Lecture 13: Missing Data via Bayesian

Bayesian Psychometric Modeling

```
# Install/Load Packages ===========================================================================
if (!require(R2jags)) install.packages("R2jags")
```

```
## Loading required package: R2jags

## Loading required package: rjags

## Loading required package: coda

## Linked to JAGS 4.3.0

## Loaded modules: basemod,bugs

##
## Attaching package: 'R2jags'

## The following object is masked from 'package:coda':
##
##      traceplot
```

```
library(R2jags)

if (!require(mcmcplots)) install.packages("mcmcplots")
```

```
## Loading required package: mcmcplots
```

```
library(mcmcplots)
```

Bayesian Methods for Missing Data

Look up the word "missing" from the JAGS user manual (v. 4.3; available at (http://people.stat.sc.edu/hansont/stat740/jags_user_manual.pdf)[http://people.stat.sc.edu/hansont/stat740/jags_user_manual.pdf]) and you will find only three cases: two regarding how missing data should be input into JAGS and one talking about missing values in initialized parameters. Despite this, Bayesian methods missing data are some of the more powerful techniques around.

Let's take an example. Say we create:

```
set.seed(007)
nObs = 1000
nMiss = 1

# for x
probX = .5

# for y|x
beta0 = 10
beta1 = 10
sigma2e = 1

# generate x, then y
x = rbinom(n = nObs, size = 1, prob = probX)
y = beta0 + beta1*x + rnorm(n = nObs, mean = 0, sd = sqrt(sigma2e))
```
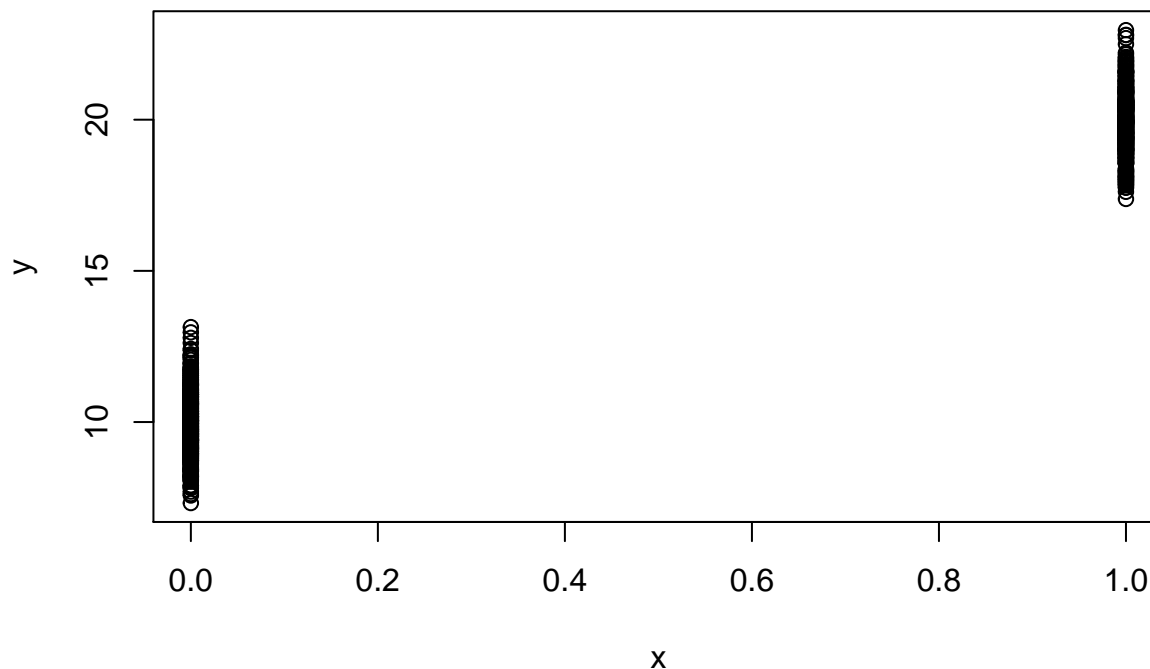
1

```
# make one value of X missing
x[sample(x = 1:nObs, size = nMiss, replace = FALSE)] = NA
x[1]= NA
# show plot
plot(x = x, y = y)
```


Bayesian missing data methods use Bayes Theorem to "impute" values of missing data using specs from a simultaneous analysis. For instance, we could model:

$$Prob(x_p = 1) = \pi_x,$$

where $x_p \sim B(\pi_x)$, simultaneous to:

$$y_p = \beta_0 + \beta_1 x_p + e_p,$$

where $y_p|x_p \sim N(\beta_0 + \beta_1 x_p, \sigma_e^2)$.

Here, should we have a missing x_p, we can use Bayes' theorem to determine the distribution of the observation:

$$f(x_p|y_p) \propto f(y_p|x_p)f(x_p),$$

Where $f(y_p|x_p)$ is our regression model and $f(x_p)$ is the distribution of x_p, or Bernoulli.

We can even make this work in JAGS:

```
model01.function = function(){
  for (i in 1:N){
    x[i] ~ dbern(pi)
    y[i] ~ dnorm(beta0+beta1*x[i], sigma2.inv)
  }

  pi ~ dbeta(1,1)
```

2

```r
  sigma2.inv ~ dgamma(4, 8)
  sigma2 <- 1/sigma2.inv

  beta0 ~ dnorm(0, .00001)
  beta1 ~ dnorm(0, .00001)
}

# next, create data for JAGS to use:
model01.data = list(
  N = length(x),
  x = x,
  y = y
)

model01.parameters = c("beta0", "beta1", "sigma2", "pi", "x[1]")

model01.seed = 23042019

model01.r2jags =  jags.parallel(
  data = model01.data,
  parameters.to.save = model01.parameters,
  model.file = model01.function,
  n.chains = 4,
  n.iter = 2000,
  n.thin = 1,
  n.burnin = 1000,
  jags.seed = model01.seed
)

model01.r2jags
```
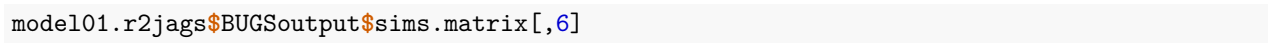
```
## Inference for Bugs model at "model01.function", fit using jags,
##  4 chains, each with 2000 iterations (first 1000 discarded)
##  n.sims = 4000 iterations saved
##          mu.vect sd.vect     2.5%      25%      50%      75%    97.5%
## beta0      9.936   0.054    9.848    9.907    9.937    9.966   10.024
## beta1     10.073   0.072    9.944   10.030   10.073   10.115   10.195
## pi         0.494   0.016    0.464    0.483    0.494    0.505    0.525
## sigma2     1.244   7.919    0.908    0.963    0.992    1.024    1.083
## x[1]       0.999   0.027    1.000    1.000    1.000    1.000    1.000
## deviance 4211.225 143.896 4202.918 4204.435 4205.919 4208.015 4213.691
##          Rhat n.eff
## beta0    1.021  4000
## beta1    1.005  4000
## pi       1.001  4000
## sigma2   1.001  4000
## x[1]     1.157  3300
## deviance 1.000  4000
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 10360.8 and DIC = 14572.1
```

3

```
## DIC is an estimate of expected predictive error (lower deviance is better).
denplot(model01.r2jags, parms = "beta1")
```

beta1


```
model01.r2jags$BUGSoutput$sims.matrix[,6]
```

```
##     [1] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##    [35] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##    [69] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [103] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [137] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [171] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [205] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [239] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [273] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [307] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [341] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [375] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [409] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [443] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [477] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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##   [545] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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##   [613] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [647] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##   [681] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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```

```
##  [749] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##  [783] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##  [817] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##  [851] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##  [885] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##  [919] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##  [953] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
##  [987] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1021] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1055] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1089] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1123] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1157] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1191] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1225] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1259] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1293] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1327] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1361] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1395] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1429] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1463] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1497] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1531] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1565] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1599] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1633] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1667] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1701] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1735] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1769] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1803] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1837] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1871] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1905] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1939] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [1973] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2007] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2041] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2075] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2109] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2143] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2177] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2211] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2245] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2279] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2313] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2347] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2381] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2415] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2449] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2483] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2517] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2551] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1
```

```
## [2585] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2619] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2653] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2687] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2721] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2755] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2789] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2823] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2857] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2891] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2925] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [2959] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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## [3027] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3061] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3095] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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## [3163] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3197] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3231] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3265] 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3299] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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## [3367] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3401] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3435] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3469] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3503] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3537] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3571] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3605] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3639] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3673] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3707] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3741] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3775] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3809] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3843] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3877] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3911] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3945] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
## [3979] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
```

Comparing this with just modeling x_p, we see a difference:

```r
model02.function = function(){
  for (i in 1:N){
    x[i] ~ dbern(pi)
    y[i] ~ dnorm(beta0+beta1*x[i], sigma2.inv)
  }

  pi ~ dbeta(1,1)
  sigma2.inv ~ dgamma(4, 8)
  sigma2 <- 1/sigma2.inv
```

```
  beta0 ~ dnorm(0, .00001)
  beta1 <- 0
}

model02.r2jags = jags.parallel(
  data = model01.data,
  parameters.to.save =  c("beta0", "beta1", "sigma2", "pi", "x[1]"),
  model.file = model02.function,
  n.chains = 4,
  n.iter = 2000,
  n.thin = 1,
  n.burnin = 1000,
  jags.seed = model01.seed+1
)
model02.r2jags
```

```
## Inference for Bugs model at "model02.function", fit using jags,
##  4 chains, each with 2000 iterations (first 1000 discarded)
##  n.sims = 4000 iterations saved
##           mu.vect sd.vect     2.5%      25%      50%      75%    97.5%
## beta0      14.917   0.161   14.603   14.809   14.917   15.027   15.220
## beta1       0.000   0.000    0.000    0.000    0.000    0.000    0.000
## pi          0.494   0.016    0.463    0.483    0.494    0.505    0.524
## sigma2     26.473   7.123   24.063   25.448   26.219   27.003   28.647
## x[1]        0.494   0.500    0.000    0.000    0.000    1.000    1.000
## deviance 7496.800  42.645 7492.698 7493.716 7494.851 7496.510 7501.888
##           Rhat n.eff
## beta0    1.001  4000
## beta1    1.000     1
## pi       1.001  4000
## sigma2   1.001  4000
## x[1]     1.001  3200
## deviance 1.001  4000
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 910.0 and DIC = 8406.8
## DIC is an estimate of expected predictive error (lower deviance is better).
```

The difference here is with the posterior distribution of x_p. In model 1 (the simultaneous regression and marginal x_p model – given by setting $\beta_1 = 0$) the posterior distribution for x_p involved y_p. As you'll note in the plot above, knowing y_p tells us everything about x_p as there is no overlap in y_p across values of x_p.

```
set.seed(007)
nObs = 1000
nMiss = 400

# for x
meanX = 50
sdX = 100

# for y/x
beta0 = 0
```

```
beta1 = 0
beta2 = -100
sigma2e = 1

# generate x, then y
x = rnorm(n = nObs, mean = meanX, sd = sdX)
y = beta0 + beta1*x + beta2*x^2 + rnorm(n = nObs, mean = 0, sd = sqrt(sigma2e))

# make one value of X missing
x[sample(x = 1:nObs, size = nMiss, replace = FALSE)] = NA
x[1]= NA
# show plot
plot(x = x, y = y)
```
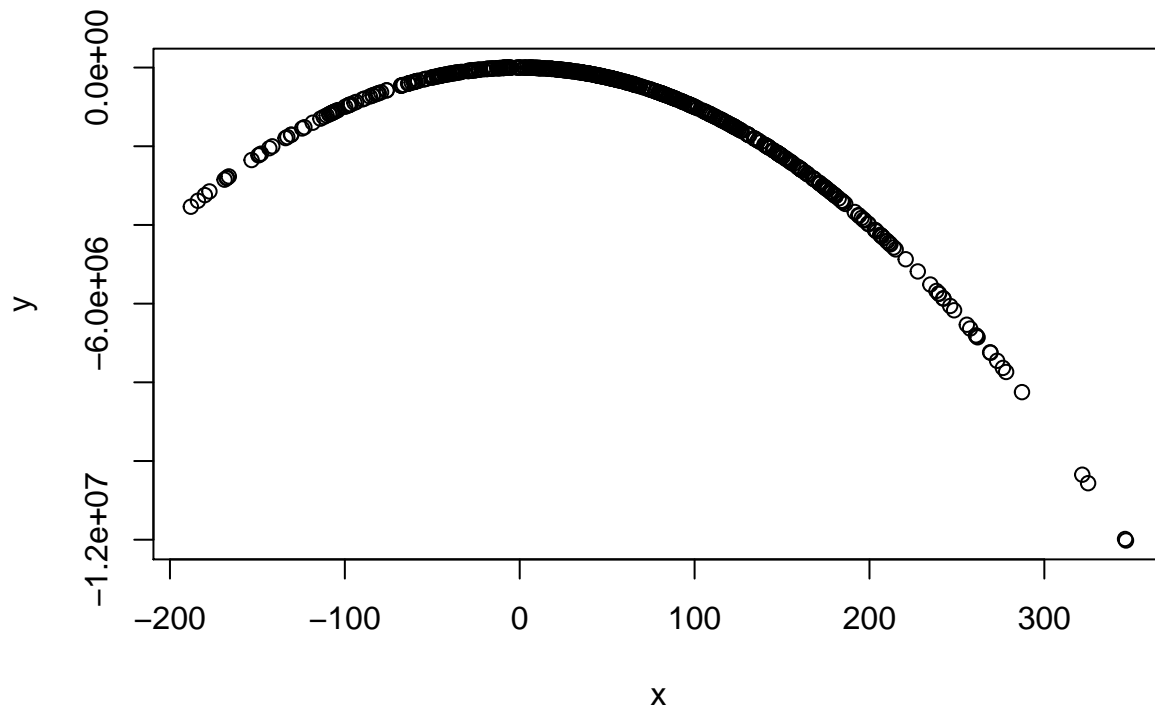


```
model01.function = function(){
  for (i in 1:N){
    x[i] ~ dnorm(meanX, sigma2.invX)
    y[i] ~ dnorm(beta0+beta1*x[i], sigma2.inv)
  }

  sigma2.invX ~ dgamma(1000, 2)
  sigma2.inv ~ dgamma(4, 8)
  sigma2 <- 1/sigma2.inv
  sigma2X <- 1/sigma2.inv
  beta0 ~ dnorm(0, .00001)
  meanX ~ dnorm(0, .00001)
  beta1 ~ dnorm(0, .00001)
}

