [1451]
          ## [1456] -0.333263773 -0.448689265 -0.564808389 -0.680984677 -0.796559725
## [1461] -0.910859756 -1.023202982 -1.132907714 -1.239301170 -1.341728876
## [1466] -1.439564517 -1.532220101 -1.619156191 -1.699891994 -1.774015010
## [1471] -1.841189951 -1.901166602 -1.953786308 -1.998986791 -2.036805025
## [1476] -2.067377974 -2.090941059 -2.107824328 -2.118446388 -2.123306274
## [1481] -2.122973503 -2.118076655 -2.109290859 -2.097324609 -2.082906317
## [1486] -2.066771003 -2.049647485 -2.032246356 -2.015249011 -1.999297876
## [1491] -1.984987985 -1.972859947 -1.963394351 -1.957007578 -1.954049008
## [1496] -1.954799567 -1.959471565 -1.968209770 -1.981093666 -1.998140832
## [1501] -2.019311385 -2.044513407 -2.073609272 -2.106422753 -2.142746774
## [1506] -2.182351614 -2.224993364 -2.270422366 -2.318391360 -2.368663029
## [1511] -2.421016619 -2.475253339 -2.531200253 -2.588712430 -2.647673203
## [1516] -2.707992431 -2.769602797 -2.832454233 -2.896506676 -2.961721439
## [1521] -3.028051573 -3.095431630 -3.163767312 -3.232925497 -3.302725187
## [1526] -3.372929874 -3.443241865 -3.513299033 -3.582674447 -3.650879238
## [1531] -3.717368956 -3.781553549 -3.842810865 -3.900503411 -3.953997802
## [1536] -4.002686100 -4.046007988 -4.083472537 -4.114678198 -4.139329696
## [1541] -4.157250595 -4.168390613 -4.172827120 -4.170760726 -4.162505283
## [1546] -4.148473090 -4.129156386 -4.105106426 -4.076911511 -4.045175275
## [1551] -4.010496378 -3.973450537 -3.934575535 -3.894359633 -3.853233518
## [1556] -3.811565743 -3.769661446 -3.727763997 -3.686059150 -3.644681199
## [1561] -3.603720635 -3.563232767 -3.523246780 -3.483774742 -3.444820091
```

```
## [1566] -3.406385195 -3.368477651 -3.331115050 -3.294328053 -3.258161686
## [1571] -3.222674886 -3.187938406 -3.154031280 -3.121036107 -3.089033484
## [1576] -3.058095930 -3.028281681 -2.999628721 -2.972149405 -2.945825997
## [1581] -2.920607415 -2.896407414 -2.873104396 -2.850542974 -2.828537323
## [1586] -2.806876330 -2.785330408 -2.763659813 -2.741624181 -2.718992935
## [1591] -2.695556145 -2.671135353 -2.645593855 -2.618845935 -2.590864550
## [1596] -2.561687071 -2.531418743 -2.500233672 -2.468373268 -2.436142224
## [1601] -2.403902214 -2.372063622 -2.341075678 -2.311415411 -2.283575855
## [1606] -2.258053904 -2.235338177 -2.215897196 -2.200168080 -2.188545949
## [1611] -2.181374092 -2.178934986 -2.181442144 -2.189032819 -2.201761546
## [1616] -2.219594558 -2.242405126 -2.269969953 -2.301966787 -2.337973515
## [1621] -2.377469052 -2.419836418 -2.464368426 -2.510276419 -2.556702471
## [1626] -2.602735333 -2.647430287 -2.689832761 -2.729005296 -2.764057038
## [1631] -2.794174564 -2.818652512 -2.836922199 -2.848576354 -2.853388145
## [1636] -2.851323049 -2.842542532 -2.827399218 -2.806423847 -2.780304977
## [1641] -2.749862886 -2.716019438 -2.679765794 -2.642129721 -2.604144058
## [1646] -2.566817495 -2.531108485 -2.497902717 -2.467994265 -2.442070317
## [1651] -2.420699201 -2.404321354 -2.393242904 -2.387631540 -2.387514456
## [1656] -2.392778273 -2.403170939 -2.418305775 -2.437667897 -2.460623360
## [1661] -2.486431386 -2.514260024 -2.543205489 -2.572315256 -2.600614711
## [1666] -2.627136835 -2.650953995 -2.671210553 -2.687154633 -2.698167183
## [1671] -2.703786419 -2.703725863 -2.697884623 -2.686349040 -2.6669385584
## [1676] -2.647425502 -2.621042412 -2.590924454 -2.557842909 -2.522619239
## [1681] -2.486092342 -2.449087569 -2.412388644 -2.376713270 -2.342692858
## [1686] -2.310856489 -2.281619047 -2.255273307 -2.231985713 -2.211795561
## [1691] -2.194617368 -2.180246220 -2.168365987 -2.158560284 -2.150326119
## [1696] -2.143090093 -2.136226962 -2.129080273 -2.120984611 -2.111288831
## [1701] -2.099379492 -2.084703542 -2.066789227 -2.045264176 -2.019869692
## [1706] -1.990470450 -1.957059084 -1.919755440 -1.878800664 -1.834546581
## [1711] -1.787441154 -1.738010965 -1.686841803 -1.634558408 -1.581804368
## [1716] -1.529223005 -1.477439904 -1.427047536 -1.378592253 -1.332563758
## [1721] -1.289387023 -1.249416549 -1.212932789 -1.180140522 -1.151168991
## [1726] -1.126073578 -1.104838864 -1.087382890 -1.073562496 -1.063179610
## [1731] -1.055988364 -1.051702925 -1.050005893 -1.050557125 -1.053002793
## [1736] -1.056984470 -1.062147995 -1.068151862 -1.074674852 -1.081422628
## [1741] -1.088133041 -1.094579920 -1.100575185 -1.105969178 -1.110649196
## [1746] -1.114536297 -1.117580533 -1.119754834 -1.121047859 -1.121456149
## [1751] -1.120975979 -1.119595301 -1.117286191 -1.113998165 -1.109652723
## [1756] -1.104139431 -1.097313783 -1.088997037 -1.078978144 -1.067017782
## [1761] -1.052854461 -1.036212510 -1.016811699 -0.994378125 -0.968655886
## [1766] -0.939419025 -0.906483140 -0.869716041 -0.829046907 -0.784473390
## [1771] -0.736066291 -0.683971551 -0.628409447 -0.569671099 -0.508112519
## [1776] -0.444146585 -0.378233426 -0.310869752 -0.242577686 -0.173893628
## [1781] -0.105357607 -0.037503525 0.029149421 0.094103948 0.156890393
## [1786] 0.217070925 0.274242272 0.328037068 0.378123955
                                                              0.424206587
## [1791]
         0.466021720 0.503336551 0.535945507 0.563666633 0.586337776
## [1796]
         0.603812694 0.615957256 0.622645859 0.623758175
                                                              0.619176342
         0.608782676  0.592457981  0.570080512  0.541525617
## [1801]
                                                              0.506666096
## [1806]
         0.465373268 0.417518747 0.362976909 0.301628013
                                                              0.233361952
## [1811] 0.158082589 0.075712632 -0.013800985 -0.110481272 -0.214314947
```

```
## [1816] -0.325245844 -0.443168016 -0.567918622 -0.699270659 -0.836925676
## [1821] -0.980506599 -1.129550868 -1.283504144 -1.441714874 -1.603430128
## [1826] -1.767793149 -1.933843165 -2.100518022 -2.2666660289 -2.431027378
## [1831] -2.592306223 -2.749132823 -2.900116733 -3.043870224 -3.179041384
## [1836] -3.304350005 -3.418624584 -3.520838469 -3.610142905 -3.685894819
## [1841] -3.747677387 -3.795311995 -3.828860864 -3.848620416 -3.855106206
## [1846] -3.849030899 -3.831277136 -3.802867377 -3.764932657 -3.718682016
## [1851] -3.665373906 -3.606290520 -3.542715517 -3.475915299 -3.407123699
## [1856] -3.337529760 -3.268268187 -3.200411998 -3.134966922 -3.072867134
## [1861] -3.014971960 -2.962063249 -2.914843201 -2.873932435 -2.839868190
## [1866] -2.813102572 -2.794000769 -2.782839257 -2.779803979 -2.784988582
## [1871] -2.798392773 -2.819920952 -2.849381284 -2.886485431 -2.930849214
## [1876] -2.981994524 -3.039352797 -3.102270446 -3.170016559 -3.241793186
## [1881] -3.316748417 -3.393992310 -3.472615567 -3.551710574 -3.630394188
## [1886] -3.707831362 -3.783258460 -3.856004938 -3.925511987 -3.991346809
## [1891] -4.053211395 -4.110945027 -4.164520161 -4.214031859 -4.259681397
## [1896] -4.301755121 -4.340599917 -4.376596804 -4.410134238 -4.441582579
## [1901] -4.471271018 -4.499468038 -4.526366216 -4.552071945 -4.576600408
## [1906] -4.599875956 -4.621737817 -4.641950885 -4.660221153 -4.676215117
## [1911] -4.689582292 -4.699979748 -4.707097398 -4.710682631 -4.710562846
## [1916] -4.706664491 -4.699027402 -4.687813550 -4.673309658 -4.655923632
## [1921] -4.636175174 -4.614681319 -4.592137948 -4.569298505 -4.546951145
## [1926] -4.525895528 -4.506920257 -4.490781762 -4.478185196 -4.469767663
## [1931] -4.466083905 -4.467594412 -4.474655829 -4.487513452 -4.506295622
## [1936] -4.531009822 -4.561540364 -4.597647609 -4.638968771 -4.685020407
## [1941] -4.735202839 -4.788806761 -4.845022368 -4.902951326 -4.961621858
## [1946] -5.020007116 -5.077046828 -5.131671970 -5.182831933 -5.229523312
## [1951] -5.270819166 -5.305897309 -5.334066059 -5.354785862 -5.367685353
## [1956] -5.372570770 -5.369428089 -5.358417790 -5.339862754 -5.314230277
## [1961] -5.282109531 -5.244186081 -5.201215024 -5.153994264 -5.103339182
## [1966] -5.050059632 -4.994939929 -4.938722133 -4.882092688 -4.825672310
## [1971] -4.770008804 -4.715572492 -4.662753843 -4.611862942 -4.563130453
## [1976] -4.516709791 -4.472680270 -4.431051075 -4.391765919 -4.354708350
## [1981] -4.319707660 -4.286545400 -4.254962511 -4.224667070 -4.195342639
## [1986] -4.166657190 -4.138272500 -4.109853924 -4.081080337 -4.051654036
## [1991] -4.021310328 -3.989826500 -3.957029853 -3.922804491 -3.887096578
## [1996] -3.849917842 -3.811347140 -3.771530037 -3.730676386 -3.689056025
## [2001] -3.646992773 -3.604856976 -3.563056901 -3.522029295 -3.482229439
## [2006] -3.444120983 -3.408165854 -3.374814432 -3.344496189 -3.317610898
## [2011] -3.294520483 -3.275541552 -3.260938605 -3.250917908 -3.245622001
## [2016] -3.245124819 -3.249427424 -3.258454368 -3.272050727 -3.289979918
## [2021] -3.311922429 -3.337475646 -3.366155024 -3.397396863 -3.430562984
## [2026] -3.464947616 -3.499786749 -3.534270156 -3.567556202 -3.598789333
## [2031] -3.627120027 -3.651726668 -3.671838629 -3.686759569 -3.695889798
## [2036] -3.698746438 -3.694980150 -3.684387290 -3.666916665 -3.642670369
## [2041] -3.611898643 -3.574989119 -3.532451174 -3.484896450 -3.433016760
## [2046] -3.377560652 -3.319309837 -3.259056542 -3.197582615 -3.135640978
## [2051] -3.073939769 -3.013129328 -2.953791979 -2.896434446 -2.841482675
## [2056] -2.789278772 -2.740079765 -2.694057930 -2.651302430 -2.611822071
## [2061] -2.575549028 -2.542343426 -2.511998692 -2.484247654 -2.458769340
```

```
## [2066] -2.435196482 -2.413123682 -2.392116236 -2.371719535 -2.351468965
## [2071] -2.330900176 -2.309559546 -2.287014614 -2.262864242 -2.236748225
## [2076] -2.208356030 -2.177434416 -2.143793619 -2.107311930 -2.067938457
## [2081] -2.025694027 -1.980670188 -1.933026416 -1.882985661 -1.830828470
## [2086] -1.776885932 -1.721531771 -1.665173857 -1.608245458 -1.551196492
## [2091] -1.494485013 -1.438569122 -1.383899451 -1.330912324 -1.280023636
## [2096] -1.231623498 -1.186071620 -1.143693426 -1.104776835 -1.069569686
## [2101] -1.038277735 -1.011063181 -0.988043671 -0.969291756 -0.954834752
## [2106] -0.944654983 -0.938690409 -0.936835602 -0.938943090 -0.944825049
## [2111] -0.954255358 -0.966972004 -0.982679837 -1.001053672 -1.021741701
## [2116] -1.044369214 -1.068542566 -1.093853374 -1.119882868 -1.146206348
## [2121] -1.172397685 -1.198033798 -1.222699062 -1.245989568 -1.267517230
## [2126] -1.286913670 -1.303833901 -1.317959770 -1.329003185 -1.336709134
## [2131] -1.340858485 -1.341270595 -1.337805702 -1.330367080 -1.318902904
## [2136] -1.303407788 -1.283923876 -1.260541433 -1.233398825 -1.202681796
## [2141] -1.168621976 -1.131494575 -1.091615230 -1.049336044 -1.005040860
## [2146] -0.959139862 -0.912063649 -0.864256906 -0.816171860 -0.768261681
## [2151] -0.720974011 -0.674744769 -0.629992396 -0.587112641 -0.546474007
## [2156] -0.508413926 -0.473235715 -0.441206341 -0.412555012 -0.387472581
## [2161] -0.366111751 -0.348588021 -0.334981366 -0.325338549 -0.319676032
## [2166] -0.317983383 -0.320227097 -0.326354734 -0.336299253 -0.349983431
## [2171] -0.367324230 -0.388236988 -0.412639293 -0.440454417 -0.471614187
## [2176] -0.506061183 -0.543750177 -0.584648749 -0.628737041 -0.676006638
## [2181] -0.726458600 -0.780100691 -0.836943886 -0.896998249 -0.960268321
## [2186] -1.026748130 -1.096415987 -1.169229230 -1.245119051 -1.323985599
## [2191] -1.405693496 -1.490067941 -1.576891550 -1.665902091 -1.756791260
## [2196] -1.849204621 -1.942742857 -2.036964403 -2.131389554 -2.225506066
## [2201] -2.318776232 -2.410645353 -2.500551459 -2.587936040 -2.672255497
## [2206] -2.752992938 -2.829669887 -2.901857445 -2.969186440 -3.031356111
## [2211] -3.088140950 -3.139395404 -3.185056256 -3.225142631 -3.259753718
## [2216] -3.289064377 -3.313318971 -3.332823753 -3.347938250 -3.359066032
## [2221] -3.366645288 -3.371139519 -3.373028666 -3.372800869 -3.370944999
## [2226] -3.367944055 -3.364269440 -3.360376099 -3.356698469 -3.353647169
## [2231] -3.351606353 -3.350931631 -3.351948501 -3.354951204 -3.360201953
## [2236] -3.367930484 -3.378333895 -3.391576737 -3.407791341 -3.427078350
