

Knowledge Quiz 1

Solveig Senf

Please answer the following questions, render a pdf, and submit via Moodle by 11 PM on Thurs Mar 6.

Guidelines:

- No consulting with anyone else (other than clarification questions from Professor Roith)
- You may use only materials from this class (our class webpage, links on Moodle, our 3 online textbooks, files posted to the RStudio server)
- No online searches or use of large language models like ChatGPT

Pledge:

I pledge my honor that on this quiz I have neither given nor received assistance not explicitly approved by the professor and that I am aware of no dishonest work.

- type your name here to acknowledge the pledge: Solveig Senf
- OR
- place an X here if you intentionally are not signing the pledge: _____

```
library(tidyverse)
```

1. Here is a crazy list that tells you some stuff about data science. Give code that will produce **exactly** the following outputs.

```
data_sci <- list(  
  first = c("first it must work", "then it can be" , "pretty"),  
  DRY = c("Do not", "Repeat", "Yourself"),  
  dont_forget = c("garbage", "in", "out"),  
  our_first_tibble = mpg,  
  integers = 1:25,  
  doubles = sqrt(1:25),  
  tidyverse = c(pack1 = "ggplot2",
```

```

        pack2 = "dplyr",
        pack3 = "lubridate",
        etc = "and more!"),
  opinion = list("SDS 264 is",
               c("awesome!", "amazing!", "rainbows!"))
)

str(data_sci)

```

List of 8

```

$ first      : chr [1:3] "first it must work" "then it can be" "pretty"
$ DRY        : chr [1:3] "Do not" "Repeat" "Yourself"
$ dont_forget : chr [1:3] "garbage" "in" "out"
$ our_first_tibble: tibble [234 x 11] (S3: tbl_df/tbl/data.frame)
..$ manufacturer: chr [1:234] "audi" "audi" "audi" "audi" ...
..$ model       : chr [1:234] "a4" "a4" "a4" "a4" ...
..$ displ      : num [1:234] 1.8 1.8 2 2 2.8 2.8 3.1 1.8 1.8 2 ...
..$ year       : int [1:234] 1999 1999 2008 2008 1999 1999 2008 1999 1999 2008 ...
..$ cyl       : int [1:234] 4 4 4 4 6 6 6 4 4 4 ...
..$ trans      : chr [1:234] "auto(l5)" "manual(m5)" "manual(m6)" "auto(av)" ...
..$ drv       : chr [1:234] "f" "f" "f" "f" ...
..$ cty       : int [1:234] 18 21 20 21 16 18 18 18 16 20 ...
..$ hwy       : int [1:234] 29 29 31 30 26 26 27 26 25 28 ...
..$ fl       : chr [1:234] "p" "p" "p" "p" ...
..$ class     : chr [1:234] "compact" "compact" "compact" "compact" ...
$ integers    : int [1:25] 1 2 3 4 5 6 7 8 9 10 ...
$ doubles     : num [1:25] 1 1.41 1.73 2 2.24 ...
$ tidyverse   : Named chr [1:4] "ggplot2" "dplyr" "lubridate" "and more!"
..- attr(*, "names")= chr [1:4] "pack1" "pack2" "pack3" "etc"
$ opinion      :List of 2
..$ : chr "SDS 264 is"
..$ : chr [1:3] "awesome!" "amazing!" "rainbows!"

```

a)

```

data_sci[["first"]]

[1] "first it must work" "then it can be"      "pretty"

```

b)

```
data_sci$DRY
```

```
[1] "Do not" "Repeat" "Yourself"
```

c)

```
data_sci[[5]] * 2
```

```
[1] 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
```

d)

```
data_sci[[8]][[2]][[3]]
```

```
[1] "rainbows!"
```

e)

```
data_sci[[3]][c(1, 2, 1, 3)]
```

```
[1] "garbage" "in" "garbage" "out"
```

f)

```
data_sci[[4]][c(9,8)]
```

```
# A tibble: 234 x 2
```

```
  hwy   cty  
  <int> <int>
```

```
1    29    18  
2    29    21  
3    31    20  
4    30    21  
5    26    16  
6    26    18  
7    27    18  
8    26    18  
9    25    16  
10   28    20
```

```
# ... with 224 more rows
```

2. Write a function called `summary_stats()` that allows a user to input a tibble, numeric variables in that tibble, and summary statistics that they would like to see for each variable. Using `across()`, the function's output should look like the example below when you run it with the following inputs.

```
summary_stats <- function(data, vars, stat_fcts) {  
  data |>  
    summarize(  
      across({{ vars }},  
        list(  
          mean = \(x) mean(x, na.rm = TRUE),  
          median = \(x) median(x, na.rm = TRUE),  
          sd = \(x) sd(x, na.rm = TRUE),  
          IQR = \(x) IQR(x, na.rm = TRUE)  
        ),  
      .names = "{.col}_{.fn}"  
    ),  
    n = n(),  
  )  
}  
  
summary_stats(mtcars,  
  vars = c(mpg, hp, wt),  
  stat_fcts = list(mean = mean,  
                    median = median,  
                    sd = sd,  
                    IQR = IQR))  
  
# mpg_mean mpg_median mpg_sd mpg_IQR hp_mean hp_median hp_sd hp_IQR wt_mean  
# 1 20.09062      19.2 6.026948  7.375 146.6875      123 68.56287  83.5 3.21725  
# wt_median wt_sd wt_IQR n  
# 1      3.325 0.9784574 1.02875 32
```

3. The Central Limit Theorem is one of the most amazing results in all of mathematics. It says that if you take random samples from any population, if the sample size is large enough, the sample means will follow a normal distribution. This is true no matter how not-normal the original population is - crazy but true!! Let's explore the CLT in two steps.
- a) Write a for loop that takes 10,000 samples of size 30 from a skewed distribution and then plots the 10,000 means in a histogram to let us see if the histogram follows a normal distribution. Here are a couple of hints:

- `rexp(30, rate = 0.2)` will produce a random sample of size 30 from a skewed distribution
- `tibble(x = x)` will take a vector `x` and turn it into a column of a tibble that can be used in `ggplot`

```
clt_loop <- vector("double", 10000)
for (i in 1:10000) {
  n <- rexp(30, rate = 0.2)
  clt_loop[[i]] = mean(n)
}
clt_loop
```

```
[1] 4.631046 5.572972 5.650356 4.439991 5.994010 9.630876 4.095635 5.189302
[9] 4.464076 4.214427 4.487304 6.063254 5.743527 3.788247 6.330339 3.629516
[17] 5.338835 4.987069 4.694057 3.899708 3.282893 4.565914 4.366092 4.545740
[25] 4.629418 5.210340 4.745262 3.870486 5.581865 5.277198 4.701474 5.015020
[33] 4.105149 4.200221 5.224249 5.408654 6.215259 5.799361 4.871229 3.683826
[41] 7.254677 4.535567 3.512177 4.585518 5.126080 5.458543 3.997468 5.697238
[49] 6.830823 5.039645 3.606027 4.878829 4.955215 4.041876 4.591954 5.423114
[57] 4.829777 4.174634 5.874564 4.565637 5.409012 5.164799 6.036113 4.085641
[65] 6.338562 5.373961 3.489466 5.326169 5.409570 6.548581 3.895247 4.023063
[73] 6.142660 5.806525 5.229122 5.069365 6.867276 4.913138 4.828088 5.135920
[81] 5.487766 4.886206 5.653600 4.126479 6.617457 4.600647 4.206717 3.681975
[89] 4.167084 6.381607 4.516106 4.736111 6.325358 6.540848 5.612562 5.322249
[97] 3.851748 7.158358 5.457275 5.491289 3.747755 4.239209 5.088083 5.029521
[105] 4.574653 3.760249 5.463213 4.004367 3.852023 5.141299 5.278155 5.928265
[113] 5.064240 4.346398 4.013742 4.820900 6.379873 7.374257 4.241776 6.119255
[121] 4.985263 3.273755 4.286183 5.512305 4.429023 7.110804 6.468391 5.986568
[129] 3.902788 5.088673 3.304181 5.834567 4.262846 3.763432 4.803652 4.248501
[137] 8.123743 4.678761 4.384065 6.843511 3.993112 5.730507 6.687281 5.204432
[145] 4.526333 3.696883 4.309888 6.107834 3.419366 5.695090 4.722224 4.100327
[153] 4.306889 4.758685 6.915223 5.195300 4.715073 6.224103 4.727246 6.019988
[161] 6.528822 5.714293 5.622321 5.361542 4.479498 5.148507 4.751869 5.052872
[169] 4.005723 4.474393 5.663864 3.388673 6.327279 5.126097 5.554425 4.556302
[177] 3.681956 6.866264 4.401922 4.246723 4.666100 4.823066 4.125348 3.241886
[185] 4.174420 5.867756 5.663538 3.518525 5.341615 6.140624 3.849272 4.152097
[193] 4.974910 3.728047 6.307836 4.404704 5.982466 5.583983 5.573924 5.652041
[201] 4.170694 6.529418 3.600771 3.745187 5.529725 6.208289 3.206319 5.935265
[209] 5.536282 4.952442 3.914358 5.035974 4.972462 3.642596 4.101385 4.292331
[217] 5.200224 4.782902 4.852221 4.717224 5.050305 4.445057 5.341003 4.264237
[225] 3.681587 3.977443 4.424881 3.010522 4.746619 6.479242 5.847876 4.961027
[233] 5.944729 7.088573 3.820499 4.178289 5.265242 6.039264 7.087331 3.299357
```

[241] 4.884574 5.961935 4.433655 4.899030 5.393641 5.417789 4.608004 5.389011
 [249] 3.655231 5.178742 6.380228 5.150203 4.698252 5.765293 6.136516 3.481858
 [257] 3.371523 4.887733 4.538816 3.431038 4.449130 4.135919 3.317148 5.053847
 [265] 4.864111 5.229414 7.906674 3.945072 4.981696 6.344140 4.499465 4.339073
 [273] 7.373262 6.114072 4.607223 4.926941 4.177684 4.529069 6.321722 4.604488
 [281] 4.741962 4.525300 4.761705 4.721467 5.199984 6.091839 5.601640 3.901988
 [289] 6.546830 4.998174 4.298017 5.958475 5.066952 4.768038 5.318972 4.253614
 [297] 4.583230 6.650755 4.238241 7.985990 5.316060 5.013804 4.376608 5.158444
 [305] 4.654270 5.241465 3.450451 5.191649 5.998883 5.449524 5.960441 4.328330
 [313] 3.996253 5.567005 6.902257 4.918153 4.288958 4.919560 3.228688 6.277748
 [321] 4.335833 4.478171 6.630900 6.201962 4.899113 5.411294 5.157202 6.729101
 [329] 4.983543 7.855327 6.001502 4.313953 5.416191 4.239680 5.458572 4.329193
 [337] 4.196411 5.747318 5.150528 7.173398 5.566647 3.841113 5.659475 5.498155
 [345] 6.039051 4.978149 4.704778 4.707640 5.906285 4.795190 4.589092 4.903695
 [353] 5.227971 3.750769 5.722853 5.753776 5.973958 4.714279 6.911532 3.768074
 [361] 7.742364 6.502841 4.279458 5.124191 6.196030 6.351098 5.588092 4.397685
 [369] 3.841171 2.641072 3.917319 6.214729 4.557035 3.821883 4.038884 4.314485
 [377] 4.233374 4.741151 5.719135 4.182469 4.366050 5.277113 4.389928 4.869250
 [385] 4.415193 6.399927 4.037264 5.505730 5.794720 6.032537 5.438054 5.302282
 [393] 5.453423 4.209404 6.207714 4.753724 5.267763 5.056040 6.848927 6.761713
 [401] 3.855324 4.343141 5.441588 3.762732 4.407468 4.937684 4.187780 6.124651
 [409] 5.563181 4.863648 5.555063 3.432671 5.958787 3.021488 3.757380 5.086963
 [417] 4.960930 4.958419 6.329134 3.469025 3.717175 5.473602 5.267023 4.906721
 [425] 5.117194 8.896004 4.203625 4.089468 4.656550 5.265561 6.430937 5.035650
 [433] 4.639565 4.142176 8.472548 5.573466 4.510913 5.006390 3.906289 6.341972
 [441] 5.402529 4.081606 5.193808 4.440073 4.705564 4.590718 4.201757 4.245752
 [449] 6.130821 6.274539 4.996683 6.117015 5.745222 4.803314 5.172898 5.325898
 [457] 6.075032 4.911278 6.214591 4.125847 5.628125 5.277614 4.659829 4.381105
 [465] 5.372730 4.579290 4.550887 5.288463 3.886023 4.458402 4.769940 4.588282
 [473] 5.040742 5.056074 5.510702 6.674151 4.992301 5.272252 3.985211 5.542483
 [481] 4.364848 4.373477 5.506254 4.385231 5.789130 4.513690 4.492801 4.528807
 [489] 3.770109 5.110302 5.555036 5.610776 4.592417 4.401959 4.531217 4.687221
 [497] 4.441145 4.696935 3.776270 3.532199 4.920705 5.319013 3.710082 5.931048
 [505] 5.603207 6.863093 6.344121 5.534491 5.129239 5.092569 4.843951 5.704220
 [513] 5.612837 5.000729 4.092512 4.540084 5.850814 4.581879 4.289453 4.601016
 [521] 5.016077 3.871936 4.589303 5.695469 5.192268 5.725407 4.788151 4.673091
 [529] 6.077324 3.718036 4.064846 5.289454 5.695414 4.759526 5.131480 4.919173
 [537] 3.287319 5.962246 6.614047 4.906058 5.455607 4.494702 5.444227 5.968681
 [545] 4.872805 4.550383 5.669968 4.494923 5.331132 4.193136 3.949463 5.074796
 [553] 4.041021 5.035045 4.332029 4.793399 3.895864 3.205332 5.408227 5.834400
 [561] 3.562482 5.010396 5.812358 4.871084 4.778424 4.194119 3.702341 8.704990
 [569] 4.465167 3.963060 4.922593 5.729744 5.400752 3.560088 4.884295 4.561052
 [577] 5.944105 5.208106 5.874146 7.430131 4.353547 6.267668 5.290328 5.258698

[585] 5.229319 6.153973 4.125729 3.978564 4.728165 4.492005 6.419426 5.358924
 [593] 7.964228 4.658664 4.907569 5.409916 6.331019 5.434519 5.804032 4.279915
 [601] 4.663466 5.722412 3.923173 4.837609 4.467359 3.714654 5.346155 5.131830
 [609] 6.177526 6.736462 5.189373 4.271928 6.180108 5.125693 4.557975 3.893996
 [617] 4.731730 3.444270 5.483079 3.911136 3.732018 3.768805 4.624476 4.905185
 [625] 5.212869 4.203238 5.562954 5.715616 5.243892 5.924239 4.735079 4.862860
 [633] 5.078734 5.835239 5.538717 4.506731 4.261795 5.297265 6.002972 7.140377
 [641] 4.413893 5.196626 4.249308 4.413155 5.657073 5.369083 5.384417 4.157565
 [649] 5.256757 5.443401 2.882080 4.985468 5.689342 4.568777 6.018512 5.760587
 [657] 6.588082 6.174225 4.537714 4.070469 6.203040 5.830928 2.966993 3.931264
 [665] 4.058266 5.357760 6.161505 5.315919 5.918149 5.833220 7.025498 5.626028
 [673] 4.461735 6.999608 4.388117 5.486368 3.808204 4.803620 6.524267 7.147575
 [681] 4.302441 3.423858 4.704610 4.036017 4.909926 4.781781 5.047051 5.380328
 [689] 4.297945 4.112581 4.144266 5.664355 4.633869 5.361819 6.714379 5.484495
 [697] 6.772731 4.840474 6.644334 6.409464 5.011564 5.108620 4.965186 5.713379
 [705] 4.840906 4.319336 5.692214 4.077665 4.561441 5.107415 6.230222 5.127089
 [713] 5.339260 4.183537 3.603411 5.881725 4.949860 5.836801 5.312482 5.532500
 [721] 3.688097 4.164267 4.558615 3.789867 5.147673 4.339840 4.503498 2.975043
 [729] 4.327166 3.731366 5.235151 4.722570 4.972330 6.116493 5.515781 4.225271
 [737] 4.592110 4.305676 5.092039 4.785077 6.767046 6.370688 7.483869 6.756121
 [745] 3.781431 4.715602 4.446380 5.900283 4.073890 3.912940 5.053367 4.704832
 [753] 5.704943 3.999521 4.628144 4.218571 5.575049 5.346765 5.660380 6.531241
 [761] 4.533027 4.264789 3.750848 6.126545 4.207868 3.825796 5.205782 5.154779
 [769] 4.289656 5.698632 3.916394 5.450367 3.924208 4.571091 3.872329 6.187059
 [777] 5.107268 4.929101 3.877126 5.035870 4.297822 4.769140 6.568301 5.512805
 [785] 5.345700 5.907203 3.919662 4.372939 4.674373 6.823174 5.055619 4.135194
 [793] 4.442177 4.261080 4.411294 5.045863 4.450340 4.328172 5.271125 3.545000
 [801] 4.381913 3.907985 5.203294 4.525197 4.419672 3.308491 4.070564 4.247910
 [809] 3.677431 4.673638 4.507203 7.147252 5.057785 5.643114 4.841847 4.399041
 [817] 4.549637 5.941372 7.428760 3.371970 4.223780 2.870242 5.277107 4.057568
 [825] 4.817249 5.872570 4.476228 4.939541 4.493912 5.104083 4.595079 4.601376
 [833] 4.187527 5.128798 4.088909 5.520113 5.477225 4.856673 4.870307 5.196263
 [841] 5.824589 4.382148 5.428160 5.167431 6.520933 6.870021 5.307995 6.336566
 [849] 5.140511 3.558731 6.524006 4.239289 5.779233 5.996645 4.122188 4.890886
 [857] 5.047201 4.266705 4.233138 4.081456 6.018895 3.727809 5.107634 6.162071
 [865] 4.772847 5.359041 5.355743 4.803226 4.393305 5.527890 6.560937 4.956413
 [873] 3.142282 5.731497 5.609545 4.987083 5.186040 4.419991 5.136220 3.491602
 [881] 4.473243 5.558747 7.102349 5.159393 5.475803 5.103131 4.399068 4.468097
 [889] 2.415489 4.806714 3.464993 5.437314 5.607251 3.924604 4.071163 7.386356
 [897] 4.257007 5.136884 4.078293 3.636144 4.547803 5.947774 5.931471 4.613141
 [905] 4.463319 4.316603 6.785311 3.963279 4.932747 5.719142 4.116696 4.410485
 [913] 4.169227 6.154518 4.015739 4.032153 4.042560 4.473725 4.964251 4.037258
 [921] 4.971137 4.553121 5.681205 3.274446 4.487523 4.174561 4.126375 4.488488