# next, create data for JAGS to use:
model01.data = list(
```

```
  N = length(x),
  x = x,
  y = y
)

model01.parameters = c("beta0", "beta1", "sigma2", "sigma2X", "meanX", "x", "y")

model01.seed = 23042019

model01.r2jags =  jags.parallel(
  data = model01.data,
  parameters.to.save = model01.parameters,
  model.file = model01.function,
  n.chains = 4,
  n.iter = 2000,
  n.thin = 1,
  n.burnin = 1000,
  jags.seed = model01.seed
)

model01.r2jags
```

```
## Inference for Bugs model at "model01.function", fit using jags,
##  4 chains, each with 2000 iterations (first 1000 discarded)
##  n.sims = 4000 iterations saved
##                 mu.vect       sd.vect          2.5%            25%
## beta0     -3.530300e+01 3.179190e+02 -6.718110e+02 -2.455270e+02
## beta1     -3.084472e+03 3.124120e+02 -3.699578e+03 -3.289939e+03
## meanX      5.789200e+01 2.031000e+00  5.421000e+01  5.662800e+01
## sigma2     3.526054e+12 1.725851e+11  3.206018e+12  3.408597e+12
## sigma2X    3.526054e+12 1.725851e+11  3.206018e+12  3.408597e+12
## x[1]       7.190800e+01 4.595900e+01 -1.838600e+01  4.138400e+01
## x[2]       5.822400e+01 4.610500e+01 -3.002000e+01  2.687700e+01
## x[3]       5.704500e+01 4.686200e+01 -3.445100e+01  2.519800e+01
## x[4]       5.632900e+01 4.587700e+01 -3.124700e+01  2.527300e+01
## x[5]       5.783300e+01 4.666600e+01 -3.334600e+01  2.692400e+01
## x[6]       5.745800e+01 4.639700e+01 -3.419600e+01  2.567300e+01
## x[7]       6.173800e+01 4.710700e+01 -2.953000e+01  3.030700e+01
## x[8]       3.830400e+01 0.000000e+00  3.830400e+01  3.830400e+01
## x[9]       6.526600e+01 0.000000e+00  6.526600e+01  6.526600e+01
## x[10]      2.689980e+02 0.000000e+00  2.689980e+02  2.689980e+02
## x[11]      8.569900e+01 0.000000e+00  8.569900e+01  8.569900e+01
## x[12]      3.216750e+02 0.000000e+00  3.216750e+02  3.216750e+02
## x[13]      2.781450e+02 0.000000e+00  2.781450e+02  2.781450e+02
## x[14]      6.007900e+01 4.646200e+01 -2.876400e+01  2.767600e+01
## x[15]      2.396070e+02 0.000000e+00  2.396070e+02  2.396070e+02
## x[16]      5.950600e+01 4.611600e+01 -3.282300e+01  2.853500e+01
## x[17]      5.663000e+01 4.625200e+01 -3.252500e+01  2.506900e+01
## x[18]      5.782300e+01 4.520900e+01 -2.956300e+01  2.746000e+01
## x[19]      4.951800e+01 0.000000e+00  4.951800e+01  4.951800e+01
## x[20]      1.488160e+02 0.000000e+00  1.488160e+02  1.488160e+02
## x[21]      1.339750e+02 0.000000e+00  1.339750e+02  1.339750e+02
## x[22]      6.176100e+01 4.550000e+01 -2.466600e+01  3.117600e+01
## x[23]      1.805960e+02 0.000000e+00  1.805960e+02  1.805960e+02
```

```
## x[24]       5.847200e+01 4.630000e+01 -3.115000e+01   2.720100e+01
## x[25]       1.772920e+02 0.000000e+00  1.772920e+02   1.772920e+02
## x[26]       5.819900e+01 4.688200e+01 -3.143400e+01   2.648400e+01
## x[27]       1.252280e+02 0.000000e+00  1.252280e+02   1.252280e+02
## x[28]       1.091750e+02 0.000000e+00  1.091750e+02   1.091750e+02
## x[29]       5.776800e+01 4.637000e+01 -3.386300e+01   2.672900e+01
## x[30]       2.239400e+01 0.000000e+00  2.239400e+01   2.239400e+01
## x[31]      -3.708500e+01 0.000000e+00 -3.708500e+01  -3.708500e+01
## x[32]       1.218710e+02 0.000000e+00  1.218710e+02   1.218710e+02
## x[33]       6.106500e+01 0.000000e+00  6.106500e+01   6.106500e+01
## x[34]       5.775600e+01 4.661500e+01 -3.309800e+01   2.648000e+01
## x[35]       7.951000e+00 0.000000e+00  7.951000e+00   7.951000e+00
## x[36]       5.811700e+01 4.679500e+01 -3.260500e+01   2.669600e+01
## x[37]       6.177200e+01 4.538000e+01 -2.910400e+01   3.167400e+01
## x[38]      -6.051300e+01 0.000000e+00 -6.051300e+01  -6.051300e+01
## x[39]       3.577100e+01 0.000000e+00  3.577100e+01   3.577100e+01
## x[40]       8.149900e+01 0.000000e+00  8.149900e+01   8.149900e+01
## x[41]       1.718550e+02 0.000000e+00  1.718550e+02   1.718550e+02
## x[42]       5.651000e+01 4.627000e+01 -3.468100e+01   2.601700e+01
## x[43]       2.145700e+01 0.000000e+00  2.145700e+01   2.145700e+01
## x[44]      -8.115500e+01 0.000000e+00 -8.115500e+01  -8.115500e+01
## x[45]       5.686300e+01 4.538800e+01 -3.208200e+01   2.534200e+01
## x[46]       9.847000e+00 0.000000e+00  9.847000e+00   9.847000e+00
## x[47]       1.850520e+02 0.000000e+00  1.850520e+02   1.850520e+02
## x[48]       1.091190e+02 0.000000e+00  1.091190e+02   1.091190e+02
## x[49]       6.005300e+01 0.000000e+00  6.005300e+01   6.005300e+01
## x[50]       1.431070e+02 0.000000e+00  1.431070e+02   1.431070e+02
## x[51]       5.644400e+01 4.559900e+01 -3.178500e+01   2.440800e+01
## x[52]       4.923300e+01 0.000000e+00  4.923300e+01   4.923300e+01
## x[53]       8.671500e+01 0.000000e+00  8.671500e+01   8.671500e+01
## x[54]       2.207160e+02 0.000000e+00  2.207160e+02   2.207160e+02
## x[55]       1.223740e+02 0.000000e+00  1.223740e+02   1.223740e+02
## x[56]       9.810400e+01 0.000000e+00  9.810400e+01   9.810400e+01
## x[57]      -1.067870e+02 0.000000e+00 -1.067870e+02  -1.067870e+02
## x[58]       8.182500e+01 0.000000e+00  8.182500e+01   8.182500e+01
## x[59]       6.659900e+01 0.000000e+00  6.659900e+01   6.659900e+01
## x[60]      -3.999100e+01 0.000000e+00 -3.999100e+01  -3.999100e+01
## x[61]       5.763700e+01 0.000000e+00  5.763700e+01   5.763700e+01
## x[62]       5.825200e+01 4.671000e+01 -3.326400e+01   2.680200e+01
## x[63]       6.001700e+01 4.499000e+01 -2.752500e+01   2.956500e+01
## x[64]       1.204810e+02 0.000000e+00  1.204810e+02   1.204810e+02
## x[65]       8.189700e+01 0.000000e+00  8.189700e+01   8.189700e+01
## x[66]       1.609250e+02 0.000000e+00  1.609250e+02   1.609250e+02
## x[67]       1.269150e+02 0.000000e+00  1.269150e+02   1.269150e+02
## x[68]       6.116000e+01 4.558300e+01 -2.764900e+01   3.030900e+01
## x[69]       1.760680e+02 0.000000e+00  1.760680e+02   1.760680e+02
## x[70]       6.051100e+01 4.566800e+01 -2.937700e+01   3.048500e+01
## x[71]       9.326300e+01 0.000000e+00  9.326300e+01   9.326300e+01
## x[72]      -4.226000e+01 0.000000e+00 -4.226000e+01  -4.226000e+01
## x[73]       5.760700e+01 4.641800e+01 -3.269700e+01   2.575700e+01
## x[74]      -3.666600e+01 0.000000e+00 -3.666600e+01  -3.666600e+01
## x[75]      -1.139520e+02 0.000000e+00 -1.139520e+02  -1.139520e+02
## x[76]       5.839300e+01 4.587600e+01 -3.000700e+01   2.788200e+01
## x[77]       5.678500e+01 4.629300e+01 -3.246400e+01   2.525700e+01
```

```
## x[78]      -5.760000e+00  0.000000e+00  -5.760000e+00  -5.760000e+00
## x[79]       4.376000e+01  0.000000e+00   4.376000e+01   4.376000e+01
## x[80]       7.202700e+01  4.602900e+01  -1.607400e+01   4.154400e+01
## x[81]       5.987000e+01  4.599900e+01  -3.069000e+01   2.932100e+01
## x[82]       5.042500e+01  0.000000e+00   5.042500e+01   5.042500e+01
## x[83]       5.777900e+01  4.652700e+01  -3.196900e+01   2.724700e+01
## x[84]       5.786400e+01  4.665400e+01  -3.211000e+01   2.628300e+01
## x[85]      -2.927000e+01  0.000000e+00  -2.927000e+01  -2.927000e+01
## x[86]       5.969400e+01  4.663500e+01  -3.152300e+01   2.871100e+01
## x[87]       1.539300e+01  0.000000e+00   1.539300e+01   1.539300e+01
## x[88]       5.810400e+01  4.623500e+01  -3.042000e+01   2.664700e+01
## x[89]       6.004500e+01  4.551700e+01  -2.783500e+01   2.952100e+01
## x[90]       1.087270e+02  0.000000e+00   1.087270e+02   1.087270e+02
## x[91]       6.576100e+01  4.661200e+01  -2.472000e+01   3.367000e+01
## x[92]      -1.454200e+01  0.000000e+00  -1.454200e+01  -1.454200e+01
## x[93]       1.118990e+02  0.000000e+00   1.118990e+02   1.118990e+02
## x[94]       5.935300e+01  4.613100e+01  -3.217800e+01   2.778100e+01
## x[95]       1.346500e+02  0.000000e+00   1.346500e+02   1.346500e+02
## x[96]       5.851500e+01  4.665900e+01  -3.186600e+01   2.548400e+01
## x[97]       1.617990e+02  0.000000e+00   1.617990e+02   1.617990e+02
## x[98]      -1.040000e+02  0.000000e+00  -1.040000e+02  -1.040000e+02
## x[99]       5.756500e+01  4.572500e+01  -3.311800e+01   2.597800e+01
## x[100]      3.493300e+01  0.000000e+00   3.493300e+01   3.493300e+01
## x[101]      1.019060e+02  0.000000e+00   1.019060e+02   1.019060e+02
## x[102]      1.087540e+02  0.000000e+00   1.087540e+02   1.087540e+02
## x[103]      4.206700e+01  0.000000e+00   4.206700e+01   4.206700e+01
## x[104]      5.900000e+01  4.575100e+01  -3.088500e+01   2.773700e+01
## x[105]      5.868000e+01  4.565200e+01  -2.809400e+01   2.732300e+01
## x[106]     -1.103880e+02  0.000000e+00  -1.103880e+02  -1.103880e+02
## x[107]      1.491290e+02  0.000000e+00   1.491290e+02   1.491290e+02
## x[108]      6.125000e+01  4.567400e+01  -2.904700e+01   3.053200e+01
## x[109]      5.985200e+01  4.640800e+01  -3.103200e+01   2.875300e+01
## x[110]      5.886000e+01  4.599200e+01  -2.971900e+01   2.781600e+01
## x[111]      7.374000e+00  0.000000e+00   7.374000e+00   7.374000e+00
## x[112]      9.589300e+01  0.000000e+00   9.589300e+01   9.589300e+01
## x[113]      5.997100e+01  4.502700e+01  -2.866300e+01   2.896800e+01
## x[114]      5.957100e+01  4.596400e+01  -2.969500e+01   2.930900e+01
## x[115]      5.785900e+01  4.707400e+01  -3.495800e+01   2.653200e+01
## x[116]      6.566600e+01  4.679500e+01  -2.443400e+01   3.439800e+01
## x[117]      5.963200e+01  4.626600e+01  -3.194400e+01   2.767300e+01
## x[118]      1.603450e+02  0.000000e+00   1.603450e+02   1.603450e+02
## x[119]      1.482770e+02  0.000000e+00   1.482770e+02   1.482770e+02
## x[120]      8.043300e+01  0.000000e+00   8.043300e+01   8.043300e+01
## x[121]      5.952000e+01  4.565100e+01  -3.147900e+01   2.971500e+01
## x[122]      2.069890e+02  0.000000e+00   2.069890e+02   2.069890e+02
## x[123]      1.188450e+02  0.000000e+00   1.188450e+02   1.188450e+02
## x[124]      3.224000e+01  0.000000e+00   3.224000e+01   3.224000e+01
## x[125]      1.229200e+02  0.000000e+00   1.229200e+02   1.229200e+02
## x[126]      2.033250e+02  0.000000e+00   2.033250e+02   2.033250e+02
## x[127]      1.006580e+02  0.000000e+00   1.006580e+02   1.006580e+02
## x[128]      5.333300e+01  0.000000e+00   5.333300e+01   5.333300e+01
## x[129]      5.872000e+01  4.581400e+01  -3.160100e+01   2.804500e+01
## x[130]      1.519160e+02  0.000000e+00   1.519160e+02   1.519160e+02
## x[131]     -9.334000e+00  0.000000e+00  -9.334000e+00  -9.334000e+00
```

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## x[132]     1.312410e+02  0.000000e+00   1.312410e+02   1.312410e+02
## x[133]     5.989100e+01  4.629300e+01  -3.078700e+01   2.834300e+01
## x[134]     8.683100e+01  0.000000e+00   8.683100e+01   8.683100e+01
## x[135]     1.634820e+02  0.000000e+00   1.634820e+02   1.634820e+02
## x[136]    -2.571000e+01  0.000000e+00  -2.571000e+01  -2.571000e+01
## x[137]     5.879000e+01  4.591200e+01  -3.202800e+01   2.736200e+01
## x[138]     1.415930e+02  0.000000e+00   1.415930e+02   1.415930e+02
## x[139]     5.819000e+01  4.576300e+01  -3.154000e+01   2.796300e+01
## x[140]     6.212800e+01  4.638400e+01  -3.092700e+01   3.225400e+01
## x[141]     5.960000e+01  4.710900e+01  -3.564400e+01   2.837800e+01
## x[142]    -3.747900e+01  0.000000e+00  -3.747900e+01  -3.747900e+01
## x[143]     5.749900e+01  4.650000e+01  -3.530200e+01   2.558000e+01
## x[144]     7.072100e+01  0.000000e+00   7.072100e+01   7.072100e+01
## x[145]     9.823600e+01  0.000000e+00   9.823600e+01   9.823600e+01
## x[146]     5.908700e+01  4.571200e+01  -2.864700e+01   2.753500e+01
## x[147]    -3.889300e+01  0.000000e+00  -3.889300e+01  -3.889300e+01
## x[148]     9.859400e+01  0.000000e+00   9.859400e+01   9.859400e+01
## x[149]     5.932900e+01  4.518000e+01  -2.963900e+01   2.868300e+01
## x[150]    -5.979200e+01  0.000000e+00  -5.979200e+01  -5.979200e+01
## x[151]     5.758300e+01  4.631300e+01  -3.378800e+01   2.649600e+01
## x[152]     1.597300e+02  0.000000e+00   1.597300e+02   1.597300e+02
## x[153]    -4.066900e+01  0.000000e+00  -4.066900e+01  -4.066900e+01
## x[154]     2.925400e+01  0.000000e+00   2.925400e+01   2.925400e+01
## x[155]     1.178860e+02  0.000000e+00   1.178860e+02   1.178860e+02
## x[156]    -2.977900e+01  0.000000e+00  -2.977900e+01  -2.977900e+01
## x[157]     6.036900e+01  4.646400e+01  -2.930700e+01   2.854000e+01
## x[158]     6.213300e+01  4.625000e+01  -2.900000e+01   3.070400e+01
## x[159]     6.476200e+01  4.597700e+01  -2.418600e+01   3.372800e+01
## x[160]     5.747400e+01  4.644900e+01  -3.064800e+01   2.572800e+01
## x[161]     5.973400e+01  4.652700e+01  -3.342800e+01   2.811700e+01
## x[162]     5.941900e+01  0.000000e+00   5.941900e+01   5.941900e+01
## x[163]     5.787700e+01  4.677900e+01  -3.473900e+01   2.633200e+01
## x[164]     5.999600e+01  4.590300e+01  -2.897300e+01   2.867900e+01
## x[165]     6.192000e+01  4.659300e+01  -2.888500e+01   3.054800e+01
## x[166]     1.806600e+01  0.000000e+00   1.806600e+01   1.806600e+01
## x[167]     5.828600e+01  4.649600e+01  -2.896900e+01   2.599500e+01
## x[168]     1.185050e+02  0.000000e+00   1.185050e+02   1.185050e+02
## x[169]     8.202400e+01  0.000000e+00   8.202400e+01   8.202400e+01
## x[170]    -1.414940e+02  0.000000e+00  -1.414940e+02  -1.414940e+02
## x[171]    -1.839960e+02  0.000000e+00  -1.839960e+02  -1.839960e+02
## x[172]     9.828600e+01  0.000000e+00   9.828600e+01   9.828600e+01
## x[173]     1.678530e+02  0.000000e+00   1.678530e+02   1.678530e+02
## x[174]    -7.927800e+01  0.000000e+00  -7.927800e+01  -7.927800e+01
## x[175]     5.958500e+01  4.679100e+01  -3.224900e+01   2.811100e+01
## x[176]     7.560400e+01  0.000000e+00   7.560400e+01   7.560400e+01
## x[177]     1.227840e+02  0.000000e+00   1.227840e+02   1.227840e+02
## x[178]     1.824110e+02  0.000000e+00   1.824110e+02   1.824110e+02
## x[179]     6.471600e+01  0.000000e+00   6.471600e+01   6.471600e+01
## x[180]    -9.854000e+00  0.000000e+00  -9.854000e+00  -9.854000e+00
## x[181]     2.692530e+02  0.000000e+00   2.692530e+02   2.692530e+02
## x[182]     7.293300e+01  4.525800e+01  -1.448700e+01   4.296000e+01
## x[183]     1.634870e+02  0.000000e+00   1.634870e+02   1.634870e+02
## x[184]     5.864300e+01  4.634200e+01  -3.284900e+01   2.799900e+01
## x[185]     9.748400e+01  0.000000e+00   9.748400e+01   9.748400e+01
```