## [2241] -3.449507446 -3.475118251 -3.503921370 -3.535899549 -3.571008916
## [2246] -3.609180262 -3.650320298 -3.694312850 -3.741019929 -3.790282602
## [2251] -3.841921630 -3.895737804 -3.951511957 -4.009004625 -4.067955370
## [2256] -4.128081805 -4.189078381 -4.250615060 -4.312336023 -4.373858610
## [2261] -4.434772709 -4.494640879 -4.552999481 -4.609361087 -4.663218463
## [2266] -4.714050330 -4.761329049 -4.804530293 -4.843144599 -4.876690559
## [2271] -4.904729231 -4.926879196 -4.942831515 -4.952363783 -4.955352396
## [2276] -4.951782212 -4.941752879 -4.925481336 -4.903300168 -4.875651857
## [2281] -4.843079163 -4.806212186 -4.765752785 -4.722457179 -4.677117576
## [2286] -4.630543647 -4.583544546 -4.536912064 -4.491405345 -4.447737413
## [2291] -4.406563671 -4.368472346 -4.333976831 -4.303509766 -4.277418716
## [2296] -4.255963242 -4.239313233 -4.227548364 -4.220658571 -4.218545518
## [2301] -4.221025034 -4.227830570 -4.238617726 -4.252969969 -4.270405612
## [2306] -4.290386176 -4.312326173 -4.335604339 -4.359576240 -4.383588104
## [2311] -4.406991592 -4.429159151 -4.449499426 -4.467472167 -4.482601968
```

```
## [2316] -4.494490188 -4.502824429 -4.507385043 -4.508048296 -4.504785990
## [2321] -4.497661571 -4.486822940 -4.472492390 -4.454954245 -4.434540846
## [2326] -4.411617630 -4.386567978 -4.359778510 -4.331625372 -4.302462002
## [2331] -4.272608700 -4.242344267 -4.211899831 -4.181454949 -4.151135934
## [2336] -4.121016385 -4.091119770 -4.061423933 -4.031867323 -4.002356733
## [2341] -3.972776278 -3.942997313 -3.912888957 -3.882328849 -3.851213733
## [2346] -3.819469477 -3.787060108 -3.753995496 -3.720337364 -3.686203353
## [2351] -3.651768994 -3.617267498 -3.582987409 -3.549268244 -3.516494331
## [2356] -3.485087131 -3.455496355 -3.428190218 -3.403645171 -3.382335401
## [2361] -3.364722390 -3.351244729 -3.342308382 -3.338277497 -3.339465861
## [2366] -3.346129028 -3.358457162 -3.376568605 -3.400504195 -3.430222393
## [2371] -3.465595286 -3.506405589 -3.552344825 -3.603012889 -3.657919273
## [2376] -3.716486253 -3.778054369 -3.841890496 -3.907198796 -3.973134702
## [2381] -4.038821968 -4.103372597 -4.165909233 -4.225589293 -4.281629878
## [2386] -4.333332225 -4.380104336 -4.421480337 -4.457135244 -4.486894045
## [2391] -4.510734369 -4.528782508 -4.541303032 -4.548682721 -4.551409935
## [2396] -4.550050775 -4.545223537 -4.537572887 -4.527745094 -4.516365363
## [2401] -4.504018111 -4.491230707 -4.478460960 -4.466088449 -4.454409588
## [2406] -4.443636243 -4.433897589 -4.425244894 -4.417658828 -4.411058907
## [2411] -4.405314637 -4.400257890 -4.395696036 -4.391425296 -4.387243800
## [2416] -4.382963797 -4.378422496 -4.373491063 -4.368081362 -4.362150132
## [2421] -4.355700422 -4.348780220 -4.341478387 -4.333918114 -4.326248237
## [2426] -4.318632866 -4.311239801 -4.304228277 -4.297736572 -4.291869981
## [2431] -4.286689645 -4.282202669 -4.278353910 -4.275019801 -4.272004473
## [2436] -4.269038463 -4.265780176 -4.261820271 -4.256689018 -4.249866610
## [2441] -4.240796277 -4.228899920 -4.213595810 -4.194317739 -4.170534839
## [2446] -4.141771189 -4.107624200 -4.067780822 -4.022030659 -3.970275247
## [2451] -3.912533002 -3.848939633 -3.779744112 -3.705300618 -3.626057108
## [2456] -3.542541339 -3.455345281 -3.365108843 -3.272503770 -3.178218441
## [2461] -3.082944131 -2.987363094 -2.892138696 -2.797907612 -2.705274013
## [2466] -2.614805563 -2.527030967 -2.442438786 -2.361477229 -2.284554617
## [2471] -2.212040258 -2.144265484 -2.081524633 -2.024075816 -1.972141318
## [2476] -1.925907529 -1.885524350 -1.851104013 -1.822719321 -1.800401329
## [2481] -1.784136499 -1.773863419 -1.769469184 -1.770785586 -1.777585281
## [2486] -1.789578145 -1.806408092 -1.827650624 -1.852811499 -1.881326850
## [2491] -1.912565201 -1.945831766 -1.980375435 -2.015398759 -2.050071164
## [2496] -2.083545421 -2.114977229 -2.143547445 -2.168486245 -2.189098197
## [2501] -2.204786962 -2.215078182 -2.219639085 -2.218293410 -2.211030523
## [2506] -2.198008002 -2.179547430 -2.156123655 -2.128348253 -2.096948318
## [2511] -2.062741943 -2.026611832 -1.989478472 -1.952274056 -1.915918166
## [2516] -1.881295874 -1.849238681 -1.820508428 -1.795784121 -1.775651470
## [2521] -1.760594845 -1.750991316 -1.747106461 -1.749091661 -1.756982677
## [2526] -1.770699362 -1.790046502 -1.814715829 -1.844289362 -1.878244322
## [2531] -1.915959912 -1.956726311 -1.999756209 -2.044199184 -2.089159106
## [2536] -2.133714601 -2.176942363 -2.217942858 -2.255867646 -2.289947241
## [2541] -2.319518201 -2.344047960 -2.363155903 -2.376629282 -2.384432899
## [2546] -2.386711864 -2.383787271 -2.376145147 -2.364419529 -2.349370887
## [2551] -2.331861344 -2.312828201 -2.293257208 -2.274156799 -2.256534252
## [2556] -2.241374404 -2.229621281 -2.222162688 -2.219817664 -2.223326464
## [2561] -2.233342718 -2.250427317 -2.275043579 -2.307553303 -2.348213329
```

```
## [2566] -2.397172317 -2.454467523 -2.520021449 -2.593638330 -2.675000543
## [2571] -2.763665131 -2.859060787 -2.960485760 -3.067107307 -3.177963446
## [2576] -3.291967895 -3.407919135 -3.524514539 -3.640370411 -3.754048490
## [2581] -3.864089066 -3.969050275 -4.067552375 -4.158325048 -4.240254975
## [2586] -4.312430433 -4.374179361 -4.425097622 -4.465064812 -4.494246085
## [2591] -4.513079790 -4.522252082 -4.522660875 -4.515372301 -4.501573196
## [2596] -4.482523052 -4.459508378 -4.433801728 -4.406626858 -4.379130705
## [2601] -4.352362261 -4.327257929 -4.304632636 -4.285175847 -4.269451558
## [2606] -4.257901410 -4.250850152 -4.248512805 -4.251002995 -4.258342042
## [2611] -4.270468481 -4.287247762 -4.308481958 -4.333919295 -4.363263396
## [2616] -4.396182109 -4.432315777 -4.471284855 -4.512696725 -4.556151598
## [2621] -4.601247390 -4.647583486 -4.694763328 -4.742395816 -4.790095560
## [2626] -4.837482089 -4.884178159 -4.929807417 -4.973991687 -5.016348234
## [2631] -5.056487375 -5.094010841 -5.128511286 -5.159573298 -5.186776219
## [2636] -5.209698992 -5.227927109 -5.241061619 -5.248729961 -5.250598238
## [2641] -5.246384349 -5.235871310 -5.218919940 -5.195480097 -5.165599666
## [2646] -5.129430622 -5.087231649 -5.039367053 -4.986301934 -4.928593864
## [2651] -4.866881510 -4.801870839 -4.734319647 -4.665021163 -4.594787491
## [2656] -4.524433528 -4.454761906 -4.386549339 -4.320534651 -4.257408579
## [2661] -4.197805377 -4.142296148 -4.091383740 -4.045499062 -4.004998599
## [2666] -3.970162964 -3.941196287 -3.918226322 -3.901305134 -3.890410288
## [2671] -3.885446509 -3.886247779 -3.892579897 -3.904143562 -3.920578017
## [2676] -3.941465373 -3.966335660 -3.994672730 -4.025921053 -4.059493461
## [2681] -4.094779839 -4.131156724 -4.167997688 -4.204684345 -4.240617724
## [2686] -4.275229704 -4.307994144 -4.338437311 -4.366147204 -4.390781369
## [2691] -4.412072881 -4.429834226 -4.443958919 -4.454420822 -4.461271219
## [2696] -4.464633855 -4.464698208 -4.461711337 -4.455968718 -4.447804452
## [2701] -4.437581232 -4.425680419 -4.412492510 -4.398408215 -4.383810306
## [2706] -4.369066325 -4.354522180 -4.340496634 -4.327276635 -4.315113433
## [2711] -4.304219419 -4.294765616 -4.286879776 -4.280645044 -4.276099178
## [2716] -4.273234335 -4.271997448 -4.272291265 -4.273976103 -4.276872408
## [2721] -4.280764205 -4.285403503 -4.290515712 -4.295806099 -4.300967246
## [2726] -4.305687425 -4.309659750 -4.312591866 -4.314215892 -4.314298255
## [2731] -4.312649003 -4.309130180 -4.303662811 -4.296232129 -4.286890688
## [2736] -4.275759154 -4.263024627 -4.248936519 -4.233800109 -4.217968012
## [2741] -4.201829910 -4.185800922 -4.170309069 -4.155782253 -4.142635184
## [2746] -4.131256621 -4.121997281 -4.115158671 -4.110983108 -4.109645090
## [2751] -4.111244205 -4.115799711 -4.123246941 -4.133435666 -4.146130571
## [2756] -4.161013991 -4.177691042 -4.195697270 -4.214508858 -4.233555386
## [2761] -4.252234979 -4.269931583 -4.286033896 -4.299955332 -4.311154217
## [2766] -4.319153315 -4.323557660 -4.324069734 -4.320501087 -4.312779713
## [2771] -4.300952719 -4.285184198 -4.265748471 -4.243019239 -4.217455385
## [2776] -4.189584350 -4.159984100 -4.129264653 -4.098050074 -4.066961677
## [2781] -4.036603016 -4.007547015 -3.980325469 -3.955420914 -3.933260813
## [2786] -3.914213827 -3.898587954 -3.886630205 -3.878527526 -3.874408625
## [2791] -3.874346421 -3.878360801 -3.886421434 -3.898450405 -3.914324452
## [2796] -3.933876661 -3.956897471 -3.983134931 -4.012294171 -4.044036125
## [2801] -4.077975618 -4.113678970 -4.150661390 -4.188384479 -4.226254247
## [2806] -4.263620139 -4.299775588 -4.333960659 -4.365367358 -4.393148072
## [2811] -4.416427551 -4.434318593 -4.445941382 -4.450446066 -4.447037831
```