[929] 4.960432 4.770733 5.094711 5.213677 3.845337 4.770636 4.786912 4.062823
 [937] 5.034148 5.436365 4.868301 5.231672 4.245412 4.209250 4.519390 5.859898
 [945] 4.754961 4.645976 5.592167 4.482812 5.745940 5.637312 6.075594 5.803656
 [953] 3.744462 5.279031 5.314930 4.771273 3.886427 4.248819 3.245668 4.880276
 [961] 4.079485 4.654332 6.458009 4.857243 2.962700 4.508556 5.668090 4.572617
 [969] 5.603982 4.793616 5.525805 4.813365 3.870596 6.003033 5.709717 4.102486
 [977] 6.407737 5.279444 6.794426 4.647443 4.463961 4.115059 5.098536 4.186552
 [985] 3.572381 4.440439 5.703728 5.338341 4.616778 5.680156 4.145836 4.429346
 [993] 5.025331 4.911634 4.678933 4.433480 3.702244 3.083055 6.120152 4.452729
 [1001] 5.977026 5.654748 6.363359 6.531582 4.307004 3.760941 5.823515 5.883985
 [1009] 3.997827 5.857476 4.935107 3.529486 5.041427 5.350663 4.672470 4.785175
 [1017] 5.410158 5.639612 4.099753 5.390267 5.603234 6.299767 4.077181 4.177173
 [1025] 5.670913 5.757894 4.694223 5.877569 2.987304 4.263043 6.629247 4.901434
 [1033] 5.987590 5.926600 5.476118 4.016831 5.379505 5.332109 4.154802 3.035459
 [1041] 4.797342 5.067906 4.640520 6.208348 4.812455 6.129348 3.694471 4.809897
 [1049] 4.762936 5.775782 3.749956 3.310116 5.627122 6.410554 4.241190 4.913586
 [1057] 4.552243 6.332271 5.013438 4.168196 4.054505 5.075461 4.032644 4.607043
 [1065] 5.266370 4.208380 7.765102 4.104656 5.350343 4.566597 4.404129 8.857958
 [1073] 5.111263 6.125711 6.255327 4.665612 4.847660 6.271376 4.720884 6.171089
 [1081] 3.579246 3.705597 4.553083 6.040240 4.172834 5.188937 3.710950 5.493454
 [1089] 5.186192 3.662787 4.725386 4.181961 3.419929 3.894050 5.609105 3.638161
 [1097] 5.760426 4.489402 4.571886 4.126515 5.331242 6.237787 4.755018 6.050111
 [1105] 3.953949 3.759220 5.802645 5.410001 6.397932 5.218234 4.274425 5.379699
 [1113] 4.976320 5.302040 4.369852 5.370104 5.135221 3.900157 6.495209 6.760961
 [1121] 4.090843 4.035782 5.569765 5.636894 5.944401 3.794875 5.133926 5.742719
 [1129] 6.372136 4.084329 4.754484 6.259250 4.765791 6.889579 3.984188 5.605114
 [1137] 6.040503 5.329792 6.174201 5.593208 4.843003 3.740415 6.683459 5.653900
 [1145] 5.707356 6.423696 5.880569 3.905106 4.629931 4.767907 4.522163 5.461849
 [1153] 4.657716 4.934354 6.543730 6.226848 5.761863 3.992082 4.608132 4.506753
 [1161] 4.988489 4.637952 3.296917 4.757272 4.431113 5.582079 6.061409 6.068545
 [1169] 5.760810 5.942035 5.690938 5.679762 6.181828 4.637106 4.758552 4.824095
 [1177] 5.202227 5.768798 4.497964 5.921430 4.971537 4.264225 7.157225 4.490707
 [1185] 5.829928 5.050277 4.404768 3.896754 3.895145 5.409054 4.553862 4.903381
 [1193] 3.548423 4.893248 4.027784 4.201478 4.142628 5.566620 6.072437 6.696511
 [1201] 4.265722 4.264667 4.374554 3.337339 5.229869 4.622080 5.236728 4.431290
 [1209] 4.980054 3.753419 5.790718 4.691090 4.105809 4.422274 4.893561 5.613769
 [1217] 3.730378 3.301962 4.878449 5.502111 4.567909 3.971800 5.133280 4.848940
 [1225] 4.889890 4.523817 5.265283 4.718655 3.899238 3.840061 5.955912 4.233830
 [1233] 4.677305 4.739086 6.141302 4.946337 4.542063 5.313833 5.925661 5.226425
 [1241] 4.808957 4.093742 5.750749 4.084934 6.365414 7.514490 4.586636 5.919061
 [1249] 3.995492 6.563764 5.283426 4.877318 4.580702 5.675281 5.013692 5.047158
 [1257] 4.323898 5.087010 3.811144 6.657732 4.756879 4.206396 3.817800 4.387957
 [1265] 5.318126 4.790542 5.270892 4.772965 4.866412 4.663106 5.552878 4.403391

[1273] 4.750696 6.077254 5.805949 4.038303 5.378902 5.761520 4.245838 4.393127
 [1281] 3.612327 4.038892 4.179879 3.748692 3.744544 6.625265 5.118598 4.775123
 [1289] 5.007953 5.406296 4.706593 6.730714 3.539274 4.057132 4.396001 5.766247
 [1297] 5.015199 5.044074 3.758982 4.291562 3.972730 7.052474 6.163902 4.758490
 [1305] 5.246002 4.115275 3.585781 3.367168 4.245089 4.724853 4.551924 4.179388
 [1313] 5.144905 4.192338 5.048778 5.819538 3.475330 4.645143 6.141182 5.016422
 [1321] 5.239581 4.918356 6.164780 4.119529 4.965746 4.355945 3.633680 4.448174
 [1329] 4.112282 5.412467 4.810173 3.612355 3.940217 5.587971 6.051483 4.909739
 [1337] 5.025304 4.868426 5.434151 4.017584 3.979115 5.207865 4.810825 3.486365
 [1345] 6.242962 4.032685 4.317824 5.441685 5.398818 3.246922 4.969318 6.763479
 [1353] 4.761136 6.092680 5.628179 7.393176 6.414959 4.552404 7.152953 5.121367
 [1361] 4.391694 4.393441 6.581724 5.137585 3.506248 3.056568 4.788073 4.308766
 [1369] 5.179485 4.206200 5.252412 5.512658 5.620251 5.375409 4.034233 4.746135
 [1377] 4.143348 5.705192 4.673085 4.935426 5.104363 5.981174 5.571193 6.566199
 [1385] 4.740273 5.366682 4.438847 4.325579 6.241480 6.011715 6.287562 4.560902
 [1393] 4.461937 5.567360 5.297353 5.451603 5.394974 5.044582 6.230574 5.539613
 [1401] 7.119964 5.585042 3.811839 5.269853 4.867877 5.930433 5.052810 4.699585
 [1409] 4.306612 5.922725 5.578479 3.441753 4.448863 5.359261 6.214972 6.065149
 [1417] 4.920528 4.449644 6.656870 4.559025 4.548702 6.541550 4.282705 5.758065
 [1425] 3.877948 4.081453 4.611163 5.871003 3.843911 4.829636 4.580535 4.675690
 [1433] 4.110594 5.444617 5.294342 5.545286 5.828472 3.907789 4.612677 6.474036
 [1441] 4.605858 4.721577 4.055800 4.278594 5.558092 4.036996 3.886729 4.049443
 [1449] 5.021423 6.832490 5.916708 6.907332 5.196911 3.907737 3.487625 4.097685
 [1457] 4.852746 4.291585 5.750026 4.721403 5.517716 3.779939 3.833204 6.368939
 [1465] 5.051623 4.057834 3.495427 6.086577 4.304947 3.763670 4.604049 4.447344
 [1473] 5.480992 7.801495 5.429715 3.038154 3.047744 6.379404 5.045618 5.535376
 [1481] 3.774291 4.005036 5.391085 4.109027 4.223536 5.137794 5.022787 4.021769
 [1489] 5.381072 5.878597 4.746949 5.138144 5.289199 5.431496 4.503373 3.459244
 [1497] 6.357208 4.425874 4.570536 3.943053 3.483559 4.871624 6.200963 5.348057
 [1505] 3.445465 3.673321 5.075383 3.507075 3.556584 4.527576 4.118331 4.906506
 [1513] 4.463528 3.997549 4.936674 4.634746 3.844127 4.640370 4.500221 5.645861
 [1521] 5.964210 4.733905 3.873291 5.442642 6.799561 5.168372 4.638748 4.311520
 [1529] 4.153113 5.874858 6.000071 6.269776 5.173636 4.153857 4.642167 3.958227
 [1537] 5.019690 5.385654 5.688852 3.473542 5.554794 5.231413 5.106368 4.515471
 [1545] 6.524945 4.325045 5.184793 5.134478 4.688193 5.802463 4.235813 6.085987
 [1553] 4.941741 5.980535 5.223051 4.220777 4.261466 4.482575 3.671803 2.884405
 [1561] 5.305215 5.934009 4.987132 4.910588 6.047795 4.126967 4.572860 3.943456
 [1569] 4.332974 3.579391 5.334914 5.847629 5.078504 4.780388 6.491263 4.741215
 [1577] 4.846548 3.750034 4.916164 4.146884 4.191591 4.857129 5.106388 5.505552
 [1585] 4.196088 4.577757 4.577307 5.979689 5.289142 3.728339 5.281397 6.036378
 [1593] 4.249286 4.878351 4.922618 4.862379 5.432051 4.745073 4.483718 5.016807
 [1601] 4.697781 6.383864 4.984479 5.916208 4.283235 6.536308 5.377120 3.456457
 [1609] 3.903072 4.351589 4.760309 4.054178 5.374431 2.716495 5.506823 4.730519

[1617] 4.367829 4.215241 4.976368 5.060580 2.801319 4.644113 4.691009 6.450838
 [1625] 6.074453 5.327030 5.132961 3.971065 4.706484 4.448123 3.983686 5.275951
 [1633] 5.903988 5.986142 3.904215 5.872516 4.587155 5.521332 4.945392 6.497775
 [1641] 5.058531 7.038723 6.041338 4.833062 5.920661 3.404583 4.809865 5.654378
 [1649] 4.540620 4.595795 4.450356 5.666713 5.239143 4.911819 6.097886 6.397364
 [1657] 5.269253 4.373652 3.169729 5.158368 5.637962 4.874794 4.954036 4.614324
 [1665] 4.923238 6.287651 3.975829 4.299817 5.015752 4.179795 4.301176 5.464847
 [1673] 5.822708 4.263386 5.349457 4.855369 4.976410 5.231252 6.060941 5.211741
 [1681] 3.631040 5.609849 5.888908 4.228237 4.276450 4.664180 4.043794 5.726924
 [1689] 5.978811 4.299640 5.824031 3.714033 4.249604 5.109950 4.644609 4.631626
 [1697] 4.664479 3.968375 5.790123 4.952036 5.216131 5.580405 3.743510 5.223688
 [1705] 5.921156 4.718496 5.235153 5.436195 4.561067 4.581053 5.316054 4.361081
 [1713] 5.496873 5.035008 2.975912 5.264994 5.568345 4.391304 3.899864 4.488425
 [1721] 4.668393 5.510313 4.130566 5.378297 4.003726 3.767905 4.705219 5.048360
 [1729] 5.474081 8.442927 5.005164 3.205847 4.948469 5.697477 4.656425 4.487710
 [1737] 3.848680 4.947242 2.329183 3.559000 3.964273 4.991785 5.797091 5.646184
 [1745] 4.823850 4.782522 3.189990 4.505739 3.595476 4.212271 7.383293 5.928920
 [1753] 7.870685 4.192664 3.903518 4.855878 5.911085 4.280768 3.503099 4.638565
 [1761] 5.114842 4.059747 4.298345 4.973758 5.935903 4.118525 4.179496 5.291541
 [1769] 4.386442 5.017001 6.008992 5.344027 6.718751 4.341595 5.463092 4.388089
 [1777] 6.337963 5.617522 5.292259 4.730861 4.454050 3.738686 5.625940 5.372795
 [1785] 4.694131 4.202518 5.665356 5.824326 5.932504 5.257908 6.043259 4.735940
 [1793] 4.329200 5.551788 4.974006 5.770497 4.380927 4.548784 4.955268 4.713472
 [1801] 4.390762 4.543579 4.643211 5.337936 7.315189 6.766159 4.629899 5.766799
 [1809] 6.583291 3.942488 4.675374 6.564247 4.634606 4.089968 4.589076 5.384824
 [1817] 7.485277 4.023291 5.192306 4.476176 3.479300 5.282685 5.522099 5.655466
 [1825] 6.701774 4.149723 5.535504 3.924360 5.289479 3.822772 5.406634 4.260210
 [1833] 6.025485 5.131830 5.373729 4.688258 5.051855 4.387534 5.521290 5.884239
 [1841] 6.156278 3.211797 4.738843 4.762974 5.331545 4.877786 6.097177 4.498814
 [1849] 4.163775 8.644213 4.607865 5.280705 4.226091 4.391932 5.343089 4.749744
 [1857] 4.792375 5.610459 5.545008 4.160633 4.474671 3.624038 5.498702 4.432594
 [1865] 5.622649 6.512870 4.178969 4.599492 5.741714 5.678930 5.408671 3.426679
 [1873] 5.221410 4.889005 5.046032 4.411266 4.477869 5.171372 6.304059 5.144960
 [1881] 5.455616 5.036572 5.182945 5.498838 4.434265 4.984975 4.868792 3.497605
 [1889] 4.707841 4.801579 5.513024 4.466591 4.098188 3.576459 3.699157 5.389234
 [1897] 4.964069 3.899602 4.840518 4.910453 4.787171 5.972465 4.882604 4.851196
 [1905] 4.712544 5.074620 4.146777 4.506894 5.619379 3.879553 4.748432 3.581832
 [1913] 4.437728 4.877373 3.900852 4.562481 5.472707 6.526128 5.748439 4.780762
 [1921] 4.346000 4.596031 3.550883 4.296147 4.995868 3.541108 5.281653 4.997987
 [1929] 5.233886 3.643954 5.444470 4.729846 5.975942 3.463376 3.277302 5.601023
 [1937] 4.665523 3.339810 6.760485 7.135321 7.698244 4.252638 6.435224 5.558059
 [1945] 5.982059 4.694505 4.590365 4.721542 4.900191 4.894623 5.343795 4.472490
 [1953] 5.704865 8.439858 5.009767 4.648332 5.824276 5.386940 3.541851 4.913848

[1961] 5.675621 4.463505 3.236790 4.931936 4.875175 7.123670 4.211772 4.210751
 [1969] 6.218615 3.586655 4.798018 3.576394 5.540826 3.773220 4.554909 4.755087
 [1977] 3.587356 5.184232 5.904023 4.088570 4.353956 3.408811 4.449705 6.125922
 [1985] 4.710936 3.836788 6.438249 5.655459 5.836050 4.668918 6.020810 5.079446
 [1993] 4.718875 5.194557 4.496988 6.517811 3.260901 4.963165 3.960217 4.964046
 [2001] 5.788022 2.737690 5.526178 4.610459 4.381390 4.190460 3.230560 3.248284
 [2009] 5.286043 4.217410 5.172565 5.340250 6.466010 5.640426 5.500857 5.275772
 [2017] 6.051315 4.624259 4.453760 6.603390 4.896156 5.772873 5.187590 4.545302
 [2025] 4.708947 5.800280 6.409571 5.723977 3.732362 5.411794 4.453670 6.285134
 [2033] 5.259632 4.682078 3.666486 5.622949 4.420710 4.781749 5.140932 5.865001
 [2041] 4.590791 5.791545 5.331791 4.919335 4.651709 4.379478 5.974070 6.095040
 [2049] 3.536261 4.901803 5.372773 4.382415 6.423884 5.322778 5.461621 5.559590
 [2057] 6.886792 5.311925 4.797199 3.924632 5.261239 5.010956 4.646042 4.759588
 [2065] 6.348410 4.764191 3.825806 5.211898 5.969020 5.658071 6.187412 4.346858
 [2073] 6.277834 5.203373 3.280843 5.432985 5.026938 5.419659 4.152265 4.077458
 [2081] 4.471351 4.985045 4.359439 4.621697 6.122345 4.473478 5.062221 4.310183
 [2089] 4.905646 3.757539 5.860909 5.689807 6.210898 5.025839 3.695641 4.643084
 [2097] 5.393494 5.575892 4.140301 4.346390 5.905187 5.295889 5.106134 5.557473
 [2105] 4.366077 5.750376 5.736287 5.164812 6.005477 4.314334 4.509489 4.722247
 [2113] 4.965820 3.487151 3.582075 4.047546 3.782868 4.528733 6.000819 2.887169
 [2121] 4.531763 5.267618 5.801841 4.541453 3.911910 5.502203 4.292570 3.921178
 [2129] 5.299554 6.078483 4.295177 4.449260 5.869707 5.393158 4.681720 4.577655
 [2137] 6.777571 5.212721 4.067912 3.742986 5.489017 3.366689 4.182095 5.522828
 [2145] 4.278816 5.462486 6.074346 4.289205 5.499108 4.031226 5.554772 5.785265
 [2153] 4.253701 3.482751 4.872623 6.303888 5.936590 3.701846 3.813471 5.871787
 [2161] 5.561627 4.518728 5.297745 5.866462 5.996344 5.036472 5.571160 6.152461
 [2169] 4.796511 5.362079 4.834262 5.445931 5.705533 4.018392 5.897200 3.549325
 [2177] 4.890137 5.206051 4.119690 5.440415 6.362924 4.919858 3.977777 4.414408
 [2185] 5.035193 5.291540 4.716194 5.757861 6.209898 5.605668 4.630097 3.639522
 [2193] 5.584776 4.481728 4.253893 5.354556 6.175199 6.564938 4.300531 5.592226
 [2201] 3.793052 5.891712 4.275770 3.843577 4.138135 5.331885 4.447346 3.774170
 [2209] 5.289085 4.202011 5.137421 5.227930 4.255870 4.948110 7.919687 4.887353
 [2217] 4.847201 6.239067 3.845050 3.639468 6.537691 4.570941 7.042923 4.593592
 [2225] 5.082458 5.569716 5.560415 5.586260 5.355811 4.839696 6.155396 4.063925
 [2233] 4.762833 4.662033 4.511174 3.736428 4.776720 5.840418 6.316541 4.122328
 [2241] 4.077429 5.359239 4.468760 5.161927 4.813805 4.975922 5.164171 5.340462
 [2249] 4.717492 4.835628 5.115830 6.213698 4.796314 6.114761 4.343467 4.014374
 [2257] 4.642142 4.222181 3.857200 5.135658 4.372305 4.964394 6.776181 4.898320
 [2265] 6.226157 4.261697 5.879523 6.304043 4.874050 5.408414 5.248226 5.621280
 [2273] 4.135334 5.433084 4.013747 4.923604 4.629019 4.030455 5.284354 4.331954
 [2281] 4.304578 4.847118 4.216113 4.610415 4.281768 5.554942 4.545408 5.582483
 [2289] 4.390268 4.611742 4.738936 4.235585 4.074940 5.173246 5.569985 5.052147
 [2297] 4.147001 4.096275 3.696557 4.476843 4.236258 6.039916 5.223249 5.494262