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## x[186]     5.805400e+01  4.643100e+01  -3.413900e+01   2.639900e+01
## x[187]     6.227700e+01  4.610700e+01  -2.621200e+01   3.250900e+01
## x[188]     9.290200e+01  0.000000e+00   9.290200e+01   9.290200e+01
## x[189]     6.012300e+01  4.634300e+01  -2.924500e+01   2.877700e+01
## x[190]     5.719200e+01  4.524900e+01  -3.224200e+01   2.728500e+01
## x[191]    -1.431830e+02  0.000000e+00  -1.431830e+02  -1.431830e+02
## x[192]     1.709670e+02  0.000000e+00   1.709670e+02   1.709670e+02
## x[193]     2.210000e+01  0.000000e+00   2.210000e+01   2.210000e+01
## x[194]    -5.957800e+01  0.000000e+00  -5.957800e+01  -5.957800e+01
## x[195]     3.978100e+01  0.000000e+00   3.978100e+01   3.978100e+01
## x[196]     8.570200e+01  0.000000e+00   8.570200e+01   8.570200e+01
## x[197]     5.757200e+01  4.591600e+01  -3.188800e+01   2.711200e+01
## x[198]     5.756800e+01  4.615600e+01  -3.091600e+01   2.624800e+01
## x[199]    -8.102000e+00  0.000000e+00  -8.102000e+00  -8.102000e+00
## x[200]     1.144090e+02  0.000000e+00   1.144090e+02   1.144090e+02
## x[201]     6.888400e+01  4.619900e+01  -2.399100e+01   3.790300e+01
## x[202]     1.362490e+02  0.000000e+00   1.362490e+02   1.362490e+02
## x[203]     5.738400e+01  4.587200e+01  -3.438500e+01   2.690900e+01
## x[204]     5.947300e+01  4.649100e+01  -3.210800e+01   2.793500e+01
## x[205]     6.209600e+01  4.634500e+01  -2.769300e+01   3.049000e+01
## x[206]    -6.765300e+01  0.000000e+00  -6.765300e+01  -6.765300e+01
## x[207]    -1.093400e+01  0.000000e+00  -1.093400e+01  -1.093400e+01
## x[208]     8.872600e+01  0.000000e+00   8.872600e+01   8.872600e+01
## x[209]    -8.991400e+01  0.000000e+00  -8.991400e+01  -8.991400e+01
## x[210]     1.732490e+02  0.000000e+00   1.732490e+02   1.732490e+02
## x[211]     5.155100e+01  0.000000e+00   5.155100e+01   5.155100e+01
## x[212]    -1.120960e+02  0.000000e+00  -1.120960e+02  -1.120960e+02
## x[213]     5.728100e+01  4.639800e+01  -3.308400e+01   2.584000e+01
## x[214]     5.695200e+01  4.575400e+01  -3.181200e+01   2.610500e+01
## x[215]     5.849700e+01  4.576200e+01  -3.058100e+01   2.769700e+01
## x[216]     1.991600e+02  0.000000e+00   1.991600e+02   1.991600e+02
## x[217]     3.627200e+01  0.000000e+00   3.627200e+01   3.627200e+01
## x[218]     6.082800e+01  0.000000e+00   6.082800e+01   6.082800e+01
## x[219]     5.815300e+01  4.517500e+01  -3.093600e+01   2.809100e+01
## x[220]     5.526000e+00  0.000000e+00   5.526000e+00   5.526000e+00
## x[221]     3.039500e+01  0.000000e+00   3.039500e+01   3.039500e+01
## x[222]     5.834100e+01  4.565100e+01  -3.315000e+01   2.775200e+01
## x[223]     1.453520e+02  0.000000e+00   1.453520e+02   1.453520e+02
## x[224]     9.725500e+01  0.000000e+00   9.725500e+01   9.725500e+01
## x[225]    -5.878000e+00  0.000000e+00  -5.878000e+00  -5.878000e+00
## x[226]     1.742060e+02  0.000000e+00   1.742060e+02   1.742060e+02
## x[227]     5.825500e+01  4.644400e+01  -3.238400e+01   2.713300e+01
## x[228]    -2.917900e+01  0.000000e+00  -2.917900e+01  -2.917900e+01
## x[229]     9.838000e+00  0.000000e+00   9.838000e+00   9.838000e+00
## x[230]     6.114300e+01  4.550900e+01  -2.809400e+01   3.048300e+01
## x[231]     1.471970e+02  0.000000e+00   1.471970e+02   1.471970e+02
## x[232]     5.736700e+01  4.653600e+01  -3.522200e+01   2.610700e+01
## x[233]     5.145600e+01  0.000000e+00   5.145600e+01   5.145600e+01
## x[234]     2.390600e+01  0.000000e+00   2.390600e+01   2.390600e+01
## x[235]     6.371000e+01  4.675000e+01  -2.705800e+01   3.149900e+01
## x[236]    -9.733700e+01  0.000000e+00  -9.733700e+01  -9.733700e+01
## x[237]     5.816600e+01  4.484100e+01  -2.796400e+01   2.712600e+01
## x[238]     5.245400e+01  0.000000e+00   5.245400e+01   5.245400e+01
## x[239]     4.987400e+01  0.000000e+00   4.987400e+01   4.987400e+01
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## x[240]     6.607000e+00 0.000000e+00  6.607000e+00  6.607000e+00
## x[241]     9.444000e+00 0.000000e+00  9.444000e+00  9.444000e+00
## x[242]     6.552300e+01 0.000000e+00  6.552300e+01  6.552300e+01
## x[243]    -4.723800e+01 0.000000e+00 -4.723800e+01 -4.723800e+01
## x[244]     6.540500e+01 4.528800e+01 -2.167200e+01  3.466200e+01
## x[245]     5.870200e+01 4.634500e+01 -3.513000e+01  2.807800e+01
## x[246]     2.461530e+02 0.000000e+00  2.461530e+02  2.461530e+02
## x[247]     5.839900e+01 4.658700e+01 -3.050400e+01  2.700900e+01
## x[248]     5.803700e+01 4.693100e+01 -3.164400e+01  2.614100e+01
## x[249]    -1.328860e+02 0.000000e+00 -1.328860e+02 -1.328860e+02
## x[250]     1.305920e+02 0.000000e+00  1.305920e+02  1.305920e+02
## x[251]    -9.775900e+01 0.000000e+00 -9.775900e+01 -9.775900e+01
## x[252]     6.881300e+01 4.583500e+01 -2.037100e+01  3.716500e+01
## x[253]    -8.397600e+01 0.000000e+00 -8.397600e+01 -8.397600e+01
## x[254]     2.341600e+01 0.000000e+00  2.341600e+01  2.341600e+01
## x[255]     1.160100e+01 0.000000e+00  1.160100e+01  1.160100e+01
## x[256]     5.818500e+01 4.616300e+01 -3.158700e+01  2.792800e+01
## x[257]    -1.515200e+01 0.000000e+00 -1.515200e+01 -1.515200e+01
## x[258]     6.775000e+01 4.595800e+01 -2.191200e+01  3.678900e+01
## x[259]     4.809700e+01 0.000000e+00  4.809700e+01  4.809700e+01
## x[260]     6.552800e+01 0.000000e+00  6.552800e+01  6.552800e+01
## x[261]    -2.608500e+01 0.000000e+00 -2.608500e+01 -2.608500e+01
## x[262]    -1.049730e+02 0.000000e+00 -1.049730e+02 -1.049730e+02
## x[263]     3.250170e+02 0.000000e+00  3.250170e+02  3.250170e+02
## x[264]     1.547420e+02 0.000000e+00  1.547420e+02  1.547420e+02
## x[265]     6.056600e+01 4.617700e+01 -3.023300e+01  3.090900e+01
## x[266]     9.701100e+01 0.000000e+00  9.701100e+01  9.701100e+01
## x[267]     5.769800e+01 4.581800e+01 -3.089800e+01  2.667100e+01
## x[268]     5.421100e+01 0.000000e+00  5.421100e+01  5.421100e+01
## x[269]    -4.019000e+01 0.000000e+00 -4.019000e+01 -4.019000e+01
## x[270]     6.327300e+01 4.547800e+01 -2.395000e+01  3.221700e+01
## x[271]     1.303850e+02 0.000000e+00  1.303850e+02  1.303850e+02
## x[272]     8.184800e+01 0.000000e+00  8.184800e+01  8.184800e+01
## x[273]     5.767600e+01 4.621300e+01 -3.237800e+01  2.698600e+01
## x[274]     5.844400e+01 4.534600e+01 -2.989200e+01  2.713700e+01
## x[275]     6.454000e+01 0.000000e+00  6.454000e+01  6.454000e+01
## x[276]     7.261900e+01 4.670200e+01 -1.788400e+01  4.151000e+01
## x[277]     1.423620e+02 0.000000e+00  1.423620e+02  1.423620e+02
## x[278]     1.241880e+02 0.000000e+00  1.241880e+02  1.241880e+02
## x[279]     6.354400e+01 4.693100e+01 -2.589800e+01  3.055200e+01
## x[280]     1.751660e+02 0.000000e+00  1.751660e+02  1.751660e+02
## x[281]     2.608910e+02 0.000000e+00  2.608910e+02  2.608910e+02
## x[282]     1.210310e+02 0.000000e+00  1.210310e+02  1.210310e+02
## x[283]    -9.751800e+01 0.000000e+00 -9.751800e+01 -9.751800e+01
## x[284]    -8.973000e+00 0.000000e+00 -8.973000e+00 -8.973000e+00
## x[285]     6.397000e+01 0.000000e+00  6.397000e+01  6.397000e+01
## x[286]     5.671400e+01 4.560900e+01 -3.226100e+01  2.566000e+01
## x[287]     5.739800e+01 4.550900e+01 -3.066200e+01  2.613000e+01
## x[288]     9.420400e+01 0.000000e+00  9.420400e+01  9.420400e+01
## x[289]     5.795100e+01 4.618400e+01 -3.131200e+01  2.686800e+01
## x[290]     1.471840e+02 0.000000e+00  1.471840e+02  1.471840e+02
## x[291]    -1.712700e+01 0.000000e+00 -1.712700e+01 -1.712700e+01
## x[292]     2.138400e+02 0.000000e+00  2.138400e+02  2.138400e+02
## x[293]     5.862400e+01 4.558100e+01 -3.098200e+01  2.829200e+01
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## x[294]     5.736500e+01  4.559100e+01 -3.261700e+01   2.686300e+01
## x[295]     6.101100e+01  4.633400e+01 -3.098600e+01   2.956900e+01
## x[296]     5.182500e+01  0.000000e+00  5.182500e+01   5.182500e+01
## x[297]     2.529800e+01  0.000000e+00  2.529800e+01   2.529800e+01
## x[298]     5.717800e+01  4.623800e+01 -3.272600e+01   2.617700e+01
## x[299]    -1.673160e+02  0.000000e+00 -1.673160e+02  -1.673160e+02
## x[300]     5.726500e+01  4.687000e+01 -3.617000e+01   2.575600e+01
## x[301]     5.986500e+01  4.618600e+01 -3.378700e+01   2.874600e+01
## x[302]     2.242700e+01  0.000000e+00  2.242700e+01   2.242700e+01
## x[303]     5.547100e+01  0.000000e+00  5.547100e+01   5.547100e+01
## x[304]     1.117500e+01  0.000000e+00  1.117500e+01   1.117500e+01
## x[305]     8.298000e+00  0.000000e+00  8.298000e+00   8.298000e+00
## x[306]    -6.641800e+01  0.000000e+00 -6.641800e+01  -6.641800e+01
## x[307]     6.725200e+01  4.557000e+01 -2.104400e+01   3.679000e+01
## x[308]     2.459200e+01  0.000000e+00  2.459200e+01   2.459200e+01
## x[309]     5.703800e+01  4.673300e+01 -3.317100e+01   2.581300e+01
## x[310]     1.611200e+02  0.000000e+00  1.611200e+02   1.611200e+02
## x[311]     1.473500e+02  0.000000e+00  1.473500e+02   1.473500e+02
## x[312]     6.350200e+01  4.607100e+01 -2.710700e+01   3.293400e+01
## x[313]     2.276290e+02  0.000000e+00  2.276290e+02   2.276290e+02
## x[314]     6.679900e+01  4.692300e+01 -2.338900e+01   3.521700e+01
## x[315]     1.159860e+02  0.000000e+00  1.159860e+02   1.159860e+02
## x[316]     1.679450e+02  0.000000e+00  1.679450e+02   1.679450e+02
## x[317]     5.955000e+01  4.538900e+01 -2.906100e+01   2.906000e+01
## x[318]     5.852100e+01  4.530100e+01 -3.132700e+01   2.879000e+01
## x[319]     5.694900e+01  4.617300e+01 -3.578200e+01   2.600800e+01
## x[320]    -9.655100e+01  0.000000e+00 -9.655100e+01  -9.655100e+01