```
## [2816] -4.435003336 -4.413737072 -4.382765968 -4.341770522 -4.290600810
## [2821] -4.229286083 -4.158037086 -4.077240864 -3.987448408 -3.889356094
## [2826] -3.783782291 -3.671640798 -3.553912851 -3.431619333 -3.305794594
## [2831] -3.177462947 -3.047618575 -2.917209199 -2.787123600 -2.658182808
## [2836] -2.531134640 -2.406651128 -2.285328371 -2.167688306 -2.054181933
## [2841] -1.945193585 -1.841045858 -1.742004916 -1.648285899 -1.560058249
## [2846] -1.477450803 -1.400556531 -1.329436859 -1.264125527 -1.204631957
## [2851] -1.150944142 -1.103031072 -1.060844728 -1.024321698 -0.993384457
## [2856] -0.967942384 -0.947892577 -0.933120532 -0.923500746 -0.918897322
## [2861] -0.919164613 -0.924147961 -0.933684572 -0.947604532 -0.965731993
## [2866] -0.987886497 -1.013884425 -1.043540521 -1.076669426 -1.113087142
## [2871] -1.152612344 -1.195067437 -1.240279254 -1.288079304 -1.338303478
## [2876] -1.390791136 -1.445383541 -1.501921608 -1.560242989 -1.620178558
## [2881] -1.681548390 -1.744157386 -1.807790739 -1.872209467 -1.937146307
## [2886] -2.002302265 -2.067344167 -2.131903544 -2.195577196 -2.257929734
## [2891] -2.318498352 -2.376799988 -2.432340919 -2.484628684 -2.533186047
## [2896] -2.577566548 -2.617370970 -2.652263933 -2.681989666 -2.706385998
## [2901] -2.725395631 -2.739073875 -2.747592240 -2.751237568 -2.750406666
## [2906] -2.745596723 -2.737392087 -2.726448146 -2.713473226 -2.699209446
## [2911] -2.684413417 -2.669837595 -2.656212932 -2.644233310 -2.634542064
## [2916] -2.627720773 -2.624280333 -2.624654264 -2.629194126 -2.638166876
## [2921] -2.651753998 -2.670052235 -2.693075769 -2.720759707 -2.752964773
## [2926] -2.789483091 -2.830044975 -2.874326622 -2.921958609 -2.972535055
## [2931] -3.025623278 -3.080773760 -3.137530167 -3.195439147 -3.254059612
## [2936] -3.312971195 -3.371781557 -3.430132298 -3.487703221 -3.544214827
## [2941] -3.599428956 -3.653147624 -3.705210198 -3.755489131 -3.803884570
## [2946] -3.850318216 -3.894726824 -3.937055774 -3.977253089 -4.015264262
## [2951] -4.051028189 -4.084474413 -4.115521816 -4.144078813 -4.170044975
## [2956] -4.193313974 -4.213777635 -4.231330810 -4.245876777 -4.257332812
## [2961] -4.265635583 -4.270746038 -4.272653504 -4.271378756 -4.266975899
## [2966] -4.259533002 -4.249171478 -4.236044320 -4.220333332 -4.202245609
## [2971] -4.182009476 -4.159870187 -4.136085625 -4.110922238 -4.084651421
## [2976] -4.057546481 -4.029880274 -4.001923568 -3.973944096 -3.946206241
## [2981] -3.918971261 -3.892497894 -3.867043208 -3.842863525 -3.820215250
## [2986] -3.799355454 -3.780542075 -3.764033608 -3.750088216 -3.738962185
## [2991] -3.730907699 -3.726169939 -3.724983527 -3.727568357 -3.734124903
## [2996] -3.744829066 -3.759826675 -3.779227753 -3.803100663 -3.831466283
## [3001] -3.864292356 -3.901488180 -3.942899831 -3.988306137 -4.037415631
## [3006] -4.089864758 -4.145217613 -4.202967510 -4.262540690 -4.323302406
## [3011] -4.384565634 -4.445602500 -4.505658429 -4.563968819 -4.619777857
## [3016] -4.672358857 -4.721035283 -4.765201446 -4.804341715 -4.838047060
## [3021] -4.866027826 -4.888121825 -4.904297107 -4.914649188 -4.919392860
## [3026] -4.918849153 -4.913428288 -4.903609750 -4.889920681 -4.872913838
## [3031] -4.853146248 -4.831159526 -4.807462643 -4.782517666 -4.756728822
## [3036] -4.730435008 -4.703905745 -4.677340424 -4.650870610 -4.624565087
## [3041] -4.598437284 -4.572454659 -4.546549599 -4.520631349 -4.494598454
## [3046] -4.468351201 -4.441803524 -4.414893874 -4.387594586 -4.359919344
## [3051] -4.331928443 -4.303731646 -4.275488564 -4.247406614 -4.219736706
## [3056] -4.192766956 -4.166814740 -4.142217530 -4.119322886 -4.098478066
## [3061] -4.080019616 -4.064263297 -4.051494646 -4.041960404 -4.035861000
```