[2305] 5.007414 4.023216 4.498421 5.241724 4.634470 4.836805 4.269190 4.163033
 [2313] 3.837603 4.549045 3.786647 4.879024 3.704577 6.334016 5.180684 4.960918
 [2321] 5.258183 5.180910 4.332828 4.025798 3.765302 4.715314 4.566408 7.175276
 [2329] 3.759948 6.250346 5.176954 6.784954 4.799557 4.869688 5.218646 6.037810
 [2337] 4.507611 4.479879 5.068401 5.593338 5.120910 5.465457 6.188590 5.915616
 [2345] 7.042210 5.053459 4.554179 5.819134 6.909355 5.082520 6.352432 4.098482
 [2353] 3.812300 5.420962 4.036674 3.682689 3.906060 5.124461 5.282719 5.194485
 [2361] 4.593030 4.193172 6.262987 4.050097 4.193954 5.209587 5.364336 4.470605
 [2369] 4.375068 4.932239 5.816729 4.583692 4.750487 4.325454 4.675185 5.646750
 [2377] 5.589250 6.518601 5.128273 6.056934 5.358829 4.692126 7.137705 5.092247
 [2385] 4.279674 5.722506 5.709106 5.602401 4.390262 4.098137 5.993044 6.109027
 [2393] 4.216490 5.056588 5.548556 6.510909 6.081837 5.094746 4.490483 3.811694
 [2401] 2.716780 5.042745 4.478810 4.647195 4.504761 3.649711 3.636666 4.365532
 [2409] 4.978910 4.307246 7.212453 4.059641 6.589937 4.402527 3.589544 5.693066
 [2417] 6.377092 3.904408 5.007892 6.551551 6.629336 5.217002 5.168978 5.220309
 [2425] 4.450610 6.682072 4.764493 4.906819 5.596594 5.711169 5.962448 4.124116
 [2433] 4.203241 4.688709 3.863165 6.953008 3.657540 5.240538 6.711079 4.339191
 [2441] 4.247388 5.231203 4.518460 5.102349 5.700965 4.503140 4.788022 5.221664
 [2449] 4.553039 5.113262 5.551414 4.615628 4.249925 5.584257 6.447116 4.249002
 [2457] 3.804024 5.539264 6.448433 3.974060 5.449849 5.358492 5.867348 5.047022
 [2465] 4.518981 4.057164 5.455137 4.734376 4.889890 4.302427 4.422537 4.683122
 [2473] 3.263578 3.718434 6.595253 4.793234 3.455930 6.139387 6.248077 7.113211
 [2481] 4.036288 6.141645 3.748804 6.093522 5.069300 6.159107 6.114976 5.890147
 [2489] 6.296388 4.397565 4.985931 3.327600 3.506402 5.602932 5.897240 6.106485
 [2497] 5.323000 4.854094 5.325660 4.304471 4.161713 5.789489 4.864470 5.426406
 [2505] 4.997963 4.450182 7.983358 4.894410 4.539528 3.330235 4.497751 3.988730
 [2513] 4.817058 6.067882 4.777923 4.169712 3.835888 5.226382 5.377059 5.302730
 [2521] 4.009581 4.561506 3.551634 5.726251 4.467615 3.946267 5.271617 4.377800
 [2529] 5.131894 5.270985 5.203272 5.278030 4.842584 3.978818 5.879617 4.667393
 [2537] 3.797301 4.737191 3.656459 4.795446 5.876426 4.457490 4.187667 6.551110
 [2545] 4.356249 6.357106 5.953785 4.954004 5.624950 3.599298 4.703852 3.711501
 [2553] 4.747976 5.910188 4.559824 3.968088 3.527946 5.069616 5.844496 4.755504
 [2561] 4.807488 4.121931 5.027727 6.102589 4.570612 3.558533 5.438124 4.402189
 [2569] 5.461418 4.179825 3.532967 3.968056 5.850214 5.582951 4.728914 5.051736
 [2577] 4.236556 4.418891 4.824914 5.233553 5.020601 5.853210 4.335552 2.962792
 [2585] 7.086543 5.419890 4.491939 4.985523 5.366870 3.024909 4.677834 3.778538
 [2593] 6.504964 5.153990 5.207461 5.462853 5.051962 5.177746 5.469373 4.473786
 [2601] 6.087182 4.452553 5.146045 4.563948 4.241039 4.669361 5.211438 6.051954
 [2609] 4.235664 5.253683 4.952376 5.804421 5.298818 4.484666 4.526439 5.828686
 [2617] 4.220179 5.472046 3.795135 6.199524 4.151812 4.042346 4.879955 5.162398
 [2625] 4.201895 5.229418 5.714432 5.528237 5.107678 2.964340 4.027342 4.230133
 [2633] 6.142465 5.510916 5.699361 5.565657 6.014209 4.435532 4.206227 4.127402
 [2641] 5.671981 5.353902 4.521671 4.365549 5.090883 3.511810 5.031688 4.356922

[2649] 5.997152 5.230221 4.823552 3.896329 5.145791 6.559337 5.503196 3.780601
 [2657] 4.374989 4.161865 4.501207 4.865526 5.113331 4.151795 5.102732 4.928653
 [2665] 5.355671 4.163439 8.639408 7.145699 6.331852 3.307393 6.171850 4.793671
 [2673] 5.680862 4.982760 4.814525 5.381395 4.021940 4.475701 5.528823 5.326767
 [2681] 5.177006 5.506611 4.404014 5.751220 6.028129 5.237463 5.962780 3.866626
 [2689] 4.425295 5.359740 5.119418 4.628262 4.062126 5.395391 4.936009 5.951997
 [2697] 4.484354 4.623002 3.919624 5.477920 4.819753 5.155585 3.049042 5.016204
 [2705] 5.449605 4.321741 5.077479 4.783118 6.515631 5.288859 5.557436 3.767683
 [2713] 4.876704 5.146093 6.113278 5.209122 3.508093 3.266744 3.857826 6.211626
 [2721] 5.898141 5.068950 3.757665 4.725227 6.590550 4.706107 4.839728 5.010475
 [2729] 5.889689 5.116937 5.659063 4.849931 4.907459 3.827306 5.151430 5.125984
 [2737] 5.913321 4.426424 5.092539 4.480384 4.709198 4.623785 4.318831 6.522894
 [2745] 7.043083 4.127001 5.536636 5.364317 4.785065 5.109187 3.813340 7.463477
 [2753] 4.839328 4.239480 5.179982 4.505157 4.940372 6.025017 4.307880 5.483650
 [2761] 6.435246 5.988812 4.312625 4.924031 3.609274 3.657954 4.470342 5.254452
 [2769] 3.864505 5.353394 5.208095 5.656629 6.589074 5.699889 4.463961 4.746888
 [2777] 4.654581 5.275276 4.286273 5.383893 4.922057 4.242672 4.434232 5.705476
 [2785] 5.752168 4.807765 3.450182 5.317920 5.357250 4.330309 3.994355 4.178627
 [2793] 5.040122 5.181881 5.060211 4.218429 7.028246 4.899795 5.028326 5.248074
 [2801] 7.220420 5.146070 4.453849 5.185278 5.619575 4.887977 3.964019 4.550180
 [2809] 6.798675 6.204035 6.327880 4.507490 7.101303 4.224317 5.336050 4.942937
 [2817] 4.345227 6.181005 4.678226 6.150727 4.264668 5.084472 3.356653 4.289649
 [2825] 3.918954 4.921241 4.578028 5.371106 4.937711 5.785547 4.220128 5.555829
 [2833] 5.693372 5.680273 6.302945 4.268800 5.177901 4.735535 5.796433 4.934181
 [2841] 5.642621 5.874056 3.703211 4.521836 4.017563 3.841702 4.863205 4.913156
 [2849] 4.248661 4.930672 3.810422 4.499802 4.175823 2.861915 4.543436 5.195566
 [2857] 6.325981 4.661572 5.742819 5.779349 4.547716 6.461279 5.715108 6.413741
 [2865] 4.111037 5.259568 5.321841 5.725880 4.133895 4.051111 5.667967 5.472246
 [2873] 3.224060 4.776600 4.532896 4.886341 4.755788 4.196640 6.208075 4.554279
 [2881] 5.387716 5.240861 5.631344 4.908348 5.602788 5.239076 4.191061 5.653362
 [2889] 5.220169 5.906215 4.934483 4.600622 6.663430 4.267056 4.622469 5.265518
 [2897] 4.687564 6.677333 6.131185 5.538198 5.003784 5.812452 5.992144 4.702785
 [2905] 3.559666 5.774932 4.987523 5.690932 5.879526 4.316405 4.537439 4.133134
 [2913] 6.852965 6.059840 6.218515 3.389530 4.171693 3.378591 4.213651 4.921941
 [2921] 5.260721 4.951224 5.976113 4.904246 4.712377 3.844487 5.313289 4.697406
 [2929] 5.643960 6.161289 4.899166 5.316945 3.850276 6.110211 3.886422 5.077927
 [2937] 5.027212 4.925838 4.642954 5.053788 3.945730 7.021070 5.038779 5.459038
 [2945] 3.685513 4.598315 4.518382 4.887296 5.920897 5.406474 4.848885 6.258399
 [2953] 4.235200 5.094627 5.908698 5.439473 5.279707 4.420531 6.380352 6.557854
 [2961] 5.062531 4.274544 4.607308 3.862576 6.118989 5.381161 5.055056 3.621703
 [2969] 5.605230 3.830439 5.125394 5.512958 4.466539 3.441017 6.167643 5.149066
 [2977] 5.052102 3.164982 4.076894 5.085471 5.691198 4.645865 5.328053 3.720172
 [2985] 3.983716 4.472680 4.486265 4.499253 4.629142 5.025217 4.624911 2.642772

[2993] 5.643297 5.072100 7.267323 5.600382 4.515892 5.433770 3.588547 4.980789
 [3001] 5.979906 4.641177 5.256463 6.488313 5.675270 5.877713 5.281543 5.180134
 [3009] 4.188005 4.292587 4.899373 4.505456 4.279900 4.669815 5.675103 4.891402
 [3017] 4.778875 5.912832 4.782873 4.368607 4.417725 5.994332 5.381314 4.020825
 [3025] 4.828219 5.567309 4.149969 4.536648 5.150663 5.629026 5.125559 6.452338
 [3033] 5.025011 4.148633 5.158641 4.472645 3.946754 3.572449 3.892199 5.516672
 [3041] 4.788097 5.089250 6.354014 5.306804 6.858405 6.063214 4.227281 4.755660
 [3049] 6.614965 4.217902 4.579848 4.252587 4.571871 4.589281 5.228619 5.458277
 [3057] 5.120527 3.847830 4.217215 4.973638 6.073545 6.313433 5.944664 4.855302
 [3065] 5.095422 7.028343 5.438842 5.494742 4.991969 5.636002 4.926100 4.438416
 [3073] 6.814097 5.041655 5.245749 4.390436 6.085567 4.227480 2.915700 5.638502
 [3081] 4.836752 4.288672 4.285248 5.897389 3.483719 5.882638 5.793566 5.704988
 [3089] 4.248327 5.433984 4.626990 4.195063 5.232029 3.151141 4.549699 4.695742
 [3097] 3.803629 4.973871 4.777932 3.923514 4.524028 4.660438 5.950522 5.299392
 [3105] 4.412172 6.062320 3.802394 3.265340 6.854900 4.749817 2.977322 5.839621
 [3113] 5.252210 4.061848 6.065950 4.542152 5.153993 5.389605 4.338119 3.904550
 [3121] 5.086926 5.800825 5.407830 4.339704 5.283468 5.134047 4.955780 4.108531
 [3129] 5.038701 4.057028 3.800036 5.314072 4.751445 3.204737 4.480088 6.749019
 [3137] 7.358218 5.408098 5.701346 5.186421 6.909921 6.836924 6.199815 4.300286
 [3145] 6.418928 3.881080 4.921867 5.215749 6.242910 4.495487 3.675888 4.755865
 [3153] 4.467243 4.413545 7.753200 6.902578 3.752932 5.210644 3.658624 4.957405
 [3161] 4.365241 5.500891 5.144730 4.344885 4.457030 5.304354 5.786905 5.658492
 [3169] 4.495290 4.471728 5.081533 4.472582 4.816461 4.726020 4.506684 6.150937
 [3177] 4.143683 5.498212 3.581564 5.030251 4.778740 2.705902 5.915328 4.150581
 [3185] 5.668283 5.407019 5.298703 5.154778 3.968710 6.065519 6.317691 4.814467
 [3193] 4.515600 5.808719 4.759854 4.407117 5.342878 5.500690 4.942598 5.543338
 [3201] 4.617247 5.221192 5.714677 4.252887 6.060066 5.413666 6.282101 4.668126
 [3209] 4.911026 4.802266 6.214924 4.705156 5.852737 3.313800 6.596643 3.901608
 [3217] 4.496520 6.659257 4.769638 4.844376 3.647981 5.162458 6.032729 6.297593
 [3225] 5.060293 5.410414 4.419820 6.023749 5.691714 4.067046 4.742624 4.409167
 [3233] 4.394124 6.180381 5.132724 3.903279 5.891826 4.812243 4.073010 3.604325
 [3241] 4.512152 4.752342 4.204080 3.165672 4.701301 3.615790 5.807822 4.830766
 [3249] 4.686828 5.110665 6.665930 4.259581 4.204630 5.191724 6.344672 6.523968
 [3257] 5.263418 5.819526 3.276427 5.534026 3.926913 5.599932 5.065996 6.187630
 [3265] 4.031284 5.247412 3.653599 6.346119 3.448725 6.476433 5.228748 4.987286
 [3273] 5.929050 3.570851 4.388840 5.573676 4.134466 4.022465 3.249596 4.569544
 [3281] 7.501052 5.618137 4.198997 4.268532 5.101871 4.323568 5.163377 6.326446
 [3289] 6.888309 4.821827 5.251060 3.521102 4.477934 3.386182 4.841235 6.037717
 [3297] 5.121458 5.666419 5.836225 5.988348 5.254585 5.329018 4.616085 7.159561
 [3305] 4.683572 5.593812 4.927405 4.529930 5.437340 4.745724 5.428220 5.989470
 [3313] 5.165276 4.723740 4.602326 5.242947 5.317451 3.788796 5.749761 3.844566
 [3321] 4.921830 4.634460 3.372457 4.817499 4.198897 5.818478 5.303333 5.875103
 [3329] 5.122403 6.733453 6.416517 5.618594 6.151744 6.983799 5.252367 4.877716

[3337] 5.366957 4.437320 5.536864 4.120035 5.308441 5.819658 4.637106 3.614013
 [3345] 4.097517 4.847728 4.030011 5.679833 4.676552 4.660294 5.072090 6.542207
 [3353] 4.750852 5.374142 5.583416 4.505662 6.778138 7.085953 5.305326 4.437571
 [3361] 6.309343 4.842750 6.394051 6.401129 6.102292 5.853039 5.103727 4.493953
 [3369] 3.609858 4.393344 4.043870 4.165813 3.721674 3.276742 4.454005 3.522297
 [3377] 5.331420 6.046950 5.222122 5.279422 5.634820 4.261401 4.080614 4.861738
 [3385] 4.341318 6.816884 3.926720 4.173534 4.896995 6.444990 5.170187 4.576251
 [3393] 6.055042 5.185093 5.212154 6.583112 5.585968 4.409045 3.740003 7.009597
 [3401] 6.354582 4.211545 4.359083 5.029204 4.922017 5.175426 5.461372 4.382543
 [3409] 4.585193 4.722178 4.733688 4.108350 4.655022 5.991536 4.768598 6.235026
 [3417] 5.847351 5.570641 4.370108 4.967223 5.848059 3.494922 5.771987 5.455849
 [3425] 4.827760 7.052845 4.584701 5.108780 6.367253 7.036175 3.492362 5.165791
 [3433] 5.289415 6.312938 6.415032 4.274545 5.730978 4.142198 4.556515 3.921273
 [3441] 4.440794 4.228177 4.477386 3.190130 4.141789 3.411427 6.454067 5.604041
 [3449] 3.710646 5.431379 4.710288 4.613844 4.346619 6.062769 4.827792 6.447730
 [3457] 8.207901 3.920915 5.026125 3.667883 4.909998 5.452287 4.558090 4.737989
 [3465] 5.328779 4.366192 5.683442 4.695279 5.126236 5.878056 2.770343 4.873767
 [3473] 5.682509 4.743407 6.061958 5.776428 4.886905 3.512286 4.396319 4.918335
 [3481] 4.656083 5.029975 5.998313 4.566633 5.846529 5.153274 6.170688 6.228880
 [3489] 6.131758 5.965569 4.131232 5.286224 5.972193 5.827855 5.643077 6.061281
 [3497] 6.459493 4.816267 5.080228 5.532519 5.383218 6.117935 7.266513 4.813677
 [3505] 4.707115 3.364730 6.027142 4.598142 3.459902 5.726215 4.939589 4.494281
 [3513] 6.116948 4.021042 5.367131 3.821625 4.851018 4.963151 3.749890 4.134995
 [3521] 4.988807 4.802100 5.143545 5.715788 5.768868 5.018548 5.516789 6.556655
 [3529] 4.760331 6.547295 4.593761 5.718730 5.061381 5.508967 4.601320 5.031898
 [3537] 4.485800 5.181609 3.360878 5.950347 5.483792 7.651183 5.093234 5.548991
 [3545] 4.043731 5.848357 4.216035 5.377281 4.561540 4.706929 5.723823 4.886802
 [3553] 4.134899 7.925881 7.049577 4.835724 3.783269 4.699226 4.034108 5.565331
 [3561] 3.984324 5.441311 6.208107 3.792121 4.192461 5.128815 6.876587 6.465952
 [3569] 5.636969 5.943455 5.114125 4.382753 6.140204 5.630251 5.094481 5.159842
 [3577] 4.587994 5.868357 3.923660 3.544734 4.277152 5.832145 4.199397 6.497368
 [3585] 4.738117 3.834397 5.668911 4.031653 5.463150 4.479744 4.127021 4.476894
 [3593] 6.884741 4.305082 3.359474 5.681009 4.303230 4.164999 5.530068 5.532427
 [3601] 6.734613 4.185907 4.096644 4.750668 4.070155 3.613001 4.919719 5.258694
 [3609] 3.920529 5.111272 5.434525 4.285943 3.995223 6.084992 4.371129 5.353213
 [3617] 5.526942 4.920977 4.984224 3.281348 3.986936 3.671624 5.137761 4.316852
 [3625] 4.992207 4.791143 5.838470 5.070621 3.855988 5.552735 3.611661 5.578553
 [3633] 4.541951 5.863890 3.849923 5.169539 4.569015 5.233081 4.415226 4.280832
 [3641] 5.968916 4.145228 4.303175 4.202686 4.381681 4.726462 5.478374 4.934081
 [3649] 5.401935 7.209369 3.971877 4.690899 5.311949 6.112280 6.261130 4.941816
 [3657] 4.733246 3.203144 5.315065 5.681057 4.425123 5.756393 4.951695 6.340607
 [3665] 5.708275 4.737665 5.589219 6.565758 6.386580 4.702076 4.755380 5.262055
 [3673] 4.147203 2.961289 4.403020 3.999641 4.649671 3.399573 4.424671 4.980052