## x[321]     5.823500e+01  4.583700e+01 -3.267600e+01   2.766500e+01
## x[322]     5.816400e+01  4.612600e+01 -3.371500e+01   2.670100e+01
## x[323]     2.762940e+02  0.000000e+00  2.762940e+02   2.762940e+02
## x[324]     5.870600e+01  4.551400e+01 -2.958800e+01   2.865600e+01
## x[325]     5.997500e+01  4.621000e+01 -3.183300e+01   2.926400e+01
## x[326]    -1.131600e+01  0.000000e+00 -1.131600e+01  -1.131600e+01
## x[327]     6.525000e+01  0.000000e+00  6.525000e+01   6.525000e+01
## x[328]    -9.171000e+00  0.000000e+00 -9.171000e+00  -9.171000e+00
## x[329]    -4.607000e+01  0.000000e+00 -4.607000e+01  -4.607000e+01
## x[330]    -8.496000e+00  0.000000e+00 -8.496000e+00  -8.496000e+00
## x[331]     1.156670e+02  0.000000e+00  1.156670e+02   1.156670e+02
## x[332]     5.757700e+01  4.653900e+01 -3.285000e+01   2.628600e+01
## x[333]     1.404100e+02  0.000000e+00  1.404100e+02   1.404100e+02
## x[334]     5.845400e+01  4.610600e+01 -3.232100e+01   2.729600e+01
## x[335]     4.484300e+01  0.000000e+00  4.484300e+01   4.484300e+01
## x[336]     5.808900e+01  4.560500e+01 -2.796600e+01   2.706900e+01
## x[337]     5.830100e+01  4.665800e+01 -3.482400e+01   2.738700e+01
## x[338]     1.490320e+02  0.000000e+00  1.490320e+02   1.490320e+02
## x[339]     5.736500e+01  4.640400e+01 -3.467900e+01   2.663300e+01
## x[340]     1.649630e+02  0.000000e+00  1.649630e+02   1.649630e+02
## x[341]     5.843600e+01  4.619200e+01 -3.425200e+01   2.701900e+01
## x[342]    -6.038200e+01  0.000000e+00 -6.038200e+01  -6.038200e+01
## x[343]     6.001700e+01  4.573600e+01 -2.819800e+01   2.874700e+01
## x[344]     5.922100e+01  4.557300e+01 -2.933700e+01   2.826800e+01
## x[345]     5.873800e+01  4.653300e+01 -3.271900e+01   2.776800e+01
## x[346]     1.593000e+02  0.000000e+00  1.593000e+02   1.593000e+02
## x[347]     1.735100e+02  0.000000e+00  1.735100e+02   1.735100e+02
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## x[348]     5.747400e+01 4.602200e+01 -3.031400e+01   2.486400e+01
## x[349]     6.204900e+01 0.000000e+00  6.204900e+01   6.204900e+01
## x[350]     6.005500e+01 4.717700e+01 -3.268000e+01   2.882900e+01
## x[351]     9.913800e+01 0.000000e+00  9.913800e+01   9.913800e+01
## x[352]     4.309900e+01 0.000000e+00  4.309900e+01   4.309900e+01
## x[353]     5.867200e+01 4.529200e+01 -3.098600e+01   2.800800e+01
## x[354]     6.031600e+01 4.591100e+01 -2.957600e+01   2.946000e+01
## x[355]     1.799100e+01 0.000000e+00  1.799100e+01   1.799100e+01
## x[356]     5.818100e+01 4.587200e+01 -3.222000e+01   2.740000e+01
## x[357]    -1.073000e+00 0.000000e+00 -1.073000e+00  -1.073000e+00
## x[358]     6.146200e+01 4.634800e+01 -2.816900e+01   2.889000e+01
## x[359]    -4.518500e+01 0.000000e+00 -4.518500e+01  -4.518500e+01
## x[360]     7.228900e+01 4.597900e+01 -1.630400e+01   4.083900e+01
## x[361]     7.026900e+01 0.000000e+00  7.026900e+01   7.026900e+01
## x[362]     6.313300e+01 4.627200e+01 -2.877900e+01   3.128700e+01
## x[363]     4.433600e+01 0.000000e+00  4.433600e+01   4.433600e+01
## x[364]     5.628400e+01 0.000000e+00  5.628400e+01   5.628400e+01
## x[365]     6.004500e+01 4.511900e+01 -3.057900e+01   3.009500e+01
## x[366]    -9.231000e+00 0.000000e+00 -9.231000e+00  -9.231000e+00
## x[367]     5.871000e+01 4.645100e+01 -3.348900e+01   2.747600e+01
## x[368]     5.995100e+01 4.664400e+01 -3.279700e+01   2.847600e+01
## x[369]     2.612800e+02 0.000000e+00  2.612800e+02   2.612800e+02
## x[370]     1.417780e+02 0.000000e+00  1.417780e+02   1.417780e+02
## x[371]    -1.072850e+02 0.000000e+00 -1.072850e+02  -1.072850e+02
## x[372]     1.492640e+02 0.000000e+00  1.492640e+02   1.492640e+02
## x[373]     6.079800e+01 4.662300e+01 -2.922700e+01   2.848300e+01
## x[374]     5.825900e+01 4.563700e+01 -3.071000e+01   2.733300e+01
## x[375]     6.037500e+01 4.542300e+01 -3.219500e+01   3.069800e+01
## x[376]     5.849000e+01 4.660300e+01 -3.137400e+01   2.629500e+01
## x[377]     5.966100e+01 4.668200e+01 -3.009300e+01   2.847400e+01
## x[378]     7.797700e+01 0.000000e+00  7.797700e+01   7.797700e+01
## x[379]     6.140100e+01 4.622300e+01 -3.000300e+01   3.084000e+01
## x[380]    -1.231260e+02 0.000000e+00 -1.231260e+02  -1.231260e+02
## x[381]    -9.795800e+01 0.000000e+00 -9.795800e+01  -9.795800e+01
## x[382]     2.729810e+02 0.000000e+00  2.729810e+02   2.729810e+02
## x[383]     8.865000e+01 0.000000e+00  8.865000e+01   8.865000e+01
## x[384]     1.160270e+02 0.000000e+00  1.160270e+02   1.160270e+02
## x[385]     2.237600e+01 0.000000e+00  2.237600e+01   2.237600e+01
## x[386]     7.759300e+01 0.000000e+00  7.759300e+01   7.759300e+01
## x[387]    -1.774230e+02 0.000000e+00 -1.774230e+02  -1.774230e+02
## x[388]     1.408090e+02 0.000000e+00  1.408090e+02   1.408090e+02
## x[389]     5.753100e+01 4.489900e+01 -2.999300e+01   2.761400e+01
## x[390]     2.844700e+01 0.000000e+00  2.844700e+01   2.844700e+01
## x[391]    -2.334300e+01 0.000000e+00 -2.334300e+01  -2.334300e+01
## x[392]     5.946700e+01 4.617500e+01 -3.384300e+01   2.730200e+01
## x[393]     5.682200e+01 4.628700e+01 -3.355000e+01   2.661400e+01
## x[394]    -1.191900e+01 0.000000e+00 -1.191900e+01  -1.191900e+01
## x[395]     7.440100e+01 0.000000e+00  7.440100e+01   7.440100e+01
## x[396]     8.717400e+01 0.000000e+00  8.717400e+01   8.717400e+01
## x[397]     5.967700e+01 4.657400e+01 -3.346800e+01   2.901000e+01
## x[398]     5.856500e+01 4.603100e+01 -3.240500e+01   2.771500e+01
## x[399]    -2.086900e+01 0.000000e+00 -2.086900e+01  -2.086900e+01
## x[400]     6.194500e+01 4.629100e+01 -3.070600e+01   3.054900e+01
## x[401]     1.802900e+01 0.000000e+00  1.802900e+01   1.802900e+01
```

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## x[402]      6.237700e+01  4.583900e+01 -2.548100e+01   3.185400e+01
## x[403]      5.872800e+01  4.686500e+01 -3.093800e+01   2.663900e+01
## x[404]      1.748210e+02  0.000000e+00  1.748210e+02   1.748210e+02
## x[405]      1.940400e+02  0.000000e+00  1.940400e+02   1.940400e+02
## x[406]      1.261990e+02  0.000000e+00  1.261990e+02   1.261990e+02
## x[407]      1.059370e+02  0.000000e+00  1.059370e+02   1.059370e+02
## x[408]      2.099260e+02  0.000000e+00  2.099260e+02   2.099260e+02
## x[409]      4.015400e+01  0.000000e+00  4.015400e+01   4.015400e+01
## x[410]      5.763600e+01  4.605400e+01 -3.325800e+01   2.707800e+01
## x[411]      2.423400e+01  0.000000e+00  2.423400e+01   2.423400e+01
## x[412]     -1.533070e+02  0.000000e+00 -1.533070e+02  -1.533070e+02
## x[413]      1.086960e+02  0.000000e+00  1.086960e+02   1.086960e+02
## x[414]      6.605900e+01  0.000000e+00  6.605900e+01   6.605900e+01
## x[415]      5.625600e+01  4.566600e+01 -3.185900e+01   2.501700e+01
## x[416]      1.071690e+02  0.000000e+00  1.071690e+02   1.071690e+02
## x[417]     -4.655300e+01  0.000000e+00 -4.655300e+01  -4.655300e+01
## x[418]      8.180000e+01  0.000000e+00  8.180000e+01   8.180000e+01
## x[419]      5.791400e+01  4.582200e+01 -3.109800e+01   2.767800e+01
## x[420]     -4.126100e+01  0.000000e+00 -4.126100e+01  -4.126100e+01
## x[421]      6.105300e+01  4.680200e+01 -3.073000e+01   2.917300e+01
## x[422]      5.932900e+01  4.711200e+01 -3.502400e+01   2.810600e+01
## x[423]      3.912100e+01  0.000000e+00  3.912100e+01   3.912100e+01
## x[424]      2.066580e+02  0.000000e+00  2.066580e+02   2.066580e+02
## x[425]     -3.448500e+01  0.000000e+00 -3.448500e+01  -3.448500e+01
## x[426]      6.138700e+01  4.620800e+01 -3.000500e+01   3.084900e+01
## x[427]      8.008800e+01  0.000000e+00  8.008800e+01   8.008800e+01
## x[428]     -2.769700e+01  0.000000e+00 -2.769700e+01  -2.769700e+01
## x[429]      4.615700e+01  0.000000e+00  4.615700e+01   4.615700e+01
## x[430]      1.609490e+02  0.000000e+00  1.609490e+02   1.609490e+02
## x[431]      5.888700e+01  4.557800e+01 -3.085800e+01   2.833900e+01
## x[432]      1.366500e+01  0.000000e+00  1.366500e+01   1.366500e+01
## x[433]      5.814800e+01  4.593700e+01 -3.252000e+01   2.822400e+01
## x[434]      8.338700e+01  0.000000e+00  8.338700e+01   8.338700e+01
## x[435]      1.310230e+02  0.000000e+00  1.310230e+02   1.310230e+02
## x[436]     -1.183700e+02  0.000000e+00 -1.183700e+02  -1.183700e+02
## x[437]      1.165730e+02  0.000000e+00  1.165730e+02   1.165730e+02
## x[438]     -2.923900e+01  0.000000e+00 -2.923900e+01  -2.923900e+01
## x[439]      6.434400e+01  4.577300e+01 -2.634300e+01   3.378900e+01
## x[440]      5.939400e+01  4.606900e+01 -3.075700e+01   2.938100e+01
## x[441]      5.828400e+01  4.564300e+01 -3.149500e+01   2.767900e+01
## x[442]      6.664000e+01  4.492700e+01 -2.358000e+01   3.635600e+01
## x[443]      5.975700e+01  4.736800e+01 -3.258100e+01   2.954400e+01
## x[444]      2.677900e+01  0.000000e+00  2.677900e+01   2.677900e+01
## x[445]      5.953700e+01  4.573400e+01 -2.901200e+01   2.868100e+01
## x[446]      5.890600e+01  4.620300e+01 -3.141000e+01   2.804600e+01
## x[447]      5.786600e+01  4.518500e+01 -2.884100e+01   2.649400e+01
## x[448]      5.886100e+01  4.562400e+01 -3.009200e+01   2.796000e+01
## x[449]      5.715200e+01  4.557300e+01 -3.367300e+01   2.703600e+01
## x[450]      5.808000e+01  4.608100e+01 -3.295500e+01   2.573500e+01
## x[451]     -8.058200e+01  0.000000e+00 -8.058200e+01  -8.058200e+01
## x[452]      6.827500e+01  4.513500e+01 -1.908400e+01   3.834200e+01
## x[453]     -2.556500e+01  0.000000e+00 -2.556500e+01  -2.556500e+01
## x[454]      5.809800e+01  4.516400e+01 -2.861100e+01   2.784800e+01
## x[455]      1.597160e+02  0.000000e+00  1.597160e+02   1.597160e+02
```