```
## [3066] -4.033344234 -4.034500250 -4.039357878 -4.047882406 -4.059974807
## [3071] -4.075472473 -4.094151478 -4.115730382 -4.139875600 -4.166208294
## [3076] -4.194312736 -4.223746049 -4.254049122 -4.284758491 -4.315418834
## [3081] -4.345595706 -4.374888031 -4.402939872 -4.429450930 -4.454185287
## [3086] -4.476977944 -4.497738794 -4.516453822 -4.533183426 -4.548057955
## [3091] -4.561270668 -4.573068462 -4.583740821 -4.593607475 -4.603005314
## [3096] -4.612275060 -4.621748190 -4.631734523 -4.642510832 -4.654310772
## [3101] -4.667316335 -4.681651018 -4.697374811 -4.714481111 -4.732895631
## [3106] -4.752477341 -4.773021487 -4.794264682 -4.815892042 -4.837546274
## [3111] -4.858838578 -4.879361116 -4.898700713 -4.916453356 -4.932238952
## [3116] -4.945715718 -4.956593534 -4.964645570 -4.969717538 -4.971734020
## [3121] -4.970701466 -4.966707627 -4.959917415 -4.950565376 -4.938945169
## [3126] -4.925396588 -4.910290786 -4.894014424 -4.876953457 -4.859477265
## [3131] -4.841923746 -4.824585922 -4.807700501 -4.791438772 -4.775900097
## [3136] -4.761108223 -4.747010541 -4.733480391 -4.720322402 -4.707280830
## [3141] -4.694050711 -4.680291587 -4.665643390 -4.649743948 -4.632247439
## [3146] -4.612842984 -4.591272471 -4.567346686 -4.540958835 -4.512094650
## [3151] -4.480838458 -4.447374828 -4.411985671 -4.375042980 -4.336997637
## [3156] -4.298364930 -4.259707576 -4.221617103 -4.184694441 -4.149530497
## [3161] -4.116687384 -4.086680823 -4.059964107 -4.036913867 -4.017817802
## [3166] -4.002864425 -3.992134867 -3.985596752 -3.983100186 -3.984375921
## [3171] -3.989035845 -3.996575943 -4.006381973 -4.017738066 -4.029838477
## [3176] -4.041802632 -4.052693488 -4.061539068 -4.067356783 -4.069179885
## [3181] -4.066085131 -4.057220470 -4.041831398 -4.019284525 -3.989086968
## [3186] -3.950900422 -3.904549059 -3.850020908 -3.787462840 -3.717169789
## [3191] -3.639569218 -3.555202137 -3.464702106 -3.368773610 -3.268171071
## [3196] -3.163679505 -3.056097526 -2.946223143 -2.834842470 -2.722721286
## [3201] -2.610599179 -2.499185922 -2.389159637 -2.281166334 -2.175820379
## [3206] -2.073705542 -1.975376281 -1.881359026 -1.792153251 -1.708232213
## [3211] -1.630043251 -1.558007623 -1.492519845 -1.433946547 -1.382624883
## [3216] -1.338860507 -1.302925161 -1.275053913 -1.255442058 -1.244241736
## [3221] -1.241558265 -1.247446229 -1.261905338 -1.284876100 -1.316235338
## [3226] -1.355791636 -1.403280790 -1.458361401 -1.520610787 -1.589521439
## [3231] -1.664498311 -1.744857296 -1.829825303 -1.918542402 -2.010066542
## [3236] -2.103381340 -2.197407398 -2.291017496 -2.383055829 -2.472361192
## [3241] -2.557793697 -2.638264211 -2.712765310 -2.780402210 -2.840421840
## [3246] -2.892238152 -2.935451855 -2.969863081 -2.995475988 -3.012494969
## [3251] -3.021312806 -3.022491776 -3.016739194 -3.004879221 -2.987822838
## [3256] -2.966537811 -2.942020189 -2.915268528 -2.887261641 -2.858940280
## [3261] -2.831192843 -2.804844899 -2.780652202 -2.759296694 -2.741384983
## [3266] -2.727448783 -2.717946806 -2.713267677 -2.713733481 -2.719603635
## [3271] -2.731078799 -2.748304650 -2.771375329 -2.800336462 -2.835187646
## [3276] -2.875884360 -2.922339252 -2.974422787 -3.031963277 -3.094746301
## [3281] -3.162513582 -3.234961405 -3.311738666 -3.392444720 -3.476627215
## [3286] -3.563780134 -3.653342346 -3.744696992 -3.837172085 -3.930042746
## [3291] -4.022535484 -4.113834960 -4.203093563 -4.289444085 -4.372015562
## [3296] -4.449952178 -4.522434832 -4.588704696 -4.648087751 -4.700019067
## [3301] -4.744065378 -4.779944450 -4.807539821 -4.826909748 -4.838289561
## [3306] -4.842087144 -4.838871743 -4.829356838 -4.814378185 -4.794868421
## [3311] -4.771829705 -4.746305849 -4.719355198 -4.692025272 -4.665329895
```