[3681] 6.187006 5.539858 3.826872 7.357773 2.713731 4.893776 4.261020 5.380607
 [3689] 6.064854 3.501679 4.768629 4.148642 6.875534 7.891182 5.687948 5.629134
 [3697] 6.266613 4.761909 4.666470 4.766644 5.597548 5.244794 5.253144 5.583671
 [3705] 5.844973 4.614260 5.183441 5.406638 5.112097 6.540208 3.643248 5.920064
 [3713] 5.463455 4.936107 3.166386 3.499895 4.043879 4.903535 5.774206 6.291936
 [3721] 7.175686 5.764648 5.467049 6.119566 4.337477 5.389876 4.405192 3.896905
 [3729] 5.917335 4.533121 6.678133 3.621953 4.357961 5.478712 4.996978 4.679819
 [3737] 6.214140 6.379030 4.216616 3.904838 6.758132 6.130546 3.511390 4.933709
 [3745] 4.832952 3.756678 5.321888 4.858659 4.956460 3.771478 6.267447 4.110807
 [3753] 5.228008 3.671216 5.573785 3.464386 4.849197 4.867827 3.901269 5.123898
 [3761] 3.830412 4.724139 5.645629 5.667598 4.224091 4.240295 3.761751 6.048745
 [3769] 5.729132 4.698683 3.967523 4.479172 5.941971 4.332246 3.874067 6.133750
 [3777] 5.315836 5.437815 4.962141 5.143833 5.552828 4.562644 5.421944 4.824127
 [3785] 3.757761 5.337558 5.205353 4.513192 5.000451 5.371157 4.666577 4.046428
 [3793] 4.877053 3.940094 4.917019 5.125625 5.284039 3.240907 4.719326 5.159173
 [3801] 4.080601 4.141766 5.836065 6.095066 4.628021 7.270870 6.139562 6.450048
 [3809] 5.762915 3.986409 5.336254 5.288936 4.148601 6.013890 5.773661 5.270597
 [3817] 3.854489 5.539718 5.533799 3.282439 5.436926 4.883686 5.009869 5.019871
 [3825] 3.868730 5.649763 4.519401 4.175628 3.957473 6.060658 5.317545 6.306333
 [3833] 4.142383 5.445255 4.427454 7.266579 4.078745 5.523060 5.156576 5.299148
 [3841] 4.919450 4.535586 3.750756 6.194910 5.209680 4.860344 5.188459 7.312838
 [3849] 4.769598 6.904425 5.999771 3.969132 5.057403 4.680925 4.606812 5.399412
 [3857] 5.706335 4.461385 3.972658 5.484051 3.685222 7.708209 4.969984 4.278996
 [3865] 4.424006 5.574203 5.106953 5.665138 3.541646 4.003115 4.853513 6.165542
 [3873] 3.598884 5.208036 4.766665 5.010458 2.973355 5.317072 4.426936 5.211364
 [3881] 4.428482 6.357004 4.884471 5.144540 4.386349 4.546613 6.908413 4.946687
 [3889] 5.084942 4.207386 6.329298 5.419575 5.029019 5.493778 3.601785 4.290809
 [3897] 4.185409 4.993776 4.847865 6.147910 4.566325 5.036097 5.613707 4.683954
 [3905] 4.646032 4.512233 5.647762 4.673932 6.682524 5.568890 5.413500 4.132132
 [3913] 5.674597 4.967807 5.613062 4.049983 4.476762 3.851738 7.337331 2.984527
 [3921] 4.084408 5.371052 3.483776 5.082546 4.819328 4.760860 4.693408 5.099098
 [3929] 5.797007 4.039801 5.409874 5.076179 3.901094 5.005316 5.122119 4.610861
 [3937] 4.184408 4.536219 4.965614 4.891716 5.372360 4.339089 5.181508 5.347048
 [3945] 4.107341 4.133607 3.242883 5.342185 4.389266 5.261433 3.820660 3.380044
 [3953] 4.056878 4.051242 5.788754 5.615904 4.740629 5.006549 4.976474 3.999085
 [3961] 4.141524 4.806695 4.260158 5.616952 4.896452 3.668327 7.450961 6.467647
 [3969] 4.134823 5.506103 7.448706 4.392042 4.675758 4.583622 5.233249 4.962547
 [3977] 4.216865 7.445406 3.327566 4.012783 4.460855 6.265673 4.706477 6.475836
 [3985] 5.966566 6.782862 3.275341 6.376032 5.737622 5.293667 4.654972 5.094842
 [3993] 5.064220 5.189462 4.291542 5.386400 3.793664 5.508832 4.337307 4.137549
 [4001] 6.264553 5.818283 2.652920 4.635579 5.702776 4.898708 5.937893 4.712253
 [4009] 5.376358 4.805751 5.450670 4.500296 7.414149 4.230468 5.022241 3.771968
 [4017] 4.541400 6.122493 4.431493 4.404142 4.450376 5.227571 3.644671 4.700992

[4025] 5.326024 3.940444 5.206963 6.817192 5.066888 5.518040 4.004183 5.329585
 [4033] 5.445663 4.756329 5.270782 4.827142 5.009298 5.506904 5.542816 5.460901
 [4041] 5.279394 4.058073 5.815759 6.103124 5.637366 5.506013 5.231493 7.381220
 [4049] 6.959154 5.466722 4.042338 5.622662 6.510821 4.949749 4.430814 4.976412
 [4057] 4.919249 4.598322 5.538661 4.842260 4.720217 4.396096 3.559438 4.862263
 [4065] 4.072954 3.666701 5.814431 5.107327 5.364720 4.135131 5.039287 5.003084
 [4073] 6.555214 4.965899 3.424409 4.660151 4.559163 5.105877 4.681960 5.647357
 [4081] 5.456209 3.081896 4.749016 5.487318 4.828242 5.895580 4.624161 6.752520
 [4089] 4.807443 3.150222 7.055573 3.746596 4.381457 4.289496 4.692518 5.282763
 [4097] 5.630687 4.977969 6.755894 4.980040 6.552942 5.947236 4.790653 6.029430
 [4105] 4.827708 4.478638 4.579809 4.252780 4.185773 4.864655 5.641675 4.837807
 [4113] 6.038615 4.196292 5.915025 4.259580 5.706160 4.897418 5.979948 4.308044
 [4121] 4.780611 5.263933 4.657552 5.274906 5.177028 3.675855 3.743276 4.477241
 [4129] 4.910777 3.907593 4.238194 5.353906 3.610321 5.592745 3.389489 4.909961
 [4137] 4.338181 3.178588 4.265235 3.980673 5.535481 4.091170 5.360317 4.392420
 [4145] 4.503217 3.993524 5.191383 4.265565 4.557751 5.011138 4.532619 4.500741
 [4153] 3.755593 3.610875 4.148310 5.655305 4.948800 3.379980 6.952583 4.878550
 [4161] 5.056685 5.416514 3.856941 6.031796 3.891218 4.714495 5.389494 5.937416
 [4169] 4.920062 9.510879 5.782270 6.061413 4.687055 4.732707 5.135169 5.594248
 [4177] 4.342315 7.013348 4.420718 4.846763 5.694903 6.585638 4.815761 8.051442
 [4185] 5.111573 6.745124 5.979136 5.139863 4.080556 5.399229 4.547448 5.217288
 [4193] 4.388650 6.537959 4.222202 4.781600 6.542147 4.510460 5.995972 4.405064
 [4201] 6.501828 4.618423 4.977130 3.955600 3.737732 5.873219 4.821156 4.272394
 [4209] 7.252382 6.180537 6.077711 4.908608 4.641655 5.478756 5.124200 5.020955
 [4217] 4.003996 5.369704 5.485774 3.848917 3.578515 5.926575 4.490381 6.469926
 [4225] 5.387714 4.531174 3.827000 3.670745 5.260196 3.170376 5.224834 3.806465
 [4233] 4.712175 4.207290 3.873675 6.778087 4.948408 4.490137 4.872442 4.013802
 [4241] 4.824999 4.892339 5.304740 6.352074 3.830419 3.809112 6.057978 5.063356
 [4249] 3.704623 8.500294 5.287890 3.672922 6.163128 7.077722 4.587580 4.605742
 [4257] 5.132050 4.679999 5.535762 5.258051 3.400660 5.093386 4.155754 5.162144
 [4265] 4.188157 4.922093 4.893295 2.553195 5.760020 3.598055 5.107714 5.853395
 [4273] 5.125767 4.257555 4.338017 4.053139 5.042510 5.803342 5.943482 5.503171
 [4281] 6.120570 3.541183 4.691252 5.703793 4.332588 4.744045 6.103743 5.900446
 [4289] 4.947066 4.117930 5.470097 5.023910 5.154689 3.622341 5.936254 5.536561
 [4297] 5.656521 5.000405 5.097511 5.778135 4.965506 4.008664 5.584725 6.928737
 [4305] 4.322237 4.092032 5.725688 5.682284 4.818292 4.011472 6.709534 6.306225
 [4313] 6.388917 4.857933 6.367806 5.816207 4.728840 4.585054 4.137904 5.005677
 [4321] 4.362860 3.846799 6.938259 4.857783 4.240959 4.002825 4.874149 5.766478
 [4329] 5.379502 4.986821 5.935658 4.204735 3.944279 4.274162 4.055501 4.896166
 [4337] 6.523312 6.332767 5.934147 4.423478 4.705063 5.187219 6.823465 4.558228
 [4345] 5.652865 5.183690 4.477476 5.082982 7.137244 3.748493 5.163987 7.019905
 [4353] 5.164929 4.201445 5.810961 5.628222 4.732783 5.237223 5.678995 5.814794
 [4361] 5.409482 5.113360 4.907911 3.502741 4.001287 5.903609 5.573358 3.895860

[4369] 5.501954 4.596955 5.066760 5.052922 4.913087 4.889569 5.484717 6.000471
 [4377] 3.721691 5.327980 5.558203 4.569719 4.093456 4.346514 5.847330 4.477832
 [4385] 6.594943 6.136673 5.851487 7.080513 5.434831 3.815407 5.421363 4.280507
 [4393] 5.540050 3.695172 6.434175 5.456042 6.886379 4.379643 4.032022 4.146499
 [4401] 7.299531 4.146833 5.902152 4.258269 5.813153 4.234588 6.362697 5.444399
 [4409] 4.951092 6.489589 5.017238 4.962206 3.847581 4.675527 4.932914 4.146806
 [4417] 3.783143 5.987547 5.282126 5.839026 5.946818 4.743409 5.253996 6.776635
 [4425] 5.742797 4.330237 4.645289 4.947062 4.869617 4.918451 5.416129 4.944337
 [4433] 5.446524 5.684287 3.337124 4.845996 4.585451 5.717985 5.234448 4.839959
 [4441] 6.342217 4.572515 5.100079 5.824644 5.042283 6.302425 4.562095 4.654195
 [4449] 4.485340 4.458918 4.072999 3.732703 4.230207 4.914888 6.323037 5.230505
 [4457] 4.881723 4.591623 5.782671 6.704185 4.880944 5.036137 4.308895 5.033202
 [4465] 4.722438 5.342932 5.439972 7.512783 4.979965 5.837374 4.235495 6.291170
 [4473] 5.662577 4.375211 4.605152 4.016518 4.163296 5.377678 4.256124 4.170017
 [4481] 5.796905 5.902184 4.521446 4.397321 5.102764 3.835983 4.892296 4.990121
 [4489] 4.074002 4.839707 5.372733 4.890785 4.778297 4.895857 4.223505 4.983851
 [4497] 5.379396 3.978812 4.793245 5.930251 4.857513 4.884261 5.602354 3.829248
 [4505] 4.373670 5.356275 5.524919 4.777882 6.259747 5.650521 3.531885 2.899891
 [4513] 5.747891 6.372563 5.277012 4.992737 4.183827 5.556515 5.218984 3.565637
 [4521] 5.553612 5.920177 4.989204 3.425565 5.328201 4.034254 5.439615 4.304526
 [4529] 6.040453 3.549376 4.739941 4.180983 4.000023 4.286111 7.355139 3.829544
 [4537] 4.325644 4.155229 3.909264 6.322421 4.211976 5.202029 4.511788 4.523267
 [4545] 5.125147 5.469231 5.362697 5.202479 4.436124 5.842019 6.034755 4.460983
 [4553] 4.199602 3.276700 3.996076 4.495236 4.588144 4.936178 6.568743 5.364109
 [4561] 6.460519 5.546720 4.067702 6.889464 4.441372 4.387180 4.490033 4.312447
 [4569] 5.988179 5.971012 5.479184 5.309093 5.102190 3.275367 6.107665 4.894935
 [4577] 6.487258 5.707927 4.231709 6.307164 4.560916 5.334880 6.487572 4.020956
 [4585] 3.954304 3.263277 3.412625 4.795673 4.221470 8.422957 4.863394 4.790817
 [4593] 4.991833 4.914922 5.550474 4.861457 4.194625 4.290256 5.729748 4.543312
 [4601] 3.959242 6.696078 6.077256 4.650906 4.981075 3.379503 5.236569 5.464798
 [4609] 4.013534 5.243942 4.282525 5.734885 5.343763 5.383937 4.645276 5.174064
 [4617] 4.475923 5.515451 4.928289 4.965184 5.694794 5.191366 6.138668 5.062440
 [4625] 4.051615 5.493564 4.261455 4.470982 5.043944 4.167900 4.280067 5.085447
 [4633] 4.348965 4.780937 5.256885 4.994619 3.702289 5.699498 5.009558 3.365878
 [4641] 5.423365 5.121441 5.225911 5.280707 5.120832 5.231735 5.735179 5.622555
 [4649] 5.399883 5.581135 5.878619 7.085607 4.113787 4.109897 5.511243 5.768237
 [4657] 5.769727 5.065070 5.315337 4.504375 4.572217 5.311825 4.613927 5.286321
 [4665] 4.569020 3.990772 4.002583 4.283672 7.130764 4.015250 6.559620 4.906969
 [4673] 5.254804 4.439410 3.764212 5.055509 4.713874 3.893784 5.299198 5.631358
 [4681] 3.272612 5.654257 6.179852 5.331768 6.343262 6.153853 7.305368 4.692481
 [4689] 5.341661 4.453519 4.002905 5.197293 5.429181 3.983679 4.578064 3.853064
 [4697] 4.700227 5.055793 5.203543 5.969607 4.284906 3.196627 4.849926 4.218231
 [4705] 4.693025 3.350177 4.793440 6.079197 4.971359 5.866481 5.113188 4.769061

[4713] 4.721004 5.521287 5.357767 4.265246 4.794308 5.531031 6.360405 5.525315
 [4721] 4.814047 5.059820 4.873407 3.637117 4.546447 4.956878 4.275372 5.078436
 [4729] 4.149287 5.562706 3.778579 4.388707 4.433752 4.575635 4.281894 5.838893
 [4737] 6.019082 4.652695 5.535739 5.715279 6.637452 4.279260 5.668653 5.116442
 [4745] 4.485060 5.032490 6.176923 4.525332 5.341141 5.038763 4.624089 5.194988
 [4753] 7.144457 4.466732 5.808955 4.904604 4.926471 4.442489 5.597768 4.054787
 [4761] 6.471013 3.637504 4.400868 5.294530 4.210281 4.725419 8.239424 5.037215
 [4769] 5.655982 6.042821 3.549041 4.344327 5.352440 6.330340 5.218645 5.896930
 [4777] 4.895002 4.601081 2.125465 4.609110 5.113110 4.829304 4.742353 5.808203
 [4785] 6.010623 4.868565 4.591577 5.912086 5.219918 4.346192 4.534885 4.932640
 [4793] 4.066822 5.682176 4.242632 4.512842 3.997775 4.248193 4.028215 4.234225
 [4801] 5.047474 4.705510 4.532932 5.808685 5.069666 5.166965 5.752429 4.948471
 [4809] 4.769527 4.242013 3.447490 4.015271 4.741349 5.824567 4.765705 5.115928
 [4817] 4.512044 4.731270 3.578452 5.752610 3.620389 4.819804 4.356703 4.641073
 [4825] 5.537313 3.360999 4.056786 6.022127 4.875723 6.767526 4.178838 4.773906
 [4833] 5.147180 6.044577 6.477882 5.374592 3.796300 5.747257 4.313825 4.315305
 [4841] 4.392014 5.995976 3.920421 6.419066 4.350324 4.241517 3.993584 5.863853
 [4849] 4.138505 4.841378 5.596375 5.117066 5.182793 4.595011 4.920112 4.815886
 [4857] 5.663322 5.301713 4.050279 4.902423 5.260495 3.743393 4.674055 4.538757
 [4865] 4.956603 4.270285 4.740609 4.645517 4.790928 4.846293 4.570240 5.509481
 [4873] 4.836792 4.701823 4.422782 3.507974 5.170745 5.601791 4.436534 5.363963
 [4881] 5.170217 5.042353 6.382727 6.188768 4.317907 4.925859 5.937091 4.015956
 [4889] 4.768602 5.948670 5.172791 6.162419 4.757346 4.067079 3.421842 5.166521
 [4897] 4.559246 4.220049 6.280438 5.113530 4.879357 3.490337 4.426420 5.745233
 [4905] 4.761159 6.278561 3.679505 5.075210 5.075436 3.515399 5.057912 5.854418
 [4913] 6.559776 5.467023 4.291584 5.305065 5.426789 4.199889 6.912592 3.703022
 [4921] 5.662719 4.337182 5.636368 4.644210 5.258211 5.063062 3.454308 3.737433
 [4929] 4.418089 4.616643 6.549769 6.669983 6.112005 5.410941 3.368512 4.884032
 [4937] 4.589533 6.122422 5.576855 5.758974 5.106095 6.684716 4.322004 4.832799
 [4945] 4.198898 4.737871 4.138125 5.508569 5.629239 3.904222 4.674307 5.582298
 [4953] 6.127188 4.994000 4.694723 4.898086 6.228285 4.337734 5.673365 6.019568
 [4961] 6.425621 6.302109 5.932789 6.270183 6.524022 4.588605 4.159634 6.309764
 [4969] 4.546334 5.663628 3.720939 5.580222 3.526328 4.195599 5.211454 4.819351
 [4977] 4.814505 5.140149 5.303769 4.462668 4.403511 6.811696 5.238265 3.422068
 [4985] 5.315692 4.983078 4.811718 5.410013 5.103302 5.890858 3.922890 7.187878
 [4993] 4.494183 5.773436 5.585285 4.380105 6.363473 4.555123 4.843208 7.392622
 [5001] 5.060736 5.010810 7.731685 4.798419 4.714691 5.050788 3.929653 5.308231
 [5009] 3.699028 5.271287 5.948197 5.987837 5.981416 4.114402 3.638153 6.692549
 [5017] 5.174095 3.389581 4.741289 5.066487 4.410521 3.124724 5.150039 4.665444
 [5025] 5.398958 5.184238 5.157997 5.940322 5.055097 6.269590 4.694980 4.872856
 [5033] 5.035922 5.089550 3.251534 4.272879 4.443102 3.353922 3.315892 5.223951
 [5041] 4.935178 3.350479 5.502325 4.348433 5.327889 4.427168 3.516495 5.107148
 [5049] 3.693461 5.823234 5.464072 4.171657 5.095992 5.804232 4.336856 4.285585