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## x[456]   -4.466100e+01 0.000000e+00 -4.466100e+01 -4.466100e+01
## x[457]   -6.339600e+01 0.000000e+00 -6.339600e+01 -6.339600e+01
## x[458]    5.722200e+01 4.624900e+01 -3.138500e+01  2.657500e+01
## x[459]    5.951400e+01 4.648600e+01 -3.061800e+01  2.794700e+01
## x[460]    1.620400e+01 0.000000e+00  1.620400e+01  1.620400e+01
## x[461]    4.775500e+01 0.000000e+00  4.775500e+01  4.775500e+01
## x[462]    3.979500e+01 0.000000e+00  3.979500e+01  3.979500e+01
## x[463]    8.004100e+01 0.000000e+00  8.004100e+01  8.004100e+01
## x[464]    1.306620e+02 0.000000e+00  1.306620e+02  1.306620e+02
## x[465]    4.627900e+01 0.000000e+00  4.627900e+01  4.627900e+01
## x[466]    5.905600e+01 4.537300e+01 -3.007500e+01  2.914300e+01
## x[467]   -1.238900e+01 0.000000e+00 -1.238900e+01 -1.238900e+01
## x[468]    3.304000e+01 0.000000e+00  3.304000e+01  3.304000e+01
## x[469]    6.310200e+01 4.621400e+01 -2.686600e+01  3.154200e+01
## x[470]    5.783100e+01 4.661900e+01 -3.394900e+01  2.688800e+01
## x[471]    5.833500e+01 4.514900e+01 -3.082400e+01  2.767600e+01
## x[472]    7.268000e+00 0.000000e+00  7.268000e+00  7.268000e+00
## x[473]    4.431300e+01 0.000000e+00  4.431300e+01  4.431300e+01
## x[474]   -9.453800e+01 0.000000e+00 -9.453800e+01 -9.453800e+01
## x[475]    2.382810e+02 0.000000e+00  2.382810e+02  2.382810e+02
## x[476]    5.675400e+01 4.550200e+01 -3.008300e+01  2.609500e+01
## x[477]    9.211300e+01 0.000000e+00  9.211300e+01  9.211300e+01
## x[478]    6.654700e+01 4.545300e+01 -2.311200e+01  3.568100e+01
## x[479]    5.777300e+01 4.597100e+01 -3.226900e+01  2.637200e+01
## x[480]    4.443800e+01 0.000000e+00  4.443800e+01  4.443800e+01
## x[481]    5.804300e+01 4.635400e+01 -3.576100e+01  2.835200e+01
## x[482]    7.168400e+01 4.708900e+01 -2.102700e+01  3.937100e+01
## x[483]    5.745100e+01 4.682600e+01 -3.396900e+01  2.505400e+01
## x[484]    5.858900e+01 4.586900e+01 -2.986900e+01  2.802200e+01
## x[485]    2.303600e+01 0.000000e+00  2.303600e+01  2.303600e+01
## x[486]    1.344470e+02 0.000000e+00  1.344470e+02  1.344470e+02
## x[487]    6.463000e+01 4.635400e+01 -2.655800e+01  3.427000e+01
## x[488]   -1.066240e+02 0.000000e+00 -1.066240e+02 -1.066240e+02
## x[489]    6.690400e+01 0.000000e+00  6.690400e+01  6.690400e+01
## x[490]    5.886900e+01 4.610900e+01 -3.389300e+01  2.718500e+01
## x[491]    1.494930e+02 0.000000e+00  1.494930e+02  1.494930e+02
## x[492]    1.743910e+02 0.000000e+00  1.743910e+02  1.743910e+02
## x[493]    4.637400e+01 0.000000e+00  4.637400e+01  4.637400e+01
## x[494]    8.874000e+00 0.000000e+00  8.874000e+00  8.874000e+00
## x[495]    1.784150e+02 0.000000e+00  1.784150e+02  1.784150e+02
## x[496]   -6.178100e+01 0.000000e+00 -6.178100e+01 -6.178100e+01
## x[497]    5.850500e+01 4.573400e+01 -2.956300e+01  2.759400e+01
## x[498]    6.550300e+01 4.648200e+01 -2.594900e+01  3.323400e+01
## x[499]    1.399150e+02 0.000000e+00  1.399150e+02  1.399150e+02
## x[500]    5.875200e+01 4.652400e+01 -3.212000e+01  2.639700e+01
## x[501]    2.939800e+01 0.000000e+00  2.939800e+01  2.939800e+01
## x[502]    5.698400e+01 4.541800e+01 -3.183500e+01  2.604200e+01
## x[503]   -1.854500e+01 0.000000e+00 -1.854500e+01 -1.854500e+01
## x[504]    1.504820e+02 0.000000e+00  1.504820e+02  1.504820e+02
## x[505]   -2.726500e+01 0.000000e+00 -2.726500e+01 -2.726500e+01
## x[506]   -1.493730e+02 0.000000e+00 -1.493730e+02 -1.493730e+02
## x[507]    5.983900e+01 4.578600e+01 -2.773000e+01  2.853400e+01
## x[508]   -6.316000e+00 0.000000e+00 -6.316000e+00 -6.316000e+00
## x[509]    5.896900e+01 4.605600e+01 -3.083700e+01  2.722900e+01
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## x[510]      6.056700e+01 4.689100e+01 -3.130000e+01  2.847900e+01
## x[511]      5.737200e+01 4.483400e+01 -2.793200e+01  2.656200e+01
## x[512]      2.618370e+02 0.000000e+00  2.618370e+02  2.618370e+02
## x[513]      6.523800e+01 4.632600e+01 -2.615200e+01  3.422100e+01
## x[514]      1.064770e+02 0.000000e+00  1.064770e+02  1.064770e+02
## x[515]     -5.813000e+01 0.000000e+00 -5.813000e+01 -5.813000e+01
## x[516]     -4.419800e+01 0.000000e+00 -4.419800e+01 -4.419800e+01
## x[517]      2.558200e+01 0.000000e+00  2.558200e+01  2.558200e+01
## x[518]      1.585490e+02 0.000000e+00  1.585490e+02  1.585490e+02
## x[519]      1.058340e+02 0.000000e+00  1.058340e+02  1.058340e+02
## x[520]     -1.676230e+02 0.000000e+00 -1.676230e+02 -1.676230e+02
## x[521]      1.377300e+02 0.000000e+00  1.377300e+02  1.377300e+02
## x[522]      1.342540e+02 0.000000e+00  1.342540e+02  1.342540e+02
## x[523]      4.484200e+01 0.000000e+00  4.484200e+01  4.484200e+01
## x[524]     -1.901200e+01 0.000000e+00 -1.901200e+01 -1.901200e+01
## x[525]     -1.338980e+02 0.000000e+00 -1.338980e+02 -1.338980e+02
## x[526]      5.795500e+01 4.577500e+01 -3.137800e+01  2.636500e+01
## x[527]      6.276900e+01 4.589300e+01 -2.979500e+01  3.212600e+01
## x[528]      1.234350e+02 0.000000e+00  1.234350e+02  1.234350e+02
## x[529]      6.458100e+01 0.000000e+00  6.458100e+01  6.458100e+01
## x[530]      5.823500e+01 4.560800e+01 -3.118700e+01  2.764800e+01
## x[531]     -6.122000e+00 0.000000e+00 -6.122000e+00 -6.122000e+00
## x[532]      8.347900e+01 0.000000e+00  8.347900e+01  8.347900e+01
## x[533]      5.320200e+01 0.000000e+00  5.320200e+01  5.320200e+01
## x[534]      6.194200e+01 4.629200e+01 -2.991800e+01  3.070900e+01
## x[535]      5.814400e+01 4.532200e+01 -2.718100e+01  2.634500e+01
## x[536]      5.812800e+01 4.624400e+01 -3.320000e+01  2.731500e+01
## x[537]      5.773100e+01 4.650800e+01 -3.226900e+01  2.609900e+01
## x[538]     -7.607100e+01 0.000000e+00 -7.607100e+01 -7.607100e+01
## x[539]     -1.836100e+01 0.000000e+00 -1.836100e+01 -1.836100e+01
## x[540]      3.365600e+01 0.000000e+00  3.365600e+01  3.365600e+01
## x[541]      6.153000e+00 0.000000e+00  6.153000e+00  6.153000e+00
## x[542]     -7.870000e+00 0.000000e+00 -7.870000e+00 -7.870000e+00
## x[543]      2.081090e+02 0.000000e+00  2.081090e+02  2.081090e+02
## x[544]      2.040660e+02 0.000000e+00  2.040660e+02  2.040660e+02
## x[545]      6.148900e+01 4.636600e+01 -3.126300e+01  3.009900e+01
## x[546]      4.362500e+01 0.000000e+00  4.362500e+01  4.362500e+01
## x[547]      5.734100e+01 4.671100e+01 -3.367800e+01  2.607900e+01
## x[548]     -5.339500e+01 0.000000e+00 -5.339500e+01 -5.339500e+01
## x[549]      2.039400e+01 0.000000e+00  2.039400e+01  2.039400e+01
## x[550]      5.914100e+01 4.593700e+01 -3.189400e+01  2.810400e+01
## x[551]      4.728100e+01 0.000000e+00  4.728100e+01  4.728100e+01
## x[552]      2.061390e+02 0.000000e+00  2.061390e+02  2.061390e+02
## x[553]     -4.910800e+01 0.000000e+00 -4.910800e+01 -4.910800e+01
## x[554]      5.835700e+01 4.633800e+01 -3.138800e+01  2.776600e+01
## x[555]      5.795200e+01 4.551100e+01 -3.205300e+01  2.674600e+01
## x[556]      5.782800e+01 4.558000e+01 -3.508900e+01  2.748600e+01
## x[557]      3.697500e+01 0.000000e+00  3.697500e+01  3.697500e+01
## x[558]      6.550900e+01 0.000000e+00  6.550900e+01  6.550900e+01
## x[559]      1.777340e+02 0.000000e+00  1.777340e+02  1.777340e+02
## x[560]      1.553550e+02 0.000000e+00  1.553550e+02  1.553550e+02
## x[561]      1.282800e+01 0.000000e+00  1.282800e+01  1.282800e+01
## x[562]      3.968700e+01 0.000000e+00  3.968700e+01  3.968700e+01
## x[563]      7.496300e+01 4.643000e+01 -1.538500e+01  4.392300e+01
```

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## x[564]    -2.772600e+01  0.000000e+00 -2.772600e+01 -2.772600e+01
## x[565]     6.060900e+01  4.642000e+01 -3.275600e+01  2.908900e+01
## x[566]     5.225500e+01  0.000000e+00  5.225500e+01  5.225500e+01
## x[567]     5.999800e+01  4.519100e+01 -2.535700e+01  2.888500e+01
## x[568]     5.705300e+01  4.617400e+01 -3.243800e+01  2.567300e+01
## x[569]     5.797900e+01  4.698200e+01 -3.535400e+01  2.727800e+01
## x[570]     2.869400e+01  0.000000e+00  2.869400e+01  2.869400e+01
## x[571]     1.971210e+02  0.000000e+00  1.971210e+02  1.971210e+02
## x[572]     9.663900e+01  0.000000e+00  9.663900e+01  9.663900e+01
## x[573]     6.828200e+01  4.668600e+01 -2.350200e+01  3.727100e+01
## x[574]     2.423400e+02  0.000000e+00  2.423400e+02  2.423400e+02
## x[575]     5.657000e+01  4.667100e+01 -3.636500e+01  2.599900e+01
## x[576]     1.137200e+01  0.000000e+00  1.137200e+01  1.137200e+01
## x[577]     5.779500e+01  4.549900e+01 -2.947200e+01  2.635600e+01
## x[578]     9.799000e+00  0.000000e+00  9.799000e+00  9.799000e+00
## x[579]     6.078700e+01  4.571900e+01 -2.681900e+01  3.089100e+01
## x[580]     5.770700e+01  4.566800e+01 -3.079300e+01  2.678400e+01
## x[581]     8.310300e+01  0.000000e+00  8.310300e+01  8.310300e+01
## x[582]     5.661200e+01  4.696400e+01 -3.483600e+01  2.424100e+01
## x[583]     6.040200e+01  4.639700e+01 -2.984400e+01  2.848500e+01
## x[584]    -1.579000e+00  0.000000e+00 -1.579000e+00 -1.579000e+00
## x[585]     5.962600e+01  4.642100e+01 -3.315600e+01  2.883200e+01
## x[586]     2.119610e+02  0.000000e+00  2.119610e+02  2.119610e+02
## x[587]     5.953900e+01  4.522500e+01 -2.990600e+01  2.935500e+01
## x[588]     1.755260e+02  0.000000e+00  1.755260e+02  1.755260e+02
## x[589]    -7.491000e+00  0.000000e+00 -7.491000e+00 -7.491000e+00
## x[590]     8.160900e+01  0.000000e+00  8.160900e+01  8.160900e+01
## x[591]    -1.687870e+02  0.000000e+00 -1.687870e+02 -1.687870e+02
## x[592]     2.872100e+02  0.000000e+00  2.872100e+02  2.872100e+02
## x[593]     1.476580e+02  0.000000e+00  1.476580e+02  1.476580e+02
## x[594]     1.114450e+02  0.000000e+00  1.114450e+02  1.114450e+02
## x[595]     1.847400e+01  0.000000e+00  1.847400e+01  1.847400e+01
## x[596]     7.310400e+01  0.000000e+00  7.310400e+01  7.310400e+01
## x[597]     2.575480e+02  0.000000e+00  2.575480e+02  2.575480e+02
## x[598]     1.152680e+02  0.000000e+00  1.152680e+02  1.152680e+02
## x[599]     5.778900e+01  4.575900e+01 -3.399300e+01  2.705300e+01
## x[600]     5.933600e+01  4.531600e+01 -2.825600e+01  2.911100e+01
## x[601]     5.949500e+01  4.625300e+01 -3.377000e+01  2.981900e+01
## x[602]     5.799000e+01  4.642900e+01 -3.387700e+01  2.691300e+01
## x[603]     5.715000e+01  4.570600e+01 -3.159700e+01  2.682200e+01
## x[604]     5.908200e+01  4.616100e+01 -3.153800e+01  2.794200e+01
## x[605]     6.431200e+01  0.000000e+00  6.431200e+01  6.431200e+01
## x[606]     6.049500e+01  0.000000e+00  6.049500e+01  6.049500e+01
## x[607]     1.102200e+02  0.000000e+00  1.102200e+02  1.102200e+02
## x[608]     3.816000e+01  0.000000e+00  3.816000e+01  3.816000e+01
## x[609]     5.858700e+01  4.562000e+01 -3.090700e+01  2.889100e+01
## x[610]     5.856000e+01  4.698500e+01 -3.235700e+01  2.723300e+01
## x[611]     5.636200e+01  0.000000e+00  5.636200e+01  5.636200e+01
## x[612]     1.966200e+02  0.000000e+00  1.966200e+02  1.966200e+02
## x[613]     2.737000e+00  0.000000e+00  2.737000e+00  2.737000e+00
## x[614]     5.749000e+01  4.509800e+01 -3.124900e+01  2.774600e+01
## x[615]     5.917500e+01  4.635800e+01 -3.148600e+01  2.792700e+01
## x[616]     6.024400e+01  4.647000e+01 -2.769300e+01  2.837600e+01
## x[617]    -4.490800e+01  0.000000e+00 -4.490800e+01 -4.490800e+01
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## x[618]    1.404790e+02 0.000000e+00  1.404790e+02  1.404790e+02
## x[619]    1.598900e+01 0.000000e+00  1.598900e+01  1.598900e+01
## x[620]    2.031010e+02 0.000000e+00  2.031010e+02  2.031010e+02
## x[621]    8.894000e+01 0.000000e+00  8.894000e+01  8.894000e+01
## x[622]    9.959800e+01 0.000000e+00  9.959800e+01  9.959800e+01
## x[623]    1.144860e+02 0.000000e+00  1.144860e+02  1.144860e+02
## x[624]    5.803500e+01 4.614400e+01 -3.121400e+01  2.698000e+01
## x[625]   -8.568700e+01 0.000000e+00 -8.568700e+01 -8.568700e+01
## x[626]    5.825600e+01 4.676800e+01 -3.464600e+01  2.624500e+01
## x[627]   -1.488300e+02 0.000000e+00 -1.488300e+02 -1.488300e+02
## x[628]    1.418610e+02 0.000000e+00  1.418610e+02  1.418610e+02
## x[629]   -2.287800e+01 0.000000e+00 -2.287800e+01 -2.287800e+01
## x[630]    2.793900e+01 0.000000e+00  2.793900e+01  2.793900e+01
## x[631]    8.043500e+01 0.000000e+00  8.043500e+01  8.043500e+01
## x[632]    1.492650e+02 0.000000e+00  1.492650e+02  1.492650e+02
## x[633]    4.267300e+01 0.000000e+00  4.267300e+01  4.267300e+01
## x[634]    5.793100e+01 4.522100e+01 -2.820100e+01  2.765200e+01
## x[635]    6.295100e+01 4.583200e+01 -2.770100e+01  3.271500e+01
## x[636]    7.533400e+01 0.000000e+00  7.533400e+01  7.533400e+01
## x[637]    5.662600e+01 4.621400e+01 -3.172500e+01  2.429200e+01
## x[638]    5.721200e+01 4.665500e+01 -3.345500e+01  2.572400e+01
## x[639]    6.314000e+01 4.592700e+01 -2.679100e+01  3.245200e+01
## x[640]    6.023600e+01 4.712900e+01 -3.292600e+01  2.810600e+01
## x[641]    1.448890e+02 0.000000e+00  1.448890e+02  1.448890e+02
## x[642]    5.870700e+01 4.545000e+01 -3.208200e+01  2.916600e+01
## x[643]   -1.086970e+02 0.000000e+00 -1.086970e+02 -1.086970e+02
## x[644]    4.784200e+01 0.000000e+00  4.784200e+01  4.784200e+01
## x[645]    5.861900e+01 4.641200e+01 -3.655500e+01  2.730000e+01
## x[646]    5.735300e+01 4.654000e+01 -3.572100e+01  2.581900e+01
## x[647]   -5.411200e+01 0.000000e+00 -5.411200e+01 -5.411200e+01
## x[648]    5.147900e+01 0.000000e+00  5.147900e+01  5.147900e+01
## x[649]   -1.089400e+02 0.000000e+00 -1.089400e+02 -1.089400e+02
## x[650]   -6.771200e+01 0.000000e+00 -6.771200e+01 -6.771200e+01
## x[651]    5.948200e+01 4.688300e+01 -3.209800e+01  2.792300e+01
## x[652]    2.398010e+02 0.000000e+00  2.398010e+02  2.398010e+02
## x[653]    5.756900e+01 4.697200e+01 -3.742500e+01  2.643000e+01
## x[654]    6.026100e+01 4.589900e+01 -2.805300e+01  2.904500e+01
## x[655]   -3.572500e+01 0.000000e+00 -3.572500e+01 -3.572500e+01
## x[656]    3.789400e+01 0.000000e+00  3.789400e+01  3.789400e+01
## x[657]    5.740300e+01 4.693400e+01 -3.463300e+01  2.606400e+01
## x[658]    5.804900e+01 4.610700e+01 -3.027400e+01  2.647600e+01
## x[659]    5.742900e+01 4.558900e+01 -3.054300e+01  2.716700e+01
## x[660]    2.348210e+02 0.000000e+00  2.348210e+02  2.348210e+02
## x[661]    5.852800e+01 4.544600e+01 -3.005200e+01  2.763800e+01
## x[662]    5.826200e+01 4.604100e+01 -3.038200e+01  2.700300e+01
## x[663]    6.080400e+01 4.589200e+01 -2.919700e+01  2.952900e+01
## x[664]    1.538930e+02 0.000000e+00  1.538930e+02  1.538930e+02
## x[665]   -1.250000e+01 0.000000e+00 -1.250000e+01 -1.250000e+01
## x[666]    4.423100e+01 0.000000e+00  4.423100e+01  4.423100e+01
## x[667]    5.957500e+01 4.556900e+01 -2.642900e+01  2.825700e+01
## x[668]    6.875500e+01 0.000000e+00  6.875500e+01  6.875500e+01
## x[669]    6.822000e+00 0.000000e+00  6.822000e+00  6.822000e+00
## x[670]   -1.305800e+02 0.000000e+00 -1.305800e+02 -1.305800e+02
## x[671]    3.283200e+01 0.000000e+00  3.283200e+01  3.283200e+01
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## x[672]    -2.375000e+01 0.000000e+00 -2.375000e+01 -2.375000e+01