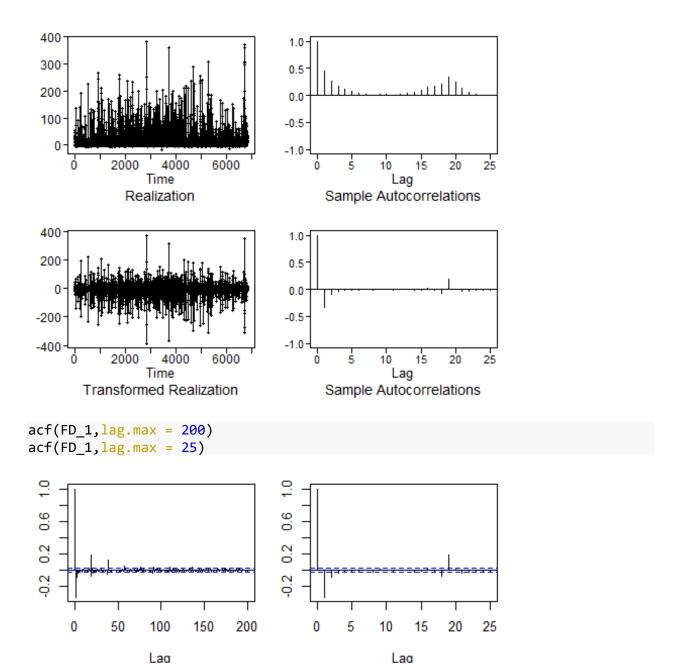
```
## [3316] -4.640229218 -4.617612798 -4.598285663 -4.582957153 -4.572232205
## [3321] -4.566604751 -4.566452836 -4.572035181 -4.583488907 -4.600828272
## [3326] -4.623944350 -4.652605666 -4.686459946 -4.725037179 -4.767754338
## [3331] -4.813922101 -4.862754006 -4.913378432 -4.964853737 -5.016186769
## [3336] -5.066354749 -5.114330286 -5.159108930 -5.199738354 -5.235347897
## [3341] -5.265176943 -5.288600454 -5.305149977 -5.314528638 -5.316619015
## [3346] -5.311483284 -5.299355647 -5.280627644 -5.255827474 -5.225594828
## [3351] -5.190652940 -5.151779568 -5.109778486 -5.065452785 -5.019580966
## [3356] -4.972896456 -4.926070881 -4.879701122 -4.834300040 -4.790290567
## [3361] -4.748002824 -4.707673907 -4.669449951 -4.633390184 -4.599472661
## [3366] -4.567601462 -4.537615149 -4.509296314 -4.482382060 -4.456575253
## [3371] -4.431556366 -4.406995708 -4.382565794 -4.357953565 -4.332872148
## [3376] -4.307071804 -4.280349726 -4.252558331 -4.223611767 -4.193490374
## [3381] -4.162242952 -4.129986760 -4.096905282 -4.063243888 -4.029303612
## [3386] -3.995433324 -3.962020642 -3.929481929 -3.898251735 -3.868772018
## [3391] -3.841481424 -3.816804885 -3.795143713 -3.776866326 -3.762299702
## [3396] -3.751721602 -3.745353590 -3.743354849 -3.745816813 -3.752758615
## [3401] -3.764123391 -3.779775505 -3.799498805 -3.822996034 -3.849889594
## [3406] -3.879723861 -3.911969308 -3.946028658 -3.981245305 -4.016914163
## [3411] -4.052295030 -4.086628416 -4.119153619 -4.149128636 -4.175851293
## [3416] -4.198680758 -4.217058454 -4.230527270 -4.238747957 -4.241511688
```

Model 1

Difference the data for average flight delays

Looks close to white noise after differenced

```
FD 1 = artrans.wge(flightdf$avg dep delay,1)
```



$(1-B^19)Xt=at$

```
FD_1_19 = artrans.wge(FD_1, phi.tr = c(rep(0,18),1))
```

```
400
                                     1.0-
 200
                                     0.5
    0
                                     0.0
 -200
                                    -0.5
                                    -1.0 -
 -400
            2000
                   4000
                          6000
                                                  10
                                                            20
                 Time
                                                    Lag
              Realization
                                          Sample Autocorrelations
                                     1.0
 400
 200
                                     0.5
                                     0.0
 -200
                                    -0.5
 -400
 -600
                                    -1.0
            2000
                   4000
                          6000
                                             5
                                                  10
                                                       15
                                                            20
                                                                 25
                 Time
                                                    Lag
                                          Sample Autocorrelations
       Transformed Realization
aic5.wge(FD_1_19)
## -----WORKING... PLEASE WAIT...
##
##
## Five Smallest Values of aic
##
                        aic
              q
        0
              1
                  7.114578
##
##
        5
              0
                  7.132675
##
        4
             0
                  7.146099
##
        3
              0
                  7.169307
##
              0
                  7.210373
aic5.wge(FD_1_19, type = "bic")
## -----WORKING... PLEASE WAIT...
##
##
## Five Smallest Values of bic
                        bic
##
        р
              q
              1
##
        0
                  7.116580
##
        5
              0
                  7.138682
##
                  7.151104
             0
```

3 0 7.173311 ## 2 0 7.213376