[5057] 5.043619 3.727030 4.520156 5.351591 4.799537 4.000645 6.530078 3.764687
 [5065] 6.804110 4.746982 4.225445 5.113461 4.052475 4.312196 4.776273 5.528683
 [5073] 6.006434 5.834069 5.944667 7.188861 4.801713 3.472468 3.317166 4.323696
 [5081] 4.532590 6.266814 4.249172 5.481187 4.481275 4.284539 5.338477 4.211301
 [5089] 4.464355 3.323811 5.849028 5.197538 4.759469 5.508179 5.427613 5.214966
 [5097] 4.226087 3.953452 4.455835 4.915821 4.873848 5.020478 5.083549 4.946792
 [5105] 5.851003 6.218039 4.796515 5.221492 4.835225 5.044713 5.262917 4.806138
 [5113] 5.156188 5.510745 3.254736 4.584220 4.122620 6.623861 5.294862 4.648029
 [5121] 5.600027 3.740735 4.785586 3.463689 5.137710 4.652893 5.323365 4.417991
 [5129] 4.874355 4.665598 5.964903 4.945283 4.336767 5.425293 4.829087 4.442654
 [5137] 5.199242 3.812105 4.114746 3.733808 6.386241 4.324427 5.448181 4.053713
 [5145] 3.648600 4.690951 5.006335 4.064294 5.082062 5.637309 3.340975 5.423172
 [5153] 4.618826 3.835012 4.431879 7.039694 6.167648 5.003872 6.460811 4.908819
 [5161] 5.710811 6.787539 4.654931 4.856773 3.793233 4.266086 5.358816 6.256159
 [5169] 5.598053 3.934099 4.887952 4.548925 6.275683 4.913358 4.901943 5.330999
 [5177] 4.829236 4.611155 5.125815 4.353875 3.721959 3.728284 4.575653 4.244380
 [5185] 5.229468 5.141996 5.085925 3.648191 4.069635 5.219917 5.200084 5.852608
 [5193] 6.297928 5.862718 4.054804 3.708975 4.319862 5.601122 3.791856 5.645132
 [5201] 5.125545 3.743169 5.896495 5.740413 5.197586 5.774011 6.637143 7.035396
 [5209] 4.010271 5.407346 5.232843 4.167839 4.636139 6.141605 4.302673 3.945426
 [5217] 4.037039 4.937890 5.567635 4.867352 3.734169 5.064073 3.633873 5.233730
 [5225] 4.814778 4.441767 5.551438 3.409931 4.880701 4.428662 5.091549 6.163453
 [5233] 5.017241 5.043985 4.910208 6.517114 4.315549 4.563763 5.698755 5.248700
 [5241] 4.415515 5.443754 4.799210 4.198530 5.390829 6.146953 2.953678 4.431868
 [5249] 4.487423 4.026617 4.472424 4.607609 4.924261 5.318326 4.840244 4.489802
 [5257] 4.885762 4.105068 3.407148 5.018669 7.050342 5.149671 4.921166 4.277029
 [5265] 5.014105 5.153378 4.272552 5.590018 5.583301 4.925989 4.393233 6.593759
 [5273] 5.737400 4.550301 5.870564 3.853314 6.068826 5.666525 4.748821 4.183934
 [5281] 4.793883 3.756784 5.294626 4.182727 3.479119 5.105050 5.023756 6.374525
 [5289] 5.188099 6.055902 3.775513 4.554966 6.217053 3.315486 5.911053 6.465439
 [5297] 4.039371 5.572150 3.711477 7.385404 5.599029 5.151144 6.172317 6.258916
 [5305] 5.549749 4.446094 4.002773 4.028816 4.404252 6.148882 5.465910 4.674567
 [5313] 4.932552 4.982274 4.312334 4.498298 5.119575 5.236808 4.292051 7.736678
 [5321] 5.453770 4.667820 5.297448 4.392052 4.296882 5.360044 3.970875 5.476640
 [5329] 5.143104 4.946613 4.085546 3.514856 5.691894 3.658519 4.522808 4.509748
 [5337] 4.979543 3.836597 6.584563 4.427229 5.841089 5.817966 4.700897 5.878339
 [5345] 5.198837 4.440330 5.459695 5.017991 5.548292 5.447246 4.897819 4.105156
 [5353] 4.722329 4.552242 3.254792 5.220718 5.878826 5.934833 3.988015 5.326086
 [5361] 7.482037 3.953972 5.632960 5.560307 3.679048 5.962211 3.878692 4.906587
 [5369] 5.247362 4.092080 4.029963 5.750847 4.373392 5.429545 7.078200 5.226923
 [5377] 3.348150 3.963306 3.932361 4.489305 4.650940 5.680274 4.651789 4.374605
 [5385] 4.036721 3.647400 5.530661 5.364500 5.317204 5.323017 5.745661 5.068540
 [5393] 4.780250 4.211723 4.553900 5.334455 5.510218 4.715749 5.523466 4.268467

[5401] 4.343613 5.866756 5.901604 6.110955 4.063867 4.910118 3.646700 4.405719
 [5409] 7.400463 5.194126 5.514087 4.286717 4.414479 5.435567 3.802530 5.143257
 [5417] 5.852396 4.194915 5.202887 5.025153 3.365950 6.026559 3.991983 5.023575
 [5425] 4.459801 5.965192 4.086409 4.218766 5.236759 5.302136 6.629164 4.738594
 [5433] 5.638727 4.817069 5.068894 3.943151 5.583722 4.776615 3.471938 2.916806
 [5441] 6.528118 3.156747 6.214619 7.575717 3.718844 5.256851 4.767956 4.304346
 [5449] 4.551280 4.754240 4.539941 4.838858 4.549692 3.135591 5.721251 5.118813
 [5457] 5.522746 5.993451 5.528801 7.434816 4.777928 5.388588 3.660849 4.602683
 [5465] 3.955369 5.140173 6.121874 4.245771 5.497724 4.717557 5.708552 2.970902
 [5473] 4.909302 5.831002 5.468843 4.664039 6.660024 5.366600 4.894722 4.168367
 [5481] 4.996581 3.951982 4.346240 5.646618 3.822142 4.591615 6.168308 5.415398
 [5489] 5.738869 5.364660 3.201266 3.989168 7.297250 4.582724 5.032799 5.548456
 [5497] 4.086726 4.583095 4.220396 3.874652 3.970170 5.060043 5.100870 6.189042
 [5505] 4.956601 5.390633 3.461968 5.467575 4.690874 4.356307 5.627073 6.153894
 [5513] 4.139450 5.392628 4.246517 5.064980 6.280592 5.088025 6.081517 5.141291
 [5521] 5.531478 3.997045 3.089312 5.168499 5.477323 3.989105 5.802041 4.368274
 [5529] 6.008761 4.589672 4.713207 5.464598 4.311682 3.865598 5.424000 3.507761
 [5537] 5.855299 4.018242 4.182588 3.862654 5.730282 5.546985 5.372654 5.407345
 [5545] 4.346504 3.270996 4.848616 5.108956 4.768428 5.590033 3.384920 3.986343
 [5553] 4.854074 3.816510 3.954176 6.077378 6.548503 4.239075 5.036529 5.566919
 [5561] 6.220801 3.364442 5.279673 5.232161 4.753897 4.170298 6.392604 5.526136
 [5569] 4.230788 3.968475 5.474145 3.988167 5.164481 5.025984 4.216592 4.565927
 [5577] 4.230111 4.340673 3.624533 3.901736 5.648157 5.276104 5.144310 5.783551
 [5585] 3.822796 4.184767 7.359598 5.859618 5.182452 4.736833 4.782427 3.964329
 [5593] 5.338679 5.410544 5.732567 6.101054 4.831629 3.989436 4.961442 5.346310
 [5601] 4.725418 6.298539 6.529707 4.443192 7.544459 3.851657 4.462436 3.607515
 [5609] 3.858275 6.017186 4.579472 5.577020 7.996835 6.328978 5.926392 4.958172
 [5617] 3.801249 4.982947 3.637460 5.107803 6.173560 5.706855 4.971713 5.929431
 [5625] 4.871392 4.738045 4.177203 4.907620 5.876743 4.786416 5.085929 3.300158
 [5633] 4.037249 6.821971 4.946851 4.902702 3.813358 4.292787 5.489837 4.560149
 [5641] 5.289223 4.875274 5.467198 4.483895 5.242714 4.168960 3.008387 5.100740
 [5649] 4.694914 5.761043 4.282077 5.143918 4.561497 3.660433 5.187387 4.557329
 [5657] 3.954593 4.896880 3.511816 4.009793 4.401256 4.529893 4.623299 5.547073
 [5665] 5.622726 6.057134 4.456668 4.438340 4.860962 4.779498 4.622942 5.671429
 [5673] 4.620691 4.181641 4.743307 4.941433 5.005814 5.681278 5.869725 4.117088
 [5681] 4.270169 4.851074 3.989207 6.362444 4.658223 3.479694 3.581298 4.810573
 [5689] 3.064078 4.061523 5.241888 5.610764 5.100835 4.291220 4.312872 5.889637
 [5697] 4.488853 3.414920 4.427043 5.371794 7.343226 5.922455 4.379009 5.006077
 [5705] 3.906337 5.471622 3.812606 3.663051 5.788273 5.475064 5.109403 5.771837
 [5713] 6.933395 6.600916 4.314856 4.037820 5.814369 5.023864 5.784387 4.273075
 [5721] 5.568514 3.924862 4.397904 4.308212 4.786048 4.408526 7.236564 4.981328
 [5729] 6.966062 4.860263 3.779233 6.043935 5.579786 3.452254 4.867082 4.137595
 [5737] 6.661182 5.399968 4.791338 6.050267 6.274315 6.004062 3.031446 3.719550

[5745] 4.273955 3.579305 4.416817 4.146053 5.418696 5.826406 4.394312 4.831373
 [5753] 4.589929 5.142402 3.209664 5.249951 5.703381 5.787542 5.967541 5.401473
 [5761] 4.627188 5.388370 5.890571 5.113053 4.553456 6.665678 7.710686 4.285711
 [5769] 4.711628 3.228081 4.270072 5.352990 5.574638 5.285231 3.688972 4.097282
 [5777] 4.383748 4.001215 5.965660 6.278866 4.765195 4.818705 7.066920 5.402908
 [5785] 3.823968 6.418297 5.954340 5.074508 5.960690 5.314688 5.397225 3.997239
 [5793] 5.213456 3.694298 6.726742 5.641144 5.063529 3.340210 6.392121 4.731630
 [5801] 6.378337 4.621905 5.679970 4.925323 4.178641 5.624873 4.210592 3.884852
 [5809] 5.336757 5.339465 3.806830 4.591622 5.168495 6.444936 6.047342 4.583589
 [5817] 3.880493 4.244796 6.434601 5.867574 5.473181 5.778825 5.013076 4.967371
 [5825] 5.015442 5.826630 3.970642 3.784904 5.808346 4.422472 6.137220 5.103115
 [5833] 4.567287 5.776195 5.559532 4.752887 4.731683 5.768997 4.606564 4.861156
 [5841] 5.207090 3.519290 6.435652 4.490708 3.355205 4.418295 5.459296 5.084405
 [5849] 4.157615 4.656814 5.272161 4.684002 5.591082 4.921760 5.193182 6.083257
 [5857] 5.332183 4.487082 4.947036 6.041843 5.836101 4.021953 5.866357 4.891744
 [5865] 4.660815 4.967652 4.161983 3.427281 5.941719 6.312093 4.861180 4.859085
 [5873] 5.406207 4.658401 4.658760 4.971332 4.125985 5.004763 4.089277 3.928571
 [5881] 8.159811 6.268058 4.589156 4.287565 3.297100 5.394934 3.672303 4.073466
 [5889] 4.883578 5.004242 4.972160 5.273371 5.615451 4.432552 4.646849 4.154080
 [5897] 5.561313 5.096048 4.691287 5.522946 5.139025 6.040696 4.569360 5.668377
 [5905] 5.021688 5.628559 4.214483 4.311211 4.936900 7.053674 4.218050 6.134508
 [5913] 3.400236 4.845870 4.946607 5.162560 4.119464 4.930583 7.558103 5.971917
 [5921] 5.854814 6.239878 5.048634 4.047068 4.741290 5.104647 3.914438 4.299836
 [5929] 3.463825 4.917544 4.410367 4.778849 5.581845 4.725825 5.362752 4.268453
 [5937] 3.366360 3.665855 3.816607 6.046454 5.043417 5.650169 3.494574 4.000518
 [5945] 4.559975 5.090838 5.012501 5.022900 5.564501 4.596899 5.102933 4.829916
 [5953] 5.380486 4.782115 5.391743 5.591393 4.750999 4.651752 4.600522 6.373657
 [5961] 5.462190 5.009273 5.540352 4.720318 5.615548 5.104491 4.397635 5.521475
 [5969] 4.690885 5.058893 4.505242 5.600961 4.071584 5.955597 3.238376 4.876234
 [5977] 5.088664 5.247655 5.000439 3.735552 6.258377 5.487363 5.366843 5.073949
 [5985] 4.807875 7.251758 4.538088 4.320665 4.229713 4.138257 4.792443 5.740699
 [5993] 5.185867 4.300691 4.303973 3.144146 4.324932 6.062495 4.800257 5.143149
 [6001] 5.614567 3.993831 4.028980 3.589873 5.814781 5.234036 3.936330 4.042404
 [6009] 4.798000 5.182451 7.279092 4.638574 5.919241 3.354820 5.937072 5.803651
 [6017] 4.090699 4.076747 5.283123 5.466729 6.370943 5.796204 4.948520 4.457509
 [6025] 5.494371 4.784698 4.837165 5.229102 4.990312 6.008461 3.527631 5.084581
 [6033] 3.388074 5.459891 5.031511 5.954973 5.855045 6.092521 3.295358 4.767769
 [6041] 4.680562 4.983672 5.759213 5.890845 4.086128 7.042879 4.505026 4.077232
 [6049] 2.956226 5.997958 3.956986 6.114304 5.176893 3.684027 5.922990 4.045112
 [6057] 4.861135 4.763334 3.681809 6.873778 4.697129 4.732556 3.602627 4.735311
 [6065] 3.849212 5.986487 5.681312 2.770098 5.342513 3.524072 4.520004 5.091517
 [6073] 4.547808 3.856518 3.733373 4.143403 5.330822 5.073994 5.075208 5.264648
 [6081] 4.180126 6.483789 4.879212 6.281783 5.169962 5.559737 4.476657 4.318582