## x[673]     5.672600e+01 4.521400e+01 -3.091600e+01  2.589600e+01
## x[674]     5.744700e+01 4.575100e+01 -3.071800e+01  2.653800e+01
## x[675]     3.040700e+01 0.000000e+00  3.040700e+01  3.040700e+01
## x[676]     5.980800e+01 4.567900e+01 -3.186900e+01  2.922900e+01
## x[677]    -4.301500e+01 0.000000e+00 -4.301500e+01 -4.301500e+01
## x[678]    -2.532600e+01 0.000000e+00 -2.532600e+01 -2.532600e+01
## x[679]     3.883000e+01 0.000000e+00  3.883000e+01  3.883000e+01
## x[680]     2.931000e+00 0.000000e+00  2.931000e+00  2.931000e+00
## x[681]    -3.659200e+01 0.000000e+00 -3.659200e+01 -3.659200e+01
## x[682]    -1.071240e+02 0.000000e+00 -1.071240e+02 -1.071240e+02
## x[683]     5.915100e+01 4.583900e+01 -3.027300e+01  2.846500e+01
## x[684]     5.768400e+01 4.568700e+01 -3.238900e+01  2.664100e+01
## x[685]     5.847000e+01 4.591500e+01 -3.103800e+01  2.752100e+01
## x[686]     6.113300e+01 4.641300e+01 -2.988300e+01  2.998000e+01
## x[687]     8.756400e+01 0.000000e+00  8.756400e+01  8.756400e+01
## x[688]    -4.928700e+01 0.000000e+00 -4.928700e+01 -4.928700e+01
## x[689]     6.113000e+01 4.556800e+01 -2.819500e+01  3.080900e+01
## x[690]     5.816900e+01 4.654500e+01 -3.713900e+01  2.718400e+01
## x[691]     4.948100e+01 0.000000e+00  4.948100e+01  4.948100e+01
## x[692]     3.644900e+01 0.000000e+00  3.644900e+01  3.644900e+01
## x[693]     1.799310e+02 0.000000e+00  1.799310e+02  1.799310e+02
## x[694]     6.169700e+01 4.573600e+01 -2.610000e+01  3.006200e+01
## x[695]     1.711920e+02 0.000000e+00  1.711920e+02  1.711920e+02
## x[696]    -9.188000e+00 0.000000e+00 -9.188000e+00 -9.188000e+00
## x[697]     8.380100e+01 0.000000e+00  8.380100e+01  8.380100e+01
## x[698]     1.936620e+02 0.000000e+00  1.936620e+02  1.936620e+02
## x[699]     9.033300e+01 0.000000e+00  9.033300e+01  9.033300e+01
## x[700]     5.718600e+01 4.583200e+01 -3.464900e+01  2.745200e+01
## x[701]     1.843120e+02 0.000000e+00  1.843120e+02  1.843120e+02
## x[702]     5.724000e+01 4.688400e+01 -3.744300e+01  2.653400e+01
## x[703]     1.472600e+02 0.000000e+00  1.472600e+02  1.472600e+02
## x[704]     6.060100e+01 4.643800e+01 -2.983100e+01  2.944200e+01
## x[705]     4.477700e+01 0.000000e+00  4.477700e+01  4.477700e+01
## x[706]    -9.350200e+01 0.000000e+00 -9.350200e+01 -9.350200e+01
## x[707]     1.551050e+02 0.000000e+00  1.551050e+02  1.551050e+02
## x[708]     6.910100e+01 4.641700e+01 -2.052500e+01  3.796800e+01
## x[709]     1.200380e+02 0.000000e+00  1.200380e+02  1.200380e+02
## x[710]    -6.730800e+01 0.000000e+00 -6.730800e+01 -6.730800e+01
## x[711]     4.990000e-01 0.000000e+00  4.990000e-01  4.990000e-01
## x[712]     7.786800e+01 0.000000e+00  7.786800e+01  7.786800e+01
## x[713]     1.215710e+02 0.000000e+00  1.215710e+02  1.215710e+02
## x[714]    -1.663290e+02 0.000000e+00 -1.663290e+02 -1.663290e+02
## x[715]     5.602900e+01 4.549700e+01 -3.437500e+01  2.532700e+01
## x[716]    -4.752900e+01 0.000000e+00 -4.752900e+01 -4.752900e+01
## x[717]     5.794200e+01 4.585200e+01 -3.392200e+01  2.803800e+01
## x[718]     8.083900e+01 0.000000e+00  8.083900e+01  8.083900e+01
## x[719]     9.217900e+01 0.000000e+00  9.217900e+01  9.217900e+01
## x[720]     9.386600e+01 0.000000e+00  9.386600e+01  9.386600e+01
## x[721]     5.778700e+01 4.561200e+01 -3.209800e+01  2.790100e+01
## x[722]     5.692900e+01 4.596400e+01 -3.494000e+01  2.661400e+01
## x[723]     7.542900e+01 0.000000e+00  7.542900e+01  7.542900e+01
## x[724]     5.858000e+01 4.597700e+01 -3.381700e+01  2.800700e+01
## x[725]     5.889200e+01 4.534000e+01 -2.895500e+01  2.837000e+01
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## x[726]     1.251900e+02  0.000000e+00   1.251900e+02   1.251900e+02
## x[727]     5.791700e+01  4.541200e+01  -3.174300e+01   2.685900e+01
## x[728]     1.878000e+01  0.000000e+00   1.878000e+01   1.878000e+01
## x[729]     5.774600e+01  4.564200e+01  -3.280700e+01   2.690400e+01
## x[730]     6.134100e+01  4.608500e+01  -2.748400e+01   3.020200e+01
## x[731]     8.736400e+01  0.000000e+00   8.736400e+01   8.736400e+01
## x[732]     5.761200e+01  4.631800e+01  -3.289200e+01   2.528700e+01
## x[733]     2.108800e+01  0.000000e+00   2.108800e+01   2.108800e+01
## x[734]     1.170400e+01  0.000000e+00   1.170400e+01   1.170400e+01
## x[735]     1.418710e+02  0.000000e+00   1.418710e+02   1.418710e+02
## x[736]     1.517050e+02  0.000000e+00   1.517050e+02   1.517050e+02
## x[737]     5.987300e+01  4.665200e+01  -3.083700e+01   2.780400e+01
## x[738]     1.861500e+02  0.000000e+00   1.861500e+02   1.861500e+02
## x[739]     2.762000e+01  0.000000e+00   2.762000e+01   2.762000e+01
## x[740]     6.077600e+01  4.625700e+01  -3.033600e+01   2.944300e+01
## x[741]     3.579200e+01  0.000000e+00   3.579200e+01   3.579200e+01
## x[742]     5.993100e+01  4.596600e+01  -2.856400e+01   2.828000e+01
## x[743]     6.151300e+01  4.562900e+01  -2.726900e+01   3.040500e+01
## x[744]     3.461490e+02  0.000000e+00   3.461490e+02   3.461490e+02
## x[745]     5.986500e+01  4.694200e+01  -3.200700e+01   2.886600e+01
## x[746]     8.482300e+01  0.000000e+00   8.482300e+01   8.482300e+01
## x[747]     5.765300e+01  4.596500e+01  -3.210800e+01   2.708600e+01
## x[748]     9.999400e+01  0.000000e+00   9.999400e+01   9.999400e+01
## x[749]     5.687800e+01  4.707400e+01  -3.723400e+01   2.524200e+01
## x[750]     5.864700e+01  4.588600e+01  -3.047200e+01   2.745500e+01
## x[751]     2.483800e+02  0.000000e+00   2.483800e+02   2.483800e+02
## x[752]    -1.244090e+02  0.000000e+00  -1.244090e+02  -1.244090e+02
## x[753]     5.989800e+01  4.685500e+01  -3.143700e+01   2.813200e+01
## x[754]    -1.479350e+02  0.000000e+00  -1.479350e+02  -1.479350e+02
## x[755]     5.959200e+01  4.606100e+01  -3.159100e+01   2.840400e+01
## x[756]     1.158300e+01  0.000000e+00   1.158300e+01   1.158300e+01
## x[757]     5.697200e+01  4.682700e+01  -3.334900e+01   2.605400e+01
## x[758]     5.913100e+01  4.562600e+01  -3.150700e+01   2.915300e+01
## x[759]     6.090000e+01  0.000000e+00   6.090000e+01   6.090000e+01
## x[760]     5.877800e+01  4.699600e+01  -3.384900e+01   2.776500e+01
## x[761]     6.665500e+01  4.583700e+01  -2.427600e+01   3.611500e+01
## x[762]     1.954990e+02  0.000000e+00   1.954990e+02   1.954990e+02
## x[763]     5.780600e+01  4.545100e+01  -3.120100e+01   2.684000e+01
## x[764]     1.788500e+01  0.000000e+00   1.788500e+01   1.788500e+01
## x[765]     4.814000e+01  0.000000e+00   4.814000e+01   4.814000e+01
## x[766]    -8.217000e+01  0.000000e+00  -8.217000e+01  -8.217000e+01
## x[767]     5.845800e+01  4.618400e+01  -3.297100e+01   2.738000e+01
## x[768]     6.007000e+01  4.683800e+01  -2.975900e+01   2.838100e+01
## x[769]     6.128700e+01  4.581600e+01  -2.862800e+01   3.053600e+01
## x[770]    -3.538600e+01  0.000000e+00  -3.538600e+01  -3.538600e+01
## x[771]     6.093800e+01  4.544900e+01  -2.840500e+01   3.027700e+01
## x[772]     6.588000e+01  4.602400e+01  -2.142900e+01   3.335500e+01
## x[773]    -5.050500e+01  0.000000e+00  -5.050500e+01  -5.050500e+01
## x[774]     5.831800e+01  4.614900e+01  -3.150700e+01   2.651700e+01
## x[775]     6.229300e+01  4.617700e+01  -2.959400e+01   3.208600e+01
## x[776]     5.482900e+01  0.000000e+00   5.482900e+01   5.482900e+01
## x[777]     2.789100e+01  0.000000e+00   2.789100e+01   2.789100e+01
## x[778]     5.725500e+01  4.633700e+01  -3.167300e+01   2.572000e+01
## x[779]     5.903800e+01  4.576900e+01  -3.067800e+01   2.833800e+01
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## x[780]      5.805700e+01  4.626000e+01  -3.006300e+01   2.647600e+01
## x[781]      6.008800e+01  4.548500e+01  -2.871500e+01   2.974900e+01
## x[782]      2.101260e+02  0.000000e+00   2.101260e+02   2.101260e+02
## x[783]      8.872600e+01  0.000000e+00   8.872600e+01   8.872600e+01
## x[784]      6.159000e+01  4.519300e+01  -2.579700e+01   3.073200e+01
## x[785]      9.992700e+01  0.000000e+00   9.992700e+01   9.992700e+01
## x[786]     -7.148000e+00  0.000000e+00  -7.148000e+00  -7.148000e+00
## x[787]      5.802100e+01  4.624600e+01  -3.287300e+01   2.763000e+01
## x[788]      5.672600e+01  4.633200e+01  -3.235300e+01   2.566200e+01
## x[789]      7.524400e+01  0.000000e+00   7.524400e+01   7.524400e+01
## x[790]      7.276600e+01  0.000000e+00   7.276600e+01   7.276600e+01
## x[791]      5.869000e+01  4.625000e+01  -3.011000e+01   2.754100e+01
## x[792]      6.148400e+01  4.600600e+01  -2.858100e+01   3.114900e+01
## x[793]      5.584100e+01  4.579100e+01  -3.365600e+01   2.438200e+01
## x[794]     -1.880490e+02  0.000000e+00  -1.880490e+02  -1.880490e+02
## x[795]      5.997000e+01  4.567100e+01  -3.051000e+01   2.982900e+01
## x[796]      5.859000e+01  4.630000e+01  -2.950700e+01   2.700100e+01
## x[797]      1.132340e+02  0.000000e+00   1.132340e+02   1.132340e+02
## x[798]      1.644960e+02  0.000000e+00   1.644960e+02   1.644960e+02
## x[799]     -5.816600e+01  0.000000e+00  -5.816600e+01  -5.816600e+01
## x[800]      5.655100e+01  4.575300e+01  -3.340600e+01   2.523200e+01
## x[801]      6.287000e+01  0.000000e+00   6.287000e+01   6.287000e+01
## x[802]     -4.987000e+00  0.000000e+00  -4.987000e+00  -4.987000e+00
## x[803]     -8.860400e+01  0.000000e+00  -8.860400e+01  -8.860400e+01
## x[804]      3.583700e+01  0.000000e+00   3.583700e+01   3.583700e+01
## x[805]      5.956700e+01  4.676200e+01  -3.069100e+01   2.806900e+01
## x[806]      6.070500e+01  4.611000e+01  -3.183400e+01   2.965300e+01
## x[807]     -7.610600e+01  0.000000e+00  -7.610600e+01  -7.610600e+01
## x[808]     -6.760000e+00  0.000000e+00  -6.760000e+00  -6.760000e+00
## x[809]     -9.309000e+00  0.000000e+00  -9.309000e+00  -9.309000e+00
## x[810]      5.840700e+01  4.602400e+01  -2.962600e+01   2.639800e+01
## x[811]      1.475380e+02  0.000000e+00   1.475380e+02   1.475380e+02
## x[812]      1.223040e+02  0.000000e+00   1.223040e+02   1.223040e+02
## x[813]      1.228710e+02  0.000000e+00   1.228710e+02   1.228710e+02
## x[814]      2.149830e+02  0.000000e+00   2.149830e+02   2.149830e+02
## x[815]      1.113550e+02  0.000000e+00   1.113550e+02   1.113550e+02
## x[816]      6.163400e+01  4.573600e+01  -2.800600e+01   3.026100e+01
## x[817]      1.420930e+02  0.000000e+00   1.420930e+02   1.420930e+02
## x[818]      5.740600e+01  4.617800e+01  -3.282900e+01   2.622900e+01
## x[819]      4.706700e+01  0.000000e+00   4.706700e+01   4.706700e+01
## x[820]      4.164400e+01  0.000000e+00   4.164400e+01   4.164400e+01
## x[821]      3.974300e+01  0.000000e+00   3.974300e+01   3.974300e+01
## x[822]      5.883200e+01  4.633200e+01  -3.161800e+01   2.806800e+01
## x[823]      6.227800e+01  4.604400e+01  -2.687900e+01   3.118000e+01
## x[824]      1.361950e+02  0.000000e+00   1.361950e+02   1.361950e+02
## x[825]     -1.751600e+01  0.000000e+00  -1.751600e+01  -1.751600e+01
## x[826]      5.643800e+01  4.588700e+01  -3.635500e+01   2.673100e+01
## x[827]      5.888300e+01  4.593700e+01  -3.067300e+01   2.798600e+01
## x[828]      5.789100e+01  4.689900e+01  -3.188600e+01   2.629800e+01
## x[829]      1.606670e+02  0.000000e+00   1.606670e+02   1.606670e+02
## x[830]      6.823100e+01  0.000000e+00   6.823100e+01   6.823100e+01
## x[831]      5.297100e+01  0.000000e+00   5.297100e+01   5.297100e+01
## x[832]      5.918200e+01  4.597700e+01  -3.142200e+01   2.745700e+01
## x[833]      2.645400e+01  0.000000e+00   2.645400e+01   2.645400e+01
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## x[834]    4.172000e+00 0.000000e+00  4.172000e+00  4.172000e+00