[6089] 5.017246 6.445838 4.614462 5.304711 4.803639 4.020271 3.123370 4.779539
 [6097] 4.990950 4.639522 4.453780 4.646830 4.227397 4.692758 4.542385 4.685979
 [6105] 5.308145 4.518573 5.265083 6.255164 5.660878 3.725129 5.067514 6.446396
 [6113] 4.524013 4.150907 6.404979 5.460247 5.543561 5.637957 5.576659 5.056632
 [6121] 6.345396 6.128019 4.700547 4.674193 3.778212 6.079758 5.378336 5.931055
 [6129] 5.865068 4.476250 5.408245 5.458724 6.166221 4.834052 5.842368 3.994263
 [6137] 4.629298 5.057202 5.594625 4.719904 4.695696 4.354637 5.215382 4.951683
 [6145] 4.590040 5.895275 3.977315 5.422889 5.913220 4.599657 5.475604 5.593473
 [6153] 5.048921 4.603204 4.536545 4.129406 4.750746 5.331096 6.595222 4.602024
 [6161] 4.876709 5.934787 5.141764 3.817142 4.622946 5.262145 4.669779 4.761827
 [6169] 4.335013 5.492235 5.364090 5.471683 4.892893 5.919265 5.107813 4.292401
 [6177] 4.187390 5.221550 4.589329 4.028686 4.434574 4.310742 3.891830 3.794066
 [6185] 4.518241 4.504381 7.036115 4.683787 4.256193 4.918961 4.654803 6.248942
 [6193] 5.193139 5.356392 4.490570 5.660953 3.431272 5.780223 4.282422 5.013531
 [6201] 4.947949 4.934984 5.248581 4.102001 5.175464 4.889599 4.638082 7.069252
 [6209] 5.397434 4.906023 6.313775 5.392933 6.833815 5.604805 4.948034 6.159424
 [6217] 5.142511 7.980235 5.412868 5.643365 4.608968 4.519522 4.556698 4.383956
 [6225] 5.294158 4.764228 4.822761 5.930528 4.340060 4.193106 5.445403 3.788830
 [6233] 6.225703 4.634440 5.442223 5.645960 4.967400 4.408940 5.039894 5.247037
 [6241] 4.152305 6.418350 5.046908 5.457201 4.597881 6.032860 4.945850 5.403039
 [6249] 4.895659 4.899444 3.624179 4.993406 4.781070 3.845195 6.701395 5.140225
 [6257] 4.293735 4.301298 5.862858 5.094980 5.119449 5.582303 5.067295 6.934448
 [6265] 6.311868 4.890693 4.311336 4.640123 4.782194 4.904048 4.650949 6.009836
 [6273] 4.838993 4.034573 4.738092 5.856555 4.103863 6.889290 4.621334 4.319831
 [6281] 6.230656 3.899176 4.168837 4.776505 3.422569 5.342241 3.336828 4.012909
 [6289] 5.930147 4.467807 4.467260 4.982083 3.627480 5.219559 3.578354 6.238057
 [6297] 5.289537 5.738328 6.058901 6.740510 4.889082 3.672325 4.697357 5.129430
 [6305] 5.209019 3.613941 4.508688 6.006286 4.960537 6.104399 6.608222 4.966844
 [6313] 6.386634 3.461718 5.370201 6.036953 4.526558 6.286154 4.040543 4.786012
 [6321] 7.463322 3.077827 5.225110 6.755957 6.712350 5.305165 4.640883 5.691268
 [6329] 5.007975 4.288222 4.660394 3.977637 5.865764 4.801165 5.863241 4.313817
 [6337] 4.619939 3.843727 5.348723 5.839700 4.632433 4.610028 4.768652 5.828734
 [6345] 5.871195 4.770630 5.181583 4.533060 4.887925 4.363132 5.350491 4.770669
 [6353] 4.904696 4.645489 6.208172 4.243547 5.188307 4.831962 4.158584 5.246801
 [6361] 4.771545 3.888727 3.766588 5.626813 4.290872 5.573336 4.413419 7.215899
 [6369] 5.917939 5.140756 5.247397 3.858550 5.547886 5.117196 5.227242 4.550203
 [6377] 4.930762 7.219166 4.873172 3.336722 3.619428 5.546200 5.589384 6.708295
 [6385] 5.437622 3.353299 5.981757 4.671539 4.633983 5.055554 5.019616 2.806959
 [6393] 4.917777 4.851129 8.068206 4.249524 4.402245 5.366520 4.782136 5.376808
 [6401] 3.647688 4.529933 5.141416 5.940946 3.197220 3.967767 5.868354 4.998183
 [6409] 4.904727 4.709001 6.648248 5.345536 5.329246 5.898958 4.887658 6.066841
 [6417] 7.121642 5.004598 4.492576 4.579450 4.109985 3.520221 3.885977 4.833472
 [6425] 5.484156 4.758859 4.935453 5.513998 5.403085 4.236016 4.808574 6.576592

[6433] 4.944546 4.654982 3.799108 6.144898 5.116031 3.980633 4.523267 5.164521
 [6441] 5.247003 4.493312 5.550005 5.286711 5.995703 4.086870 4.605652 4.980607
 [6449] 4.428836 3.992708 6.704242 5.655440 4.823706 6.654769 5.698824 5.666079
 [6457] 5.177058 5.248039 5.970420 5.332344 4.978286 5.972392 4.327140 5.159264
 [6465] 3.599733 5.783188 4.168972 5.166299 4.982114 4.365062 5.046381 4.290152
 [6473] 4.126876 5.233246 4.556579 4.128839 5.025885 5.734245 5.681919 4.133921
 [6481] 5.166258 4.064101 4.840062 4.656252 4.463410 6.072296 6.080227 4.316942
 [6489] 4.689018 3.862919 4.906212 4.312153 3.997724 2.946008 5.304209 6.255238
 [6497] 4.815739 6.060786 5.137170 5.278882 6.062357 5.791257 4.040975 5.057356
 [6505] 4.289807 6.568967 5.836512 5.586125 7.994764 4.556035 4.733508 6.590869
 [6513] 5.170594 3.496939 5.082154 4.899132 4.444541 5.309239 4.614648 4.116339
 [6521] 3.553918 4.679435 4.183083 6.867884 5.276445 7.149663 4.818171 4.960258
 [6529] 4.025262 4.012158 4.032223 5.445745 6.233567 4.785252 5.598607 5.485367
 [6537] 8.141817 4.951378 5.823808 3.309195 5.376806 5.299109 2.904310 4.155249
 [6545] 3.807738 5.917668 5.227958 8.211368 7.508403 4.023640 4.764883 5.880574
 [6553] 3.165941 5.662048 2.980129 5.601360 4.178821 6.173829 3.920422 4.568440
 [6561] 5.754611 5.684559 4.975863 3.847550 3.743367 7.222121 4.162685 5.247706
 [6569] 4.334243 4.430049 3.921005 4.601457 4.260851 5.833561 3.910718 5.483171
 [6577] 4.944476 4.588327 3.717802 6.650746 5.132738 5.909424 5.793207 4.180466
 [6585] 4.164306 5.857308 5.310259 6.204227 4.499289 4.638665 5.153779 5.558047
 [6593] 5.264248 5.264615 4.716103 4.585355 6.322647 4.639332 5.307418 5.614366
 [6601] 3.395236 4.311341 3.390648 4.062671 5.631155 4.536468 4.068832 4.360699
 [6609] 4.129592 6.780484 4.769805 5.883887 5.072305 5.754598 5.945516 5.411803
 [6617] 5.353846 4.614147 4.669153 3.674618 5.218339 4.885946 5.206287 6.041114
 [6625] 3.593013 4.814276 4.840497 4.486195 2.925942 4.606982 5.395131 3.977718
 [6633] 4.330583 5.969139 3.435674 5.688545 4.260577 5.137742 5.270555 5.289458
 [6641] 5.614566 4.862458 4.513051 3.574911 5.108559 4.442009 4.891447 6.261353
 [6649] 3.610550 4.149094 5.250935 4.824848 4.872854 6.005219 4.770668 4.344371
 [6657] 4.985345 4.088425 6.557349 4.357803 5.930074 5.104523 4.862321 2.552104
 [6665] 4.420601 4.168474 5.587935 3.834777 4.122302 5.015686 4.623932 5.103190
 [6673] 3.982371 5.453195 4.233931 5.770771 5.415246 5.472850 4.923855 3.835465
 [6681] 5.677454 5.011903 4.536991 6.146051 6.392332 3.426910 4.115566 4.450083
 [6689] 5.744572 3.891013 5.058397 4.922206 5.900344 6.402237 4.179320 4.711083
 [6697] 4.497008 5.788770 5.874963 4.654479 3.843185 5.024464 5.477756 5.478004
 [6705] 3.611015 4.470518 4.623039 7.291523 6.846384 6.260369 4.187101 4.910651
 [6713] 5.335920 7.784062 5.601165 4.929243 4.343391 4.397108 6.004802 5.765378
 [6721] 4.092026 4.708402 3.579252 5.042258 5.179759 6.129915 4.331418 5.296764
 [6729] 6.576992 3.725541 4.767044 4.108655 3.500624 5.228389 4.818176 4.568953
 [6737] 6.250671 6.298121 4.170042 4.780007 4.642473 6.492600 4.728547 5.902043
 [6745] 4.449664 7.056743 3.203270 4.263654 4.914246 6.196364 4.439816 5.104939
 [6753] 5.173728 6.211459 5.990222 5.581229 4.774471 4.720875 4.251563 6.085795
 [6761] 4.301588 5.162220 5.791130 5.529474 2.635494 3.184484 5.863972 6.176564
 [6769] 4.880797 4.141121 4.378796 3.216569 4.580683 3.805170 4.301608 4.588396

[6777] 5.464340 3.881100 4.393142 4.392682 5.934801 4.771980 4.030980 5.171710
 [6785] 5.149233 6.880291 5.437445 4.333409 5.966586 5.883537 4.002647 4.186157
 [6793] 5.015459 6.785068 4.171976 4.699286 4.215487 3.921995 5.437709 4.112067
 [6801] 4.160504 4.160283 3.439647 5.583460 6.982831 4.842348 4.296865 4.269644
 [6809] 5.323863 6.364924 5.165595 5.180363 3.982783 4.541889 7.164319 4.031436
 [6817] 4.346315 5.405884 5.968526 4.638728 5.235948 5.099297 3.504960 6.078509
 [6825] 5.902427 4.990467 5.206415 4.145890 4.262299 4.578971 5.413803 4.608425
 [6833] 5.900934 5.436243 4.341767 5.012163 5.964315 4.708446 5.580006 5.912070
 [6841] 4.730458 5.552326 5.362132 4.783339 5.942393 6.415106 4.897836 5.016382
 [6849] 3.442295 4.907589 5.881587 4.712206 5.831938 5.827228 3.792613 4.577880
 [6857] 6.182599 4.925346 4.653795 3.695436 4.018564 5.806256 4.481316 7.855637
 [6865] 4.942856 5.636821 4.169912 3.359331 4.132927 5.019463 4.575723 6.022641
 [6873] 5.172805 4.293922 6.366233 5.883696 4.444524 6.218842 7.200701 5.921643
 [6881] 4.403232 7.483791 5.780959 5.566455 5.722409 4.463759 4.272524 5.002267
 [6889] 3.651428 6.714214 6.782544 4.839690 4.928418 4.750693 4.810399 4.586224
 [6897] 5.123018 7.846333 5.570834 4.690057 4.297201 3.830811 4.902658 3.760541
 [6905] 5.302834 5.611356 5.846211 4.634240 4.041866 3.955752 5.272281 5.774301
 [6913] 4.550455 5.578139 3.697419 5.741575 4.907254 4.827175 6.307659 5.338510
 [6921] 3.767487 6.086134 5.396032 5.374624 4.426567 4.202160 3.640531 4.848295
 [6929] 6.207505 5.607041 3.736093 6.399595 5.572015 4.295801 4.347015 5.585203
 [6937] 5.238530 5.505764 4.508235 3.391968 4.670188 4.596986 4.703162 3.617590
 [6945] 5.365791 4.705884 4.362247 4.752656 5.355453 3.261776 4.007554 4.632100
 [6953] 4.507315 4.147624 4.900374 3.892434 4.630537 4.016351 4.387822 6.737904
 [6961] 6.550603 3.550806 5.108218 3.736880 4.488041 6.649347 5.198472 5.204713
 [6969] 3.903065 5.060728 5.016576 5.633583 5.063886 6.128931 4.897607 4.138864
 [6977] 4.258648 5.902154 5.393830 5.074964 5.376355 3.963809 4.070527 5.900291
 [6985] 4.680590 4.805924 5.706078 6.002871 5.316111 3.641780 4.815704 4.490624
 [6993] 5.875292 6.355805 5.424080 4.466125 5.770949 2.847877 3.560347 4.095211
 [7001] 5.051108 4.602393 5.509074 4.497569 6.368956 5.651578 5.018598 5.844283
 [7009] 3.555481 4.716678 3.095876 5.754950 4.936114 4.517573 5.579476 4.559245
 [7017] 4.945584 4.582892 4.109722 6.018379 5.229997 3.259572 3.830098 5.601813
 [7025] 4.846016 5.100338 5.513529 4.536963 7.338406 7.595539 5.673677 5.701000
 [7033] 3.671069 4.579086 5.956593 5.821583 5.125091 5.203922 6.062849 5.060383
 [7041] 5.277629 3.163230 4.194648 3.380206 5.567728 4.775925 4.144230 4.631238
 [7049] 4.019094 5.129569 4.598218 5.468554 6.013554 5.272119 4.751456 5.714070
 [7057] 4.001287 4.241671 5.580150 6.142693 4.965936 4.909906 4.975010 4.652576
 [7065] 5.816042 5.078849 4.938229 3.735343 4.302556 3.495882 3.752485 5.268257
 [7073] 4.951292 5.500766 5.751413 7.330946 6.578213 6.263384 4.246951 3.788572
 [7081] 6.142545 5.146086 4.006581 4.615073 5.329134 6.619000 4.245870 3.935222
 [7089] 4.314240 4.562137 3.569819 3.818485 5.149839 4.316167 3.891241 3.574898
 [7097] 3.971020 4.503868 5.509933 3.420245 4.035975 4.810137 3.697194 5.720844
 [7105] 6.145774 4.765589 5.339756 5.059215 4.499349 4.498302 3.536850 4.933523
 [7113] 4.992087 4.120091 3.862318 5.748667 5.578698 4.738753 3.906912 5.565389

[7121] 4.816662 4.193511 3.935813 5.437436 5.470046 4.311426 3.781570 4.252686
 [7129] 6.515779 4.747763 4.403433 3.746574 4.911835 5.448095 4.247343 3.103496
 [7137] 3.712402 5.612962 4.506824 5.398800 4.516800 5.303589 3.927649 4.241267
 [7145] 5.301001 3.657290 6.100485 5.494330 5.629177 4.204872 5.108091 5.406879
 [7153] 6.045661 4.754757 4.125562 5.335718 4.611657 5.880992 6.794564 4.387726
 [7161] 5.076056 4.141446 5.808977 5.684129 4.545272 5.255363 5.169390 4.620712
 [7169] 4.908502 5.303319 5.544802 5.129927 4.993581 4.224899 4.105858 5.931287
 [7177] 4.592143 4.305067 3.495827 5.343009 3.613094 4.524901 6.102067 4.941303
 [7185] 5.710282 4.915163 5.601827 5.617575 6.613893 6.468329 7.164914 6.211853
 [7193] 6.920071 4.613010 4.266150 4.677941 4.723910 4.739099 6.899603 5.140207
 [7201] 4.106158 4.000298 6.925640 4.549940 4.569523 5.117876 4.378294 5.700858
 [7209] 5.219081 5.823329 4.470297 4.086347 5.036530 5.115196 4.636149 3.210965
 [7217] 3.907559 5.757986 4.354664 4.716847 4.601682 5.397003 5.785464 5.259445
 [7225] 4.596633 5.362583 6.274344 4.593813 6.887347 3.813910 4.244561 5.627080
 [7233] 4.649918 5.172251 6.143825 4.513174 4.696412 4.290082 4.914092 4.893856
 [7241] 5.174669 6.260945 4.898099 5.404658 3.987746 5.229746 5.215198 5.677041
 [7249] 4.280962 4.883443 3.648318 6.357350 4.612972 4.846663 2.997653 4.763123
 [7257] 5.377944 6.171456 5.688975 4.199897 4.010159 5.414962 5.039717 3.994725
 [7265] 3.320862 4.155411 6.282755 5.094367 4.766498 4.434383 4.052754 4.239617
 [7273] 5.804078 3.149673 4.285145 3.251457 5.938548 6.276215 6.109326 4.392778
 [7281] 4.134237 3.187949 4.653135 6.075919 5.353957 4.646587 5.893282 4.938729
 [7289] 4.845746 5.122996 6.236363 4.544027 5.339748 5.857590 5.955251 4.187775
 [7297] 4.747332 4.242820 3.983531 5.712983 4.562155 4.864434 4.334762 5.628398
 [7305] 4.805190 3.593216 3.640869 5.582525 4.428250 5.171348 5.414764 4.852507
 [7313] 5.350941 4.965707 3.698491 5.545960 4.823596 6.314587 5.070843 4.609193
 [7321] 5.230702 4.998207 6.131105 5.552551 5.119311 5.093711 3.602306 4.990736
 [7329] 3.904375 5.429652 5.760727 6.980325 5.197183 3.142472 4.651676 3.993063
 [7337] 5.045948 7.685044 5.221801 6.124819 4.820920 3.951120 6.547274 3.952741
 [7345] 5.236117 3.842030 5.435614 5.546554 4.216334 5.224737 5.919259 5.059647
 [7353] 5.132736 6.425361 4.243857 6.254725 5.242753 2.917982 5.331948 5.534248
 [7361] 4.793114 5.665307 3.026454 4.902399 4.162509 4.986920 6.440202 3.935085
 [7369] 5.495364 6.561219 5.530692 6.564481 4.024810 5.318707 5.816392 4.598289
 [7377] 6.054374 4.890723 5.619735 3.336752 4.930482 3.912173 6.535240 4.798714
 [7385] 4.765322 5.351705 5.235251 7.399687 6.514507 6.024180 5.320123 3.617815
 [7393] 5.058772 5.827099 3.824684 4.933026 5.575002 5.105445 6.355233 6.365239
 [7401] 4.597114 4.445802 4.451289 5.227285 4.455946 5.227187 5.430716 3.946562
 [7409] 4.704151 5.827009 4.520371 5.211961 4.614839 4.765097 3.746715 6.678949
 [7417] 5.108321 3.696315 5.575317 5.672698 5.276297 6.544388 5.970791 3.321878
 [7425] 3.763682 4.742944 3.857166 4.994278 6.624947 4.374193 3.487518 6.034383
 [7433] 4.847026 4.492217 4.331089 6.969525 5.247535 6.440565 4.511954 4.076630
 [7441] 4.561865 4.347136 4.948831 4.601095 5.572867 3.681731 3.695672 4.997777
 [7449] 5.742380 4.931251 4.234094 4.510294 4.180675 4.705621 4.744946 5.410437
 [7457] 6.242410 4.729166 3.981825 4.596407 5.333508 3.833017 3.808943 5.655266

[7465] 5.463603 6.803621 3.739808 4.624427 4.093983 4.478242 4.660161 5.078234
 [7473] 4.877796 4.844100 3.749777 4.466723 5.300742 4.478561 5.033157 3.986273
 [7481] 5.115411 4.650227 5.945748 3.537888 5.345400 5.612734 4.857635 6.869027
 [7489] 4.399938 4.867883 4.591146 5.127419 5.183126 5.190244 6.505420 4.676163
 [7497] 5.369404 5.959871 4.442352 4.676114 3.874374 4.204206 4.526225 5.066188
 [7505] 4.679336 5.154110 4.832187 5.480598 5.043329 4.800167 4.833872 4.447076
 [7513] 5.253213 5.947046 6.340550 4.816926 5.204542 4.674362 5.658463 4.070098
 [7521] 6.854422 5.153613 4.946692 3.651716 4.627993 4.286375 4.369876 4.036585
 [7529] 4.979192 3.705933 5.125178 5.905446 4.369581 5.049721 5.766936 4.249723
 [7537] 4.497357 5.319766 4.699313 5.628271 5.210060 4.436303 5.149067 6.626739
 [7545] 6.772073 5.758537 5.941211 4.381738 4.940900 5.881693 5.683332 3.213249
 [7553] 5.062947 5.791876 4.730572 4.775995 4.833352 5.144585 6.448466 4.766755
 [7561] 5.584413 4.562653 3.214994 4.108391 4.774150 4.420570 5.984654 5.463141
 [7569] 7.345708 6.141997 4.747397 4.950677 3.204144 5.613067 3.333279 5.146610
 [7577] 5.494098 4.657144 5.413142 3.999791 4.571499 4.647411 4.529893 3.581328
 [7585] 5.914310 5.143760 5.780086 3.727355 5.540996 3.998903 5.248734 4.445903
 [7593] 4.670148 4.884717 5.622252 4.666001 5.346594 5.024050 5.756300 4.761137
 [7601] 5.304530 5.744712 6.546216 4.892478 4.725710 4.806717 5.139084 5.408150
 [7609] 5.184785 5.904011 4.156716 4.568827 4.755199 4.128468 5.995028 5.727444
 [7617] 3.809074 4.976853 4.423562 6.378171 4.757054 4.286043 6.800583 2.911454
 [7625] 6.008213 5.250663 3.608391 5.182216 5.393329 6.931691 6.323332 6.384407
 [7633] 5.070517 5.425624 5.390775 3.881262 6.664256 4.799802 3.232333 5.115629
 [7641] 5.147396 3.522424 5.561194 5.129352 6.468180 2.321653 6.258142 4.823377
 [7649] 6.343901 7.316177 3.645162 4.867831 5.663417 6.120567 5.384896 5.470437
 [7657] 5.248933 5.201777 5.517065 4.254407 5.335631 5.393841 5.781176 4.085501
 [7665] 4.400687 3.561615 6.112653 5.056921 5.294762 5.612836 3.671939 6.601978
 [7673] 4.699247 4.606976 5.238210 5.062488 4.617066 4.788844 4.223102 4.237324
 [7681] 4.622110 4.351843 3.930997 4.493877 4.794269 6.805386 5.693247 5.818357
 [7689] 4.230295 4.390144 5.601851 3.767933 4.658698 4.857358 6.521141 6.632780
 [7697] 3.859425 6.975797 6.022653 5.867728 4.864305 4.792845 7.149724 5.466699
 [7705] 4.157589 5.334927 3.527629 4.378349 5.272217 5.791025 4.124745 5.151891
 [7713] 4.697596 6.579682 6.534140 5.100906 5.636660 4.207940 5.249813 3.436052
 [7721] 3.628479 5.657458 5.101781 6.095189 4.871665 5.002796 4.743915 4.357690
 [7729] 4.367929 5.332335 4.411237 4.114945 5.047622 5.484102 4.503609 5.225935
 [7737] 7.230777 4.052061 4.604117 3.148342 5.328699 5.228743 5.475757 4.458548
 [7745] 4.422781 3.778584 4.752281 3.805926 5.775843 4.931110 4.912852 3.342514
 [7753] 5.450592 4.985942 4.914295 5.093347 4.417830 5.130861 5.744081 4.458804
 [7761] 5.756566 3.269834 6.504230 5.317425 4.948099 5.678601 5.451046 3.173359
 [7769] 4.937834 4.836067 5.680195 5.253606 4.565644 5.092808 3.397466 4.677518
 [7777] 4.717975 4.348949 4.128426 5.545060 5.816362 5.128454 5.456013 5.574044
 [7785] 5.710096 4.709621 3.496565 5.924807 4.322857 5.164926 6.649989 4.980075
 [7793] 4.381018 4.415187 6.187657 4.497940 3.905464 6.170467 5.097493 7.239048
 [7801] 4.684085 4.286459 4.768774 5.914003 4.234482 3.891900 5.172783 6.442820

[7809] 5.369487 6.197371 5.778142 4.997845 5.606684 5.308354 4.252277 5.184089
 [7817] 5.136249 4.964101 5.483611 5.323637 4.197162 5.172305 5.102997 6.158985
 [7825] 5.000016 6.642687 4.713463 4.723594 4.858344 6.355540 5.576769 4.912809
 [7833] 3.997851 5.586255 4.621565 4.182472 4.332429 6.045087 4.338265 6.100256
 [7841] 2.368752 5.957333 4.783997 5.562209 6.147479 4.284583 5.743862 5.260257
 [7849] 4.021147 3.502629 5.377237 4.668095 6.143620 5.555041 7.142155 4.470472
 [7857] 3.662091 5.983423 5.279828 5.355990 4.504988 5.031321 5.374461 5.068619
 [7865] 5.238754 5.544217 5.068122 4.417636 6.651447 4.542923 4.706730 4.527988
 [7873] 6.103327 5.674633 3.566440 4.278204 5.743904 5.485261 4.743367 4.006842
 [7881] 5.206799 5.764165 5.119972 5.353739 4.634344 5.665886 5.577053 4.024758
 [7889] 6.630757 4.647598 6.070569 4.426958 5.735811 3.884171 4.671406 4.315086
 [7897] 7.370087 5.979777 4.117390 5.061380 5.532019 3.908799 4.363804 5.768416
 [7905] 4.787399 4.587392 7.633438 7.131332 5.523311 3.990078 5.493600 5.912968
 [7913] 4.086574 5.406920 6.162233 4.667428 5.094472 5.339152 5.648023 4.961916
 [7921] 4.909075 5.553068 4.025159 6.209823 5.071979 4.909358 3.896309 4.313890
 [7929] 5.689506 4.567624 5.278280 3.376510 7.442483 5.554216 5.332136 3.623177
 [7937] 5.353637 3.554372 6.226964 4.449887 5.258917 2.999172 4.322544 5.125952
 [7945] 6.339982 6.595092 5.274257 5.397804 5.700973 6.274563 5.303612 6.065130
 [7953] 5.648390 4.360604 4.565371 5.043382 4.787085 5.644318 3.746946 3.740908
 [7961] 4.302285 4.415678 3.538450 5.441739 5.482236 6.350098 5.472234 6.780341
 [7969] 6.040906 6.269038 5.365920 5.469187 4.763352 3.609181 5.162581 3.907273
 [7977] 6.181467 6.522809 4.373371 5.674900 4.196340 5.645978 4.582866 4.524798
 [7985] 6.139160 5.027369 3.588539 5.049249 5.996686 5.117889 5.194661 5.257733
 [7993] 3.558405 3.723057 4.683902 4.648206 5.559978 5.366475 5.931091 4.994405
 [8001] 5.405058 4.593823 5.716082 5.406953 6.112980 4.446177 4.282027 4.398628
 [8009] 4.759813 5.514436 5.726786 6.947580 4.077871 5.111303 3.422075 5.114326
 [8017] 3.703030 6.091732 4.422528 8.657056 5.438912 6.201016 5.163021 3.479982
 [8025] 4.463037 5.646429 6.125092 3.501870 5.275866 5.008252 4.908592 5.159145
 [8033] 4.072427 3.693024 4.192943 4.819858 5.344234 5.420184 4.574823 4.390185
 [8041] 4.497940 4.848673 3.944312 5.270024 4.257602 5.109974 4.587919 3.922611
 [8049] 5.374326 4.242869 4.178442 5.552231 6.425762 4.640559 6.350301 6.556710
 [8057] 4.824489 6.290714 4.829904 5.430437 3.518702 5.806528 6.466777 5.827529
 [8065] 7.045009 5.638217 5.090651 5.575493 5.220466 4.860103 4.719529 6.135461
 [8073] 6.102440 4.714237 6.742747 4.583549 4.405905 4.486387 5.970116 4.907143
 [8081] 4.227410 4.785029 5.685219 6.057009 4.420078 5.936776 6.560187 4.973045
 [8089] 4.701454 3.396406 5.078961 3.280046 5.175797 5.223306 5.033588 4.688185
 [8097] 5.326954 3.650037 3.967965 6.830288 3.852211 7.045041 4.509270 4.325885
 [8105] 4.660279 4.484377 5.043096 5.401632 3.323289 5.950927 6.826972 4.920411
 [8113] 4.137106 3.805088 5.404932 5.670643 4.064742 5.921347 5.281185 5.810139
 [8121] 5.748193 5.524170 6.271066 6.031028 5.507068 3.898918 4.266605 5.608170
 [8129] 5.125287 6.424925 5.343631 4.976819 5.180409 6.277228 4.618793 5.631300
 [8137] 4.699351 3.563241 7.697018 6.163897 5.578379 5.285268 5.448497 3.557985
 [8145] 4.612348 6.254902 4.931135 4.400922 4.341976 6.125318 6.766433 5.061071

[8153] 4.577559 5.203584 4.729270 4.713026 3.675951 5.827919 5.761786 5.581615
 [8161] 4.913789 4.959868 4.228349 4.990842 3.369880 5.050873 3.883063 6.206040
 [8169] 4.385880 5.032724 5.371726 5.736047 4.329454 5.032828 5.992293 6.819396
 [8177] 5.873094 4.950507 6.474486 5.226527 5.535189 5.888982 6.277823 6.277776
 [8185] 3.432762 4.911180 4.787276 3.635759 6.799961 5.623630 7.598755 4.076542
 [8193] 4.618806 5.839657 5.155732 4.453892 5.180819 5.701291 5.865730 5.047738
 [8201] 4.022938 4.385967 4.332898 6.665327 4.181241 4.457911 6.509843 4.502220
 [8209] 5.215764 5.421587 4.987276 5.239524 4.701921 4.447997 4.138506 4.076707
 [8217] 4.624928 4.673211 6.575854 4.577959 5.213318 4.110614 6.999523 5.810327
 [8225] 4.639757 5.561112 3.809942 4.868447 4.744465 4.709540 5.269832 4.311105
 [8233] 4.674484 4.628369 6.708169 5.383644 4.711222 5.015839 7.091635 4.558299
 [8241] 5.036555 3.497360 4.493978 5.879371 4.230126 5.327241 4.942887 3.739118
 [8249] 5.656455 6.159381 5.053359 4.312335 6.379085 7.904514 4.307816 5.137438
 [8257] 6.252378 4.790779 8.268588 6.466921 5.556374 4.101389 5.271578 4.578348
 [8265] 5.641630 4.049905 4.388554 5.163939 4.267707 6.050550 4.492281 5.615913
 [8273] 5.983081 5.463427 4.614685 5.762555 5.621066 4.782667 4.560001 6.330121
 [8281] 4.561943 5.483484 6.110228 4.700279 5.699291 4.828274 4.767867 5.554026
 [8289] 4.033101 4.899380 5.747237 5.366380 3.950438 5.184386 4.736748 3.977118
 [8297] 5.918907 5.253977 2.966789 7.086355 4.793704 4.775325 4.782428 5.047367
 [8305] 3.570381 5.197160 3.609066 4.385399 3.265361 4.012977 6.153717 4.555392
 [8313] 4.506743 4.242022 4.355265 4.601624 5.568558 4.115552 6.096033 5.626655
 [8321] 6.466804 5.881980 4.891002 4.662727 3.833293 5.770273 5.083620 4.559286
 [8329] 4.512486 3.758100 5.252604 4.508128 4.184528 5.761613 4.653102 4.605884
 [8337] 5.103430 4.538326 4.772198 4.668662 4.075757 5.842064 3.921955 5.036121
 [8345] 5.614479 5.456800 5.364111 5.586612 4.953964 5.206237 4.635321 4.692465
 [8353] 5.024666 4.507330 4.850797 3.076056 5.170691 5.163532 4.908418 4.844874
 [8361] 4.284987 4.162211 5.344085 4.238869 3.949175 4.290378 4.954126 4.864663
 [8369] 4.862732 7.458897 4.029085 4.844685 5.139340 4.523719 3.986002 5.788541
 [8377] 6.203532 3.145383 3.233740 6.926856 6.007333 5.249613 3.427933 5.639186
 [8385] 5.109581 4.010152 4.598646 4.546329 5.029958 4.610065 6.119124 4.691430
 [8393] 5.017449 5.247617 4.729039 5.938600 5.349463 4.624759 5.360296 4.892161
 [8401] 5.195913 4.543010 4.913016 4.139384 6.241240 5.455790 5.179186 3.967951
 [8409] 3.384185 5.042468 4.868856 5.604832 3.385939 6.463314 5.834698 3.981887
 [8417] 4.795253 5.753262 3.978518 4.803011 4.615406 4.649180 4.176539 3.903861
 [8425] 7.442180 4.339973 6.270281 4.620129 4.705570 4.231954 5.401260 5.509422
 [8433] 5.427808 3.926297 4.492575 3.655144 5.201330 5.138533 5.963371 4.175390
 [8441] 5.659579 4.805354 5.446989 4.256433 4.628027 3.554694 5.053357 4.380780
 [8449] 4.916253 4.659939 5.268174 4.372926 3.436467 6.461203 5.167115 3.213833
 [8457] 5.203880 3.042749 6.082418 5.986972 5.111192 4.511709 4.969449 4.420852
 [8465] 5.438877 4.411617 4.485015 5.833919 6.748413 4.599469 4.414799 5.274958
 [8473] 4.536803 5.353490 5.998625 6.238519 5.929612 5.569999 6.328652 6.129455
 [8481] 4.542437 4.987175 5.644270 6.005084 3.887549 4.350373 5.430873 4.047618
 [8489] 5.375936 5.153753 5.595031 5.309506 5.482219 4.626212 4.686757 4.271931

[8497] 5.742376 4.944964 6.198199 4.320861 4.446703 6.298549 3.540484 3.699637
 [8505] 2.890026 3.997300 5.663308 4.591369 3.976122 5.184739 4.464093 3.814398
 [8513] 5.360751 3.737082 4.164084 4.888302 5.058764 4.097056 4.333517 5.340930
 [8521] 3.308931 4.848049 4.015194 3.626230 5.434212 6.235377 4.895267 4.847556
 [8529] 3.882428 5.860990 3.944244 6.023168 2.903129 5.389303 5.187818 5.731471
 [8537] 4.638398 6.380053 5.414224 5.825276 6.189870 6.420711 5.021059 5.001352
 [8545] 4.674979 3.421767 3.915755 4.164817 5.845141 4.393681 4.859778 6.254491
 [8553] 5.550197 5.928078 4.463084 4.694082 4.408223 7.039601 3.540861 5.708923
 [8561] 4.452700 4.146318 4.536050 6.348619 6.358378 4.962580 5.188094 4.721955
 [8569] 5.522789 3.591033 5.140384 4.959565 5.335783 6.032523 6.224886 4.515240
 [8577] 4.657431 4.653042 4.404945 4.491968 5.098194 4.271800 4.312405 6.715076
 [8585] 4.893862 3.905305 4.738235 5.359863 5.435037 5.498031 3.912894 4.298961
 [8593] 4.371064 4.855617 4.168438 5.251120 5.412011 4.885450 3.892190 5.165565
 [8601] 4.518311 4.823935 4.564455 4.334829 3.579433 3.831514 4.229294 5.112484
 [8609] 5.158528 4.189133 5.115809 4.449299 5.102728 3.673602 4.348879 6.692948
 [8617] 5.295853 3.299330 4.659186 4.132052 6.653547 3.805931 4.818599 4.766830
 [8625] 3.932667 5.376490 5.200619 4.371786 5.687532 4.233170 5.973986 4.182819
 [8633] 4.459302 4.677288 4.574280 4.599628 4.924108 6.399534 4.500498 6.504676
 [8641] 5.962097 5.244255 5.932909 5.031292 5.381411 4.518899 3.357486 5.442272
 [8649] 6.089235 5.954016 4.318624 5.410713 3.714667 3.882573 5.751497 5.178772
 [8657] 4.603797 6.232729 3.501428 4.070912 5.188827 4.767266 6.590542 9.065547
 [8665] 6.876199 5.147465 5.375579 3.323645 4.516823 6.448060 4.673230 5.829436
 [8673] 5.714744 4.645786 5.860514 3.841122 5.522692 5.223958 5.728165 6.567507
 [8681] 4.773298 5.455384 5.189164 3.802728 4.560043 6.343595 4.069638 4.077973
 [8689] 3.968299 5.602847 4.791352 5.860472 4.682598 4.690516 3.422087 4.998693
 [8697] 5.850060 4.587251 5.790030 4.972189 5.346041 4.890230 6.331894 5.227928
 [8705] 4.079717 4.656198 5.254744 6.240631 5.334019 4.330199 6.502671 5.389726
 [8713] 3.463477 7.246908 4.735970 5.126639 6.286543 5.992292 5.242014 3.467462
 [8721] 5.766944 5.302153 4.338282 4.491102 5.045729 4.337022 4.362739 4.297075
 [8729] 5.152797 4.207032 6.692824 5.222206 4.131784 5.259674 4.182013 5.467021
 [8737] 7.316252 4.797842 4.624027 5.915339 3.907460 4.699409 7.074305 5.086462
 [8745] 3.470412 4.445640 5.604362 4.526459 3.616881 4.600262 5.132839 5.664973
 [8753] 6.097420 5.032098 4.636156 5.293647 3.742811 3.627515 4.537368 4.418839
 [8761] 5.212860 5.365418 4.129719 5.561756 5.905264 4.621850 6.145366 5.159740
 [8769] 4.243542 5.602737 5.132181 4.892599 3.308707 5.059700 6.047353 4.242998
 [8777] 4.753347 5.125296 5.353437 3.404946 4.392361 5.123824 3.183509 5.126696
 [8785] 5.146593 7.512455 5.251471 5.426492 4.904249 5.929082 6.559051 5.294955
 [8793] 5.293620 4.900566 4.428291 5.582363 5.887953 3.890016 4.561768 6.549181
 [8801] 8.403520 4.725451 5.256540 4.044144 5.505622 4.727600 5.202695 4.296915
 [8809] 4.294824 4.550056 4.370762 5.733717 5.910183 4.134215 4.608364 5.445597
 [8817] 6.272038 4.383728 4.274990 5.096700 4.481039 4.549200 4.291551 3.573461
 [8825] 4.997026 5.075471 4.492850 4.852159 4.642875 5.011883 4.197932 6.196522
 [8833] 5.449966 4.252036 6.935798 5.985483 4.464794 5.659723 4.330535 5.775619