## x[835]    6.037200e+01 4.581300e+01 -2.890600e+01  2.957100e+01
## x[836]    5.482300e+01 0.000000e+00  5.482300e+01  5.482300e+01
## x[837]    5.300000e-01 0.000000e+00  5.300000e-01  5.300000e-01
## x[838]    5.841100e+01 4.651100e+01 -3.264600e+01  2.628300e+01
## x[839]    2.920000e+01 0.000000e+00  2.920000e+01  2.920000e+01
## x[840]    5.458600e+01 0.000000e+00  5.458600e+01  5.458600e+01
## x[841]    6.892400e+01 4.698800e+01 -2.173000e+01  3.703600e+01
## x[842]    3.886600e+01 0.000000e+00  3.886600e+01  3.886600e+01
## x[843]    5.676000e+01 4.663900e+01 -3.253900e+01  2.503700e+01
## x[844]   -2.767500e+01 0.000000e+00 -2.767500e+01 -2.767500e+01
## x[845]    5.789200e+01 0.000000e+00  5.789200e+01  5.789200e+01
## x[846]    5.949900e+01 4.620200e+01 -3.248100e+01  2.882800e+01
## x[847]    1.367500e+01 0.000000e+00  1.367500e+01  1.367500e+01
## x[848]   -5.000900e+01 0.000000e+00 -5.000900e+01 -5.000900e+01
## x[849]    6.059500e+01 4.608100e+01 -3.101900e+01  2.961300e+01
## x[850]    6.735000e+01 4.577400e+01 -2.561000e+01  3.574500e+01
## x[851]    5.390000e+00 0.000000e+00  5.390000e+00  5.390000e+00
## x[852]    6.015700e+01 4.594200e+01 -3.084300e+01  2.938000e+01
## x[853]    6.537100e+01 4.718400e+01 -2.370600e+01  3.242700e+01
## x[854]    5.858500e+01 4.713500e+01 -3.321300e+01  2.689900e+01
## x[855]   -5.512200e+01 0.000000e+00 -5.512200e+01 -5.512200e+01
## x[856]    1.526740e+02 0.000000e+00  1.526740e+02  1.526740e+02
## x[857]   -6.529000e+00 0.000000e+00 -6.529000e+00 -6.529000e+00
## x[858]    5.706400e+01 0.000000e+00  5.706400e+01  5.706400e+01
## x[859]   -6.380400e+01 0.000000e+00 -6.380400e+01 -6.380400e+01
## x[860]    5.730700e+01 4.742600e+01 -3.388500e+01  2.573900e+01
## x[861]   -8.402000e+00 0.000000e+00 -8.402000e+00 -8.402000e+00
## x[862]    5.652700e+01 4.537100e+01 -3.223300e+01  2.596500e+01
## x[863]    5.867400e+01 4.656700e+01 -3.230800e+01  2.713500e+01
## x[864]    1.796390e+02 0.000000e+00  1.796390e+02  1.796390e+02
## x[865]    1.610640e+02 0.000000e+00  1.610640e+02  1.610640e+02
## x[866]   -1.273000e+01 0.000000e+00 -1.273000e+01 -1.273000e+01
## x[867]    2.117510e+02 0.000000e+00  2.117510e+02  2.117510e+02
## x[868]    1.223190e+02 0.000000e+00  1.223190e+02  1.223190e+02
## x[869]    5.854400e+01 4.564200e+01 -3.064500e+01  2.726300e+01
## x[870]    5.853900e+01 4.657200e+01 -3.197500e+01  2.706900e+01
## x[871]    1.484280e+02 0.000000e+00  1.484280e+02  1.484280e+02
## x[872]   -3.708700e+01 0.000000e+00 -3.708700e+01 -3.708700e+01
## x[873]    6.216600e+01 4.603400e+01 -2.902700e+01  3.158200e+01
## x[874]    1.422070e+02 0.000000e+00  1.422070e+02  1.422070e+02
## x[875]   -2.490900e+01 0.000000e+00 -2.490900e+01 -2.490900e+01
## x[876]    6.055800e+01 4.652800e+01 -2.987100e+01  2.739000e+01
## x[877]    2.556570e+02 0.000000e+00  2.556570e+02  2.556570e+02
## x[878]   -5.970100e+01 0.000000e+00 -5.970100e+01 -5.970100e+01
## x[879]    3.081000e+00 0.000000e+00  3.081000e+00  3.081000e+00
## x[880]    5.935000e+01 4.592000e+01 -2.882300e+01  2.834700e+01
## x[881]    5.865200e+01 4.584600e+01 -3.238000e+01  2.785100e+01
## x[882]    5.330600e+01 0.000000e+00  5.330600e+01  5.330600e+01
## x[883]    5.296800e+01 0.000000e+00  5.296800e+01  5.296800e+01
## x[884]   -3.309300e+01 0.000000e+00 -3.309300e+01 -3.309300e+01
## x[885]    5.782600e+01 4.601900e+01 -3.283000e+01  2.709700e+01
## x[886]   -1.090000e+01 0.000000e+00 -1.090000e+01 -1.090000e+01
## x[887]   -1.057840e+02 0.000000e+00 -1.057840e+02 -1.057840e+02
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## x[888]      3.371600e+01 0.000000e+00  3.371600e+01  3.371600e+01
## x[889]      5.712800e+01 4.642400e+01 -3.502900e+01  2.666300e+01
## x[890]      3.547600e+01 0.000000e+00  3.547600e+01  3.547600e+01
## x[891]      5.963700e+01 4.582000e+01 -3.112100e+01  2.867100e+01
## x[892]      6.402700e+01 4.553600e+01 -2.705400e+01  3.409400e+01
## x[893]     -1.307610e+02 0.000000e+00 -1.307610e+02 -1.307610e+02
## x[894]      5.904200e+01 4.605100e+01 -2.942400e+01  2.861700e+01
## x[895]     -3.830700e+01 0.000000e+00 -3.830700e+01 -3.830700e+01
## x[896]      5.662800e+01 4.567300e+01 -3.405000e+01  2.559500e+01
## x[897]     -1.078380e+02 0.000000e+00 -1.078380e+02 -1.078380e+02
## x[898]      4.587400e+01 0.000000e+00  4.587400e+01  4.587400e+01
## x[899]      2.070360e+02 0.000000e+00  2.070360e+02  2.070360e+02
## x[900]      6.134900e+01 4.556700e+01 -2.755500e+01  3.130300e+01
## x[901]      5.916400e+01 4.557100e+01 -3.004000e+01  2.786800e+01
## x[902]      4.218900e+01 0.000000e+00  4.218900e+01  4.218900e+01
## x[903]      5.851500e+01 4.592300e+01 -2.908100e+01  2.671900e+01
## x[904]      6.154100e+01 0.000000e+00  6.154100e+01  6.154100e+01
## x[905]      5.795600e+01 4.558800e+01 -2.906800e+01  2.681500e+01
## x[906]      2.421480e+02 0.000000e+00  2.421480e+02  2.421480e+02
## x[907]      3.949300e+01 0.000000e+00  3.949300e+01  3.949300e+01
## x[908]      5.667800e+01 4.635800e+01 -3.439700e+01  2.639800e+01
## x[909]      5.858900e+01 4.708900e+01 -3.512600e+01  2.712300e+01
## x[910]      5.842800e+01 4.702100e+01 -3.246800e+01  2.652400e+01
## x[911]     -8.411400e+01 0.000000e+00 -8.411400e+01 -8.411400e+01
## x[912]      5.939200e+01 4.577600e+01 -3.050700e+01  2.838500e+01
## x[913]      5.952300e+01 4.614900e+01 -3.205400e+01  2.780700e+01
## x[914]      5.592800e+01 4.637300e+01 -3.702200e+01  2.525400e+01
## x[915]      1.563820e+02 0.000000e+00  1.563820e+02  1.563820e+02
## x[916]      4.288800e+01 0.000000e+00  4.288800e+01  4.288800e+01
## x[917]      6.140400e+01 4.477100e+01 -2.866400e+01  3.121700e+01
## x[918]      5.975600e+01 4.640100e+01 -3.204700e+01  2.897300e+01
## x[919]      4.489200e+01 0.000000e+00  4.489200e+01  4.489200e+01
## x[920]      2.110360e+02 0.000000e+00  2.110360e+02  2.110360e+02
## x[921]      3.593800e+01 0.000000e+00  3.593800e+01  3.593800e+01
## x[922]      6.056800e+01 4.497900e+01 -2.630100e+01  3.037900e+01
## x[923]     -1.631200e+01 0.000000e+00 -1.631200e+01 -1.631200e+01
## x[924]      6.172900e+01 4.536300e+01 -2.468600e+01  3.127900e+01
## x[925]      8.097000e+01 0.000000e+00  8.097000e+01  8.097000e+01
## x[926]      4.642100e+01 0.000000e+00  4.642100e+01  4.642100e+01
## x[927]      1.609080e+02 0.000000e+00  1.609080e+02  1.609080e+02
## x[928]      8.954200e+01 0.000000e+00  8.954200e+01  8.954200e+01
## x[929]     -3.400500e+01 0.000000e+00 -3.400500e+01 -3.400500e+01
## x[930]      1.683500e+02 0.000000e+00  1.683500e+02  1.683500e+02
## x[931]      5.795200e+01 4.615300e+01 -3.426500e+01  2.702700e+01
## x[932]      6.427600e+01 4.581400e+01 -2.351900e+01  3.266300e+01
## x[933]      6.018900e+01 4.612600e+01 -2.835500e+01  2.951100e+01
## x[934]      6.024600e+01 4.560200e+01 -2.936100e+01  3.006800e+01
## x[935]      2.084000e+01 0.000000e+00  2.084000e+01  2.084000e+01
## x[936]      1.806760e+02 0.000000e+00  1.806760e+02  1.806760e+02
## x[937]      5.184300e+01 0.000000e+00  5.184300e+01  5.184300e+01
## x[938]     -5.245000e+00 0.000000e+00 -5.245000e+00 -5.245000e+00
## x[939]      2.512600e+01 0.000000e+00  2.512600e+01  2.512600e+01
## x[940]      1.045660e+02 0.000000e+00  1.045660e+02  1.045660e+02
## x[941]      5.753700e+01 4.646400e+01 -3.373400e+01  2.630900e+01
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## x[942]      5.853700e+01 4.599900e+01 -3.193800e+01  2.793400e+01
## x[943]      1.915880e+02 0.000000e+00  1.915880e+02  1.915880e+02
## x[944]      5.785300e+01 4.726000e+01 -3.316700e+01  2.665600e+01
## x[945]      9.643200e+01 0.000000e+00  9.643200e+01  9.643200e+01
## x[946]     -3.910000e-01 0.000000e+00 -3.910000e-01 -3.910000e-01
## x[947]      7.934400e+01 0.000000e+00  7.934400e+01  7.934400e+01
## x[948]      5.864600e+01 4.605300e+01 -3.089000e+01  2.831000e+01
## x[949]      3.466920e+02 0.000000e+00  3.466920e+02  3.466920e+02
## x[950]      5.411000e+00 0.000000e+00  5.411000e+00  5.411000e+00
## x[951]      1.097300e+01 0.000000e+00  1.097300e+01  1.097300e+01
## x[952]      3.106500e+01 0.000000e+00  3.106500e+01  3.106500e+01
## x[953]      6.227800e+01 4.664400e+01 -3.072500e+01  3.126800e+01
## x[954]     -9.979600e+01 0.000000e+00 -9.979600e+01 -9.979600e+01
## x[955]      2.621800e+01 0.000000e+00  2.621800e+01  2.621800e+01
## x[956]      8.379800e+01 0.000000e+00  8.379800e+01  8.379800e+01
## x[957]      5.467400e+01 0.000000e+00  5.467400e+01  5.467400e+01
## x[958]      1.085660e+02 0.000000e+00  1.085660e+02  1.085660e+02
## x[959]      6.767300e+01 4.532300e+01 -2.170000e+01  3.686900e+01
## x[960]      5.720000e+01 4.610700e+01 -3.401200e+01  2.715000e+01
## x[961]      6.214600e+01 4.670600e+01 -3.283800e+01  3.232300e+01
## x[962]      6.976700e+01 4.511200e+01 -1.928500e+01  3.943600e+01
## x[963]     -2.820300e+01 0.000000e+00 -2.820300e+01 -2.820300e+01
## x[964]      5.758200e+01 4.536400e+01 -3.291800e+01  2.771500e+01
## x[965]      5.780700e+01 4.651200e+01 -3.183000e+01  2.645500e+01
## x[966]      5.835000e+01 4.600100e+01 -3.142000e+01  2.804100e+01
## x[967]     -4.255100e+01 0.000000e+00 -4.255100e+01 -4.255100e+01
## x[968]      5.718700e+01 4.559500e+01 -3.282700e+01  2.752400e+01
## x[969]      5.869000e+01 4.690800e+01 -3.595400e+01  2.783300e+01
## x[970]      6.199200e+01 4.749100e+01 -3.053700e+01  3.032200e+01
## x[971]      1.710100e+01 0.000000e+00  1.710100e+01  1.710100e+01
## x[972]     -6.345600e+01 0.000000e+00 -6.345600e+01 -6.345600e+01
## x[973]      3.375500e+01 0.000000e+00  3.375500e+01  3.375500e+01
## x[974]     -6.329500e+01 0.000000e+00 -6.329500e+01 -6.329500e+01
## x[975]      8.272500e+01 0.000000e+00  8.272500e+01  8.272500e+01
## x[976]     -6.783700e+01 0.000000e+00 -6.783700e+01 -6.783700e+01
## x[977]      6.193200e+01 4.476200e+01 -2.539400e+01  3.218900e+01
## x[978]      1.294510e+02 0.000000e+00  1.294510e+02  1.294510e+02
## x[979]      7.769400e+01 0.000000e+00  7.769400e+01  7.769400e+01
## x[980]      1.688210e+02 0.000000e+00  1.688210e+02  1.688210e+02
## x[981]     -4.014100e+01 0.000000e+00 -4.014100e+01 -4.014100e+01
## x[982]      1.676760e+02 0.000000e+00  1.676760e+02  1.676760e+02
## x[983]     -1.878000e+01 0.000000e+00 -1.878000e+01 -1.878000e+01
## x[984]      4.017400e+01 0.000000e+00  4.017400e+01  4.017400e+01
## x[985]     -1.800420e+02 0.000000e+00 -1.800420e+02 -1.800420e+02
## x[986]      5.667200e+01 4.633800e+01 -3.266300e+01  2.535000e+01
## x[987]      5.920400e+01 4.628300e+01 -2.979300e+01  2.762500e+01
## x[988]      5.678000e+01 4.551600e+01 -3.169700e+01  2.512400e+01
## x[989]      1.055300e+01 0.000000e+00  1.055300e+01  1.055300e+01
## x[990]     -1.607300e+01 0.000000e+00 -1.607300e+01 -1.607300e+01
## x[991]      6.023300e+01 4.561200e+01 -2.888400e+01  2.897200e+01
## x[992]      1.716580e+02 0.000000e+00  1.716580e+02  1.716580e+02
## x[993]     -7.173000e+00 0.000000e+00 -7.173000e+00 -7.173000e+00
## x[994]      5.971000e+01 4.482700e+01 -2.975500e+01  2.955500e+01
## x[995]      6.225400e+01 4.640600e+01 -2.753700e+01  3.122800e+01
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## x[996]     5.883000e+01  4.589900e+01 -3.226100e+01   2.810900e+01
## x[997]     2.266100e+01  0.000000e+00  2.266100e+01   2.266100e+01
## x[998]     1.995430e+02  0.000000e+00  1.995430e+02   1.995430e+02
## x[999]     6.115400e+01  4.701200e+01 -2.880400e+01   2.917500e+01
## x[1000]    1.840520e+02  0.000000e+00  1.840520e+02   1.840520e+02
## y[1]      -7.768745e+06  0.000000e+00 -7.768745e+06  -7.768745e+06
## y[2]      -4.854915e+05  0.000000e+00 -4.854915e+05  -4.854915e+05
## y[3]      -3.774936e+04  0.000000e+00 -3.774936e+04  -3.774936e+04
## y[4]      -7.692891e+03  0.000000e+00 -7.692891e+03  -7.692891e+03
## y[5]      -2.215342e+05  0.000000e+00 -2.215342e+05  -2.215342e+05
## y[6]      -2.000588e+05  0.000000e+00 -2.000588e+05  -2.000588e+05
## y[7]      -1.557853e+06  0.000000e+00 -1.557853e+06  -1.557853e+06
## y[8]      -1.467248e+05  0.000000e+00 -1.467248e+05  -1.467248e+05
## y[9]      -4.259626e+05  0.000000e+00 -4.259626e+05  -4.259626e+05
## y[10]     -7.235981e+06  0.000000e+00 -7.235981e+06  -7.235981e+06
## y[11]     -7.344273e+05  0.000000e+00 -7.344273e+05  -7.344273e+05
## y[12]     -1.034749e+07  0.000000e+00 -1.034749e+07  -1.034749e+07
## y[13]     -7.736474e+06  0.000000e+00 -7.736474e+06  -7.736474e+06
## y[14]     -6.790090e+05  0.000000e+00 -6.790090e+05  -6.790090e+05
## y[15]     -5.741136e+06  0.000000e+00 -5.741136e+06  -5.741136e+06
## y[16]     -9.364065e+05  0.000000e+00 -9.364065e+05  -9.364065e+05
## y[17]     -1.550789e+05  0.000000e+00 -1.550789e+05  -1.550789e+05
## y[18]     -3.712170e+04  0.000000e+00 -3.712170e+04  -3.712170e+04
## y[19]     -2.452004e+05  0.000000e+00 -2.452004e+05  -2.452004e+05
## y[20]     -2.214632e+06  0.000000e+00 -2.214632e+06  -2.214632e+06
## y[21]     -1.794930e+06  0.000000e+00 -1.794930e+06  -1.794930e+06
## y[22]     -1.452848e+06  0.000000e+00 -1.452848e+06  -1.452848e+06
## y[23]     -3.261508e+06  0.000000e+00 -3.261508e+06  -3.261508e+06
## y[24]     -7.885369e+05  0.000000e+00 -7.885369e+05  -7.885369e+05
## y[25]     -3.143234e+06  0.000000e+00 -3.143234e+06  -3.143234e+06
## y[26]     -4.681188e+05  0.000000e+00 -4.681188e+05  -4.681188e+05
## y[27]     -1.568205e+06  0.000000e+00 -1.568205e+06  -1.568205e+06
## y[28]     -1.191907e+06  0.000000e+00 -1.191907e+06  -1.191907e+06
## y[29]     -2.333384e+05  0.000000e+00 -2.333384e+05  -2.333384e+05
## y[30]     -5.014799e+04  0.000000e+00 -5.014799e+04  -5.014799e+04
## y[31]     -1.375314e+05  0.000000e+00 -1.375314e+05  -1.375314e+05
## y[32]     -1.485256e+06  0.000000e+00 -1.485256e+06  -1.485256e+06
## y[33]     -3.728965e+05  0.000000e+00 -3.728965e+05  -3.728965e+05
## y[34]     -1.776920e+05  0.000000e+00 -1.776920e+05  -1.776920e+05
## y[35]     -6.320995e+03  0.000000e+00 -6.320995e+03  -6.320995e+03
## y[36]     -3.859677e+03  0.000000e+00 -3.859677e+03  -3.859677e+03
## y[37]     -2.242548e+06  0.000000e+00 -2.242548e+06  -2.242548e+06
## y[38]     -3.661827e+05  0.000000e+00 -3.661827e+05  -3.661827e+05
## y[39]     -1.279591e+05  0.000000e+00 -1.279591e+05  -1.279591e+05
## y[40]     -6.642169e+05  0.000000e+00 -6.642169e+05  -6.642169e+05
## y[41]     -2.953417e+06  0.000000e+00 -2.953417e+06  -2.953417e+06
## y[42]     -3.972890e+04  0.000000e+00 -3.972890e+04  -3.972890e+04
## y[43]     -4.603731e+04  0.000000e+00 -4.603731e+04  -4.603731e+04
## y[44]     -6.586180e+05  0.000000e+00 -6.586180e+05  -6.586180e+05
## y[45]     -1.187920e+04  0.000000e+00 -1.187920e+04  -1.187920e+04
## y[46]     -9.696489e+03  0.000000e+00 -9.696489e+03  -9.696489e+03
## y[47]     -3.424415e+06  0.000000e+00 -3.424415e+06  -3.424415e+06
## y[48]     -1.190695e+06  0.000000e+00 -1.190695e+06  -1.190695e+06
## y[49]     -3.606305e+05  0.000000e+00 -3.606305e+05  -3.606305e+05
```