[8841] 4.218037 4.429951 5.199876 4.699653 3.844657 4.749348 5.398316 4.784595
 [8849] 5.017642 4.491691 4.771727 5.129699 4.290568 3.685199 5.250484 5.791176
 [8857] 4.652284 5.382871 3.606803 4.275306 4.868707 5.946475 3.500632 4.721697
 [8865] 5.066645 4.903969 5.174946 5.506013 4.556085 5.154687 4.919015 4.642808
 [8873] 4.688916 6.896113 5.136058 7.111936 4.672995 3.721244 4.535058 6.516671
 [8881] 4.966962 4.787039 4.634943 5.478039 5.384060 3.292882 6.009678 5.375808
 [8889] 5.120337 5.969465 4.691048 4.638618 4.076486 5.748768 6.704097 4.518585
 [8897] 4.394651 3.877320 4.945721 5.712502 4.809090 4.166924 5.426526 5.390519
 [8905] 4.519980 4.287640 4.680490 5.529036 6.883258 4.209402 5.321045 4.977390
 [8913] 5.414544 4.986172 5.195596 4.468334 4.153932 4.472296 4.833457 4.906970
 [8921] 5.957988 4.643674 4.322453 7.308870 5.079808 5.689919 4.742438 5.398095
 [8929] 5.037328 7.031158 5.668625 5.258590 5.173303 4.454861 5.174466 5.138109
 [8937] 5.488724 6.930469 4.653394 5.066615 5.657958 5.347549 4.631081 5.886134
 [8945] 4.620519 4.315805 3.442321 4.227190 5.454042 4.213972 4.740653 4.682249
 [8953] 5.783996 6.329749 3.609643 3.058002 3.720224 4.309283 4.151944 5.183194
 [8961] 3.621700 5.807008 6.022927 4.193653 6.166675 4.180151 4.641543 5.225250
 [8969] 6.870660 4.816916 3.214955 4.029630 3.793392 5.913292 4.552467 4.984987
 [8977] 4.737487 4.497016 4.854423 5.485721 4.156939 4.851598 5.744382 4.539320
 [8985] 4.086761 4.797866 4.238209 4.960862 4.474642 6.943483 7.324555 5.994424
 [8993] 3.672060 4.910652 5.434473 5.673634 3.291108 6.045271 4.848735 4.909693
 [9001] 4.164753 5.487440 3.932759 5.981954 6.077824 6.892284 4.953912 4.661636
 [9009] 5.411893 4.389948 5.166321 5.585564 4.914287 6.777884 4.335747 6.756880
 [9017] 6.157814 4.066668 5.284064 5.481184 5.905108 5.758276 4.569655 6.026005
 [9025] 4.141481 4.672968 5.552367 5.370715 4.829266 5.187170 4.169767 5.731294
 [9033] 3.769862 2.828553 4.523132 4.180288 4.892182 6.282191 5.752721 3.525008
 [9041] 5.417463 4.049331 5.362559 4.575341 4.451355 4.528545 6.192838 5.181256
 [9049] 4.746602 6.236218 4.284082 4.119492 4.862566 6.472253 4.767585 4.993719
 [9057] 4.221792 4.362016 4.264141 5.336332 5.207610 5.830931 4.722594 4.715105
 [9065] 5.616323 4.612226 5.978702 3.492118 4.869212 3.480754 4.569468 4.119840
 [9073] 4.535167 6.018997 5.190013 6.403579 5.285619 5.268334 4.631478 4.580769
 [9081] 7.310731 4.890936 4.478573 4.860963 4.520525 4.897440 5.480814 6.895543
 [9089] 4.127624 5.262741 4.151188 5.329872 6.200450 5.408092 4.279192 4.442984
 [9097] 5.269222 5.002417 5.954655 4.741701 3.831734 3.644771 5.053570 5.085563
 [9105] 4.940254 5.512603 5.197756 3.749343 4.290643 3.809557 4.903707 5.757538
 [9113] 4.758250 5.278483 4.130521 4.880562 3.566212 6.852785 5.652742 4.675063
 [9121] 7.209881 6.724405 5.020292 5.020153 5.806733 4.282032 4.615593 4.372871
 [9129] 4.241692 5.159658 4.710311 5.971965 3.514928 5.101804 4.012228 3.694430
 [9137] 3.659967 5.493831 6.577650 4.004535 5.158610 4.777007 5.361505 3.743160
 [9145] 4.986507 6.552683 6.174130 4.520680 5.234957 6.208610 4.233870 4.828957
 [9153] 5.456745 4.990672 5.485381 4.770443 4.440258 5.929002 4.136922 6.505468
 [9161] 5.277620 3.127653 5.430401 3.168345 3.808189 6.439935 5.698036 4.628060
 [9169] 5.507805 4.744991 6.002659 4.854695 4.111479 5.736891 4.811019 3.531278
 [9177] 5.906788 3.571847 5.421808 4.067356 6.608487 4.894477 5.207696 4.174338

[9185] 4.560648 5.683811 4.892546 4.476557 6.304377 6.169100 5.941889 5.024063
 [9193] 4.890625 5.037497 4.798411 4.119813 5.739151 5.929388 5.041404 5.715079
 [9201] 3.671575 5.238785 4.329885 3.993488 4.212487 4.954610 5.139022 3.790745
 [9209] 3.668275 4.331178 3.743365 5.894315 3.814479 4.619637 5.152174 4.678601
 [9217] 6.838724 4.910528 4.852418 6.504410 6.183154 3.394384 5.624433 3.141136
 [9225] 5.408045 4.103460 4.935029 4.344091 3.060270 6.451102 4.735942 3.842824
 [9233] 6.070728 3.797272 4.122312 5.735981 3.846312 6.191353 4.860293 5.543788
 [9241] 5.890766 4.448708 6.414644 5.497616 7.569717 4.302239 5.473733 5.803252
 [9249] 5.115125 5.307014 4.142582 4.650253 4.008161 5.156827 5.327779 6.175900
 [9257] 5.304356 5.937593 5.101736 3.647931 5.115221 4.815225 5.680430 5.441673
 [9265] 5.030556 5.564293 6.625748 4.462535 4.062898 5.219155 5.147427 5.412731
 [9273] 5.315792 4.240876 5.628987 5.644377 4.930749 5.115128 4.289353 5.266784
 [9281] 4.940720 5.521627 4.545949 4.365514 5.637542 4.031021 4.411393 4.120875
 [9289] 4.766084 5.336115 3.663111 4.062075 3.240260 4.885043 4.854432 4.297337
 [9297] 3.861341 4.150591 6.690757 3.863411 5.951249 5.236192 5.741743 4.388919
 [9305] 4.898698 7.375455 4.553191 2.813212 4.533688 5.177665 4.937162 5.394644
 [9313] 3.667025 6.350673 3.462253 4.364012 5.488439 4.761922 4.645122 5.266971
 [9321] 3.891657 3.280261 4.983485 5.167447 4.498533 3.386200 4.292111 5.959259
 [9329] 4.567592 3.761973 5.523341 6.181606 6.655926 4.243545 4.918873 4.640746
 [9337] 5.611286 5.120237 3.161039 5.224766 6.347917 5.383907 4.342617 3.951041
 [9345] 4.300080 4.364095 4.750130 5.137803 4.832170 3.413400 5.295402 5.528464
 [9353] 5.919547 4.818351 5.340035 5.590195 6.343727 6.127762 5.186372 7.887461
 [9361] 4.368808 7.278077 6.035781 6.897487 4.911731 4.997252 4.366226 5.956389
 [9369] 5.147744 6.516438 4.490421 5.096287 3.064178 3.914372 6.106352 5.019149
 [9377] 6.659777 5.333308 5.621441 3.632227 5.029414 4.819088 6.218320 4.992496
 [9385] 5.288172 5.093558 4.823375 4.574002 4.917184 4.590641 4.292241 4.912156
 [9393] 5.227444 5.062704 4.724666 4.849694 5.459625 3.588167 5.421523 5.796439
 [9401] 4.979829 5.132980 5.900463 4.206178 4.744100 4.754835 4.332153 6.621637
 [9409] 4.532778 4.266599 6.526864 5.714464 5.275319 6.134646 3.667653 4.147269
 [9417] 6.868025 4.760719 5.109478 4.369157 4.795533 2.864750 5.008239 5.312492
 [9425] 5.038889 5.129897 3.712636 3.867705 4.910993 6.092054 4.612625 4.859911
 [9433] 5.759601 5.457671 4.445618 6.018257 4.208597 5.560793 4.800751 4.339807
 [9441] 4.212556 7.048243 5.641224 4.764400 6.669070 5.410722 4.142078 4.958331
 [9449] 4.754381 3.690073 5.439628 3.253505 5.606575 4.105985 5.003173 4.888400
 [9457] 3.840831 4.753128 4.744485 5.533179 4.065086 3.358663 5.822546 4.368521
 [9465] 4.265999 5.441040 3.618852 5.187384 3.532376 4.631405 5.008320 4.603158
 [9473] 5.173550 3.974295 6.797378 5.626352 5.029894 4.862705 4.465076 4.613527
 [9481] 4.856992 4.119634 6.229065 6.014413 6.697586 4.069806 4.535844 4.280534
 [9489] 4.005772 6.591703 4.579068 4.930030 4.999350 5.409896 5.671182 5.376638
 [9497] 4.757351 5.201945 3.996554 4.194697 4.843040 5.282705 5.754509 5.020116
 [9505] 3.772976 4.598080 6.005385 3.403659 4.815047 4.406153 4.933709 5.023318
 [9513] 4.545242 3.137777 4.822374 4.412285 5.869093 3.936409 5.441277 6.321415
 [9521] 5.417975 4.966491 4.908470 3.872786 5.746702 5.397849 5.241023 4.816088

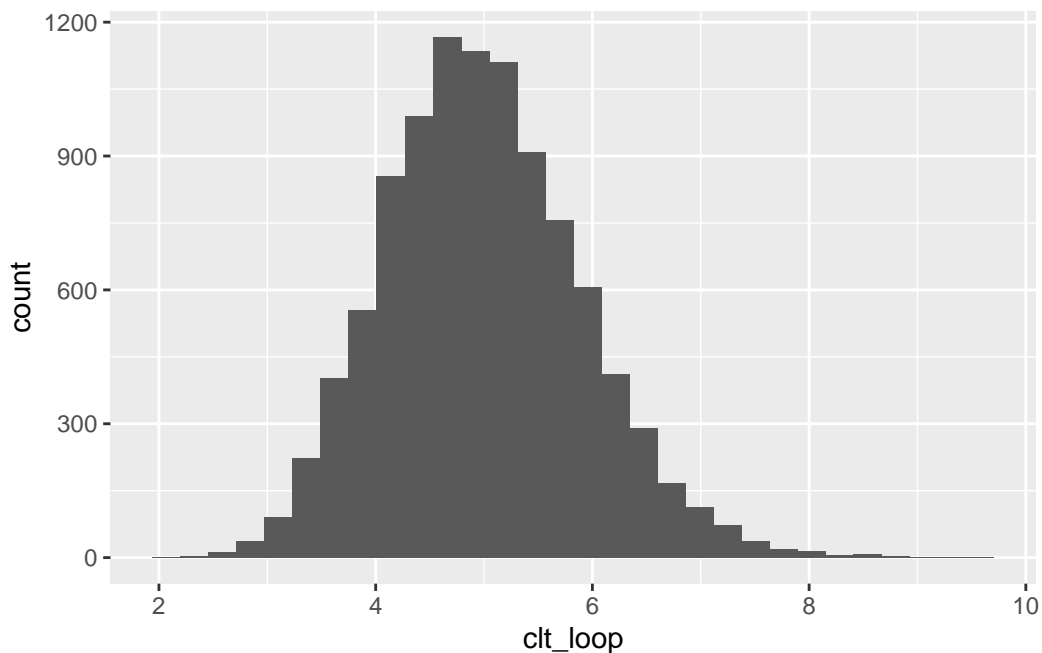
[9529] 5.494964 5.429685 4.867160 4.671591 4.403323 4.966191 4.379227 4.980473
 [9537] 3.470368 5.607133 4.630737 4.802400 5.578982 4.714578 5.337353 6.395381
 [9545] 4.525542 5.987045 5.266067 4.588679 5.752414 5.313240 4.766032 4.817770
 [9553] 3.967370 3.423020 6.966716 5.590630 4.322475 5.716717 4.684481 3.521617
 [9561] 4.862606 4.528654 6.175382 5.618963 4.625393 5.036091 4.959803 4.237323
 [9569] 5.270832 4.232790 3.740546 6.760023 4.892357 4.722324 4.789267 4.649628
 [9577] 4.825531 4.279759 4.658712 3.964917 4.872299 4.911246 5.495664 3.734434
 [9585] 4.202086 5.335298 4.756196 5.232989 4.419810 4.497160 4.582809 4.414632
 [9593] 5.893501 6.506849 4.603543 5.682111 6.067760 4.769923 5.428362 3.988231
 [9601] 5.862081 4.869294 5.574053 4.972557 4.037488 6.404008 4.616632 4.916445
 [9609] 4.002443 5.135151 4.801464 4.278043 4.854749 3.888915 5.339838 5.254173
 [9617] 5.640909 3.818160 5.795678 6.492082 4.604398 4.255018 4.420300 6.326369
 [9625] 4.512167 5.042954 3.220517 4.560198 5.774586 4.494460 4.034453 3.920009
 [9633] 4.831855 5.489593 4.179853 4.923673 6.314908 5.682960 7.039174 6.087989
 [9641] 4.311378 3.917815 6.585212 6.273729 3.933639 5.941866 4.525857 4.728001
 [9649] 3.487333 4.833502 4.148583 3.568587 3.434519 5.109797 4.622593 4.755824
 [9657] 5.230752 3.037788 4.642886 5.587337 5.431794 5.781305 4.844981 4.601389
 [9665] 5.189798 4.606993 5.887764 4.211823 4.919145 4.965764 6.780105 5.505667
 [9673] 5.198540 3.681756 3.206966 4.321882 5.672098 4.671090 4.919511 3.559042
 [9681] 4.622083 5.163441 4.602038 4.691783 3.821144 4.998152 4.862180 4.264905
 [9689] 4.554898 4.896764 5.521636 4.246501 3.817521 4.301916 3.998269 5.284647
 [9697] 6.863342 6.901247 4.444853 6.304531 5.632748 5.108493 5.280736 4.737460
 [9705] 4.584892 5.798106 4.133336 6.506901 4.266240 5.116764 6.185177 4.468091
 [9713] 6.072683 4.360048 4.364697 5.480826 3.667539 4.295383 2.833044 3.749400
 [9721] 3.116910 6.055238 4.587019 5.381683 4.859338 4.688859 4.519066 4.978432
 [9729] 3.897424 5.091103 4.336110 4.544117 6.222252 2.800398 3.461231 3.618819
 [9737] 5.849643 4.239856 4.262987 5.419663 4.265571 5.790728 4.497740 5.122568
 [9745] 4.574950 7.725554 5.646566 3.757076 5.501580 5.573890 3.941216 5.171662
 [9753] 5.281517 5.898872 5.704822 6.169595 3.069771 4.724327 3.422219 5.911799
 [9761] 5.609986 5.811506 5.203258 6.794970 3.908378 4.660298 3.429536 5.741610
 [9769] 6.736864 4.656324 4.357806 4.550408 3.908702 4.625545 4.772170 5.183422
 [9777] 4.229020 4.374895 4.820028 7.549194 5.293093 4.132286 3.606864 4.343354
 [9785] 6.316497 4.391748 6.644486 5.692350 5.066546 5.565103 5.671589 6.101448
 [9793] 3.828630 4.557160 6.476687 4.937442 5.081086 5.493764 4.195639 5.674545
 [9801] 4.191401 3.846948 6.114418 5.146324 5.624571 5.505929 4.686437 4.355079
 [9809] 3.851271 5.415136 4.939670 4.609085 4.085961 5.894276 4.998037 5.114890
 [9817] 5.415921 4.685866 5.169134 4.896397 4.345462 5.897831 6.491912 4.536362
 [9825] 6.142397 3.789518 3.802894 6.385964 2.500322 5.257907 4.621570 4.458473
 [9833] 5.725594 3.967671 4.046942 3.213159 4.161130 6.074812 5.852102 5.375784
 [9841] 5.381736 3.868224 4.784045 4.663753 5.516125 3.742631 4.345769 4.815926
 [9849] 5.172599 4.385861 4.386898 4.747908 3.750187 2.520839 6.005012 4.092018
 [9857] 4.576138 4.736892 6.000178 4.602689 6.720340 5.811893 3.604021 3.488993
 [9865] 4.683224 5.379636 5.184347 4.900952 6.981192 5.606833 5.868127 5.450178

```
[9873] 4.108010 4.124499 5.343233 6.537541 5.676773 5.237506 6.558144 4.772295
[9881] 3.876657 6.926966 5.125166 5.975822 4.415534 4.064037 5.118628 4.796458
[9889] 6.216322 4.697688 5.003775 5.110149 6.004646 4.787968 4.327466 5.302898
[9897] 5.048205 4.902229 6.794012 6.225022 4.365687 5.740997 4.808399 4.099234
[9905] 6.667560 4.489440 5.475675 5.142254 4.956392 5.212813 5.108376 6.666396
[9913] 5.130923 4.106213 5.234479 7.359190 5.007405 5.916167 4.118926 6.296221
[9921] 6.206412 5.072972 3.538156 4.678432 3.865601 6.528887 5.484836 4.841550
[9929] 5.755790 5.779925 4.257695 5.006124 3.700140 5.414069 4.322139 6.626248
[9937] 5.329648 4.136406 3.773374 3.646789 5.253947 5.450935 6.197269 5.304198
[9945] 7.946378 4.783177 4.845108 5.353940 4.171257 4.024842 6.924359 6.191079
[9953] 4.388940 5.216144 5.797293 5.035323 4.278369 4.447142 4.670875 5.388200
[9961] 4.315627 5.018210 4.765155 4.089705 5.285035 6.668906 5.026073 5.260469
[9969] 6.276544 3.763600 5.564361 6.657887 5.733150 6.522664 4.584250 5.397443
[9977] 4.398179 6.197118 3.553814 4.068388 4.840599 5.559992 6.536654 5.262279
[9985] 5.566891 4.217661 3.967038 4.509197 4.886055 5.088747 5.415783 4.774211
[9993] 4.770793 4.830771 4.865857 6.787887 3.808596 5.554334 5.472155 6.284964
```

```
clt_graph <- tibble(clt_loop = clt_loop)

ggplot(clt_graph, aes(x = clt_loop)) +
  geom_histogram()
```

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.



- b) Turn your for loop from (a) into a function whose attributes are `samp_size` with default of 30, and `n_means` with default of 10000. In addition, your histogram should now have a title that says “Means from samples of size 30 from a skewed population”, where 30 is replaced with the user’s input.

```
clt_func <- function(samp_size, n_means) {  
  label <- rlang::englue("Means from samples of size {{samp_size}} \nfrom a skewed population")  
  
  clt_loop <- vector("double", {{ n_means }})  
  for (i in 1:{{ n_means }}) {  
    n <- rexp({{ samp_size }}, rate = 0.2)  
    clt_loop[[i]] = mean(n)  
  }  
  
  clt_graph <- tibble(clt_loop = clt_loop)  
  ggplot(clt_graph, aes(x = clt_loop)) +  
    geom_histogram() +  
    labs(title = label)  
}  
  
clt_func(30, 10000)
```

``stat_bin()`` using ``bins = 30``. Pick better value with ``binwidth``.