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## y[50]      -2.047966e+06 0.000000e+00 -2.047966e+06 -2.047966e+06
## y[51]      -5.628938e+04 0.000000e+00 -5.628938e+04 -5.628938e+04
## y[52]      -2.423912e+05 0.000000e+00 -2.423912e+05 -2.423912e+05
## y[53]      -7.519526e+05 0.000000e+00 -7.519526e+05 -7.519526e+05
## y[54]      -4.871567e+06 0.000000e+00 -4.871567e+06 -4.871567e+06
## y[55]      -1.497540e+06 0.000000e+00 -1.497540e+06 -1.497540e+06
## y[56]      -9.624309e+05 0.000000e+00 -9.624309e+05 -9.624309e+05
## y[57]      -1.140343e+06 0.000000e+00 -1.140343e+06 -1.140343e+06
## y[58]      -6.695334e+05 0.000000e+00 -6.695334e+05 -6.695334e+05
## y[59]      -4.435451e+05 0.000000e+00 -4.435451e+05 -4.435451e+05
## y[60]      -1.599279e+05 0.000000e+00 -1.599279e+05 -1.599279e+05
## y[61]      -3.322051e+05 0.000000e+00 -3.322051e+05 -3.322051e+05
## y[62]      -4.344844e+05 0.000000e+00 -4.344844e+05 -4.344844e+05
## y[63]      -1.089255e+06 0.000000e+00 -1.089255e+06 -1.089255e+06
## y[64]      -1.451561e+06 0.000000e+00 -1.451561e+06 -1.451561e+06
## y[65]      -6.707121e+05 0.000000e+00 -6.707121e+05 -6.707121e+05
## y[66]      -2.589687e+06 0.000000e+00 -2.589687e+06 -2.589687e+06
## y[67]      -1.610754e+06 0.000000e+00 -1.610754e+06 -1.610754e+06
## y[68]      -2.733976e+06 0.000000e+00 -2.733976e+06 -2.733976e+06
## y[69]      -3.100007e+06 0.000000e+00 -3.100007e+06 -3.100007e+06
## y[70]      -1.441498e+06 0.000000e+00 -1.441498e+06 -1.441498e+06
## y[71]      -8.697930e+05 0.000000e+00 -8.697930e+05 -8.697930e+05
## y[72]      -1.785929e+05 0.000000e+00 -1.785929e+05 -1.785929e+05
## y[73]      -1.336175e+04 0.000000e+00 -1.336175e+04 -1.336175e+04
## y[74]      -1.344403e+05 0.000000e+00 -1.344403e+05 -1.344403e+05
## y[75]      -1.298499e+06 0.000000e+00 -1.298499e+06 -1.298499e+06
## y[76]      -6.820110e+05 0.000000e+00 -6.820110e+05 -6.820110e+05
## y[77]      -1.513500e+05 0.000000e+00 -1.513500e+05 -1.513500e+05
## y[78]      -3.318691e+03 0.000000e+00 -3.318691e+03 -3.318691e+03
## y[79]      -1.914925e+05 0.000000e+00 -1.914925e+05 -1.914925e+05
## y[80]      -8.542132e+06 0.000000e+00 -8.542132e+06 -8.542132e+06
## y[81]      -7.099509e+05 0.000000e+00 -7.099509e+05 -7.099509e+05
## y[82]      -2.542645e+05 0.000000e+00 -2.542645e+05 -2.542645e+05
## y[83]      -2.800737e+05 0.000000e+00 -2.800737e+05 -2.800737e+05
## y[84]      -1.135968e+04 0.000000e+00 -1.135968e+04 -1.135968e+04
## y[85]      -8.567600e+04 0.000000e+00 -8.567600e+04 -8.567600e+04
## y[86]      -3.545787e+04 0.000000e+00 -3.545787e+04 -3.545787e+04
## y[87]      -2.369488e+04 0.000000e+00 -2.369488e+04 -2.369488e+04
## y[88]      -3.817846e+04 0.000000e+00 -3.817846e+04 -3.817846e+04
## y[89]      -1.653521e+06 0.000000e+00 -1.653521e+06 -1.653521e+06
## y[90]      -1.182166e+06 0.000000e+00 -1.182166e+06 -1.182166e+06
## y[91]      -4.561618e+06 0.000000e+00 -4.561618e+06 -4.561618e+06
## y[92]      -2.114813e+04 0.000000e+00 -2.114813e+04 -2.114813e+04
## y[93]      -1.252143e+06 0.000000e+00 -1.252143e+06 -1.252143e+06
## y[94]      -5.422758e+05 0.000000e+00 -5.422758e+05 -5.422758e+05
## y[95]      -1.813066e+06 0.000000e+00 -1.813066e+06 -1.813066e+06
## y[96]      -5.424818e+03 0.000000e+00 -5.424818e+03 -5.424818e+03
## y[97]      -2.617899e+06 0.000000e+00 -2.617899e+06 -2.617899e+06
## y[98]      -1.081603e+06 0.000000e+00 -1.081603e+06 -1.081603e+06
## y[99]      -3.830489e+03 0.000000e+00 -3.830489e+03 -3.830489e+03
## y[100]     -1.220307e+05 0.000000e+00 -1.220307e+05 -1.220307e+05
## y[101]     -1.038478e+06 0.000000e+00 -1.038478e+06 -1.038478e+06
## y[102]     -1.182740e+06 0.000000e+00 -1.182740e+06 -1.182740e+06
## y[103]     -1.769585e+05 0.000000e+00 -1.769585e+05 -1.769585e+05
```

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## y[104]    -4.547619e+05 0.000000e+00 -4.547619e+05 -4.547619e+05
## y[105]    -6.540306e+05 0.000000e+00 -6.540306e+05 -6.540306e+05
## y[106]    -1.218549e+06 0.000000e+00 -1.218549e+06 -1.218549e+06
## y[107]    -2.223946e+06 0.000000e+00 -2.223946e+06 -2.223946e+06
## y[108]    -2.320202e+06 0.000000e+00 -2.320202e+06 -2.320202e+06
## y[109]    -1.795990e+06 0.000000e+00 -1.795990e+06 -1.795990e+06
## y[110]    -3.844978e+05 0.000000e+00 -3.844978e+05 -3.844978e+05
## y[111]    -5.438787e+03 0.000000e+00 -5.438787e+03 -5.438787e+03
## y[112]    -9.195389e+05 0.000000e+00 -9.195389e+05 -9.195389e+05
## y[113]    -1.311133e+06 0.000000e+00 -1.311133e+06 -1.311133e+06
## y[114]    -1.235499e+06 0.000000e+00 -1.235499e+06 -1.235499e+06
## y[115]    -1.514859e+05 0.000000e+00 -1.514859e+05 -1.514859e+05
## y[116]    -4.177495e+06 0.000000e+00 -4.177495e+06 -4.177495e+06
## y[117]    -5.502147e+05 0.000000e+00 -5.502147e+05 -5.502147e+05
## y[118]    -2.571044e+06 0.000000e+00 -2.571044e+06 -2.571044e+06
## y[119]    -2.198615e+06 0.000000e+00 -2.198615e+06 -2.198615e+06
## y[120]    -6.469413e+05 0.000000e+00 -6.469413e+05 -6.469413e+05
## y[121]    -1.112430e+06 0.000000e+00 -1.112430e+06 -1.112430e+06
## y[122]    -4.284448e+06 0.000000e+00 -4.284448e+06 -4.284448e+06
## y[123]    -1.412412e+06 0.000000e+00 -1.412412e+06 -1.412412e+06
## y[124]    -1.039403e+05 0.000000e+00 -1.039403e+05 -1.039403e+05
## y[125]    -1.510935e+06 0.000000e+00 -1.510935e+06 -1.510935e+06
## y[126]    -4.134109e+06 0.000000e+00 -4.134109e+06 -4.134109e+06
## y[127]    -1.013201e+06 0.000000e+00 -1.013201e+06 -1.013201e+06
## y[128]    -2.844377e+05 0.000000e+00 -2.844377e+05 -2.844377e+05
## y[129]    -9.361548e+05 0.000000e+00 -9.361548e+05 -9.361548e+05
## y[130]    -2.307842e+06 0.000000e+00 -2.307842e+06 -2.307842e+06
## y[131]    -8.711308e+03 0.000000e+00 -8.711308e+03 -8.711308e+03
## y[132]    -1.722421e+06 0.000000e+00 -1.722421e+06 -1.722421e+06
## y[133]    -1.866414e+06 0.000000e+00 -1.866414e+06 -1.866414e+06
## y[134]    -7.539597e+05 0.000000e+00 -7.539597e+05 -7.539597e+05
## y[135]    -2.672633e+06 0.000000e+00 -2.672633e+06 -2.672633e+06
## y[136]    -6.609871e+04 0.000000e+00 -6.609871e+04 -6.609871e+04
## y[137]    -8.934408e+05 0.000000e+00 -8.934408e+05 -8.934408e+05
## y[138]    -2.004865e+06 0.000000e+00 -2.004865e+06 -2.004865e+06
## y[139]    -5.925286e+05 0.000000e+00 -5.925286e+05 -5.925286e+05
## y[140]    -2.272676e+06 0.000000e+00 -2.272676e+06 -2.272676e+06
## y[141]    -9.243541e+05 0.000000e+00 -9.243541e+05 -9.243541e+05
## y[142]    -1.404655e+05 0.000000e+00 -1.404655e+05 -1.404655e+05
## y[143]    -4.425299e+05 0.000000e+00 -4.425299e+05 -4.425299e+05
## y[144]    -5.001422e+05 0.000000e+00 -5.001422e+05 -5.001422e+05
## y[145]    -9.650354e+05 0.000000e+00 -9.650354e+05 -9.650354e+05
## y[146]    -1.834771e+05 0.000000e+00 -1.834771e+05 -1.834771e+05
## y[147]    -1.512663e+05 0.000000e+00 -1.512663e+05 -1.512663e+05
## y[148]    -9.720845e+05 0.000000e+00 -9.720845e+05 -9.720845e+05
## y[149]    -7.064343e+05 0.000000e+00 -7.064343e+05 -7.064343e+05
## y[150]    -3.575124e+05 0.000000e+00 -3.575124e+05 -3.575124e+05
## y[151]    -2.082476e+04 0.000000e+00 -2.082476e+04 -2.082476e+04
## y[152]    -2.551369e+06 0.000000e+00 -2.551369e+06 -2.551369e+06
## y[153]    -1.653968e+05 0.000000e+00 -1.653968e+05 -1.653968e+05
## y[154]    -8.558081e+04 0.000000e+00 -8.558081e+04 -8.558081e+04
## y[155]    -1.389715e+06 0.000000e+00 -1.389715e+06 -1.389715e+06
## y[156]    -8.867796e+04 0.000000e+00 -8.867796e+04 -8.867796e+04
## y[157]    -1.191459e+06 0.000000e+00 -1.191459e+06 -1.191459e+06
```

```
## y[158]      -2.823569e+06 0.000000e+00 -2.823569e+06 -2.823569e+06
## y[159]      -2.967245e+06 0.000000e+00 -2.967245e+06 -2.967245e+06
## y[160]      -2.392081e+05 0.000000e+00 -2.392081e+05 -2.392081e+05
## y[161]      -7.149085e+05 0.000000e+00 -7.149085e+05 -7.149085e+05
## y[162]      -3.530596e+05 0.000000e+00 -3.530596e+05 -3.530596e+05
## y[163]      -2.568398e+05 0.000000e+00 -2.568398e+05 -2.568398e+05
## y[164]      -1.544111e+06 0.000000e+00 -1.544111e+06 -1.544111e+06
## y[165]      -2.378340e+06 0.000000e+00 -2.378340e+06 -2.378340e+06
## y[166]      -3.263942e+04 0.000000e+00 -3.263942e+04 -3.263942e+04
## y[167]      -6.767420e+05 0.000000e+00 -6.767420e+05 -6.767420e+05
## y[168]      -1.404352e+06 0.000000e+00 -1.404352e+06 -1.404352e+06
## y[169]      -6.727985e+05 0.000000e+00 -6.727985e+05 -6.727985e+05
## y[170]      -2.002049e+06 0.000000e+00 -2.002049e+06 -2.002049e+06
## y[171]      -3.385464e+06 0.000000e+00 -3.385464e+06 -3.385464e+06
## y[172]      -9.660218e+05 0.000000e+00 -9.660218e+05 -9.660218e+05
## y[173]      -2.817464e+06 0.000000e+00 -2.817464e+06 -2.817464e+06
## y[174]      -6.284973e+05 0.000000e+00 -6.284973e+05 -6.284973e+05
## y[175]      -1.244949e+06 0.000000e+00 -1.244949e+06 -1.244949e+06
## y[176]      -5.715986e+05 0.000000e+00 -5.715986e+05 -5.715986e+05
## y[177]      -1.507587e+06 0.000000e+00 -1.507587e+06 -1.507587e+06
## y[178]      -3.327380e+06 0.000000e+00 -3.327380e+06 -3.327380e+06
## y[179]      -4.188113e+05 0.000000e+00 -4.188113e+05 -4.188113e+05
## y[180]      -9.709539e+03 0.000000e+00 -9.709539e+03 -9.709539e+03
## y[181]      -7.249719e+06 0.000000e+00 -7.249719e+06 -7.249719e+06
## y[182]      -7.992567e+06 0.000000e+00 -7.992567e+06 -7.992567e+06
## y[183]      -2.672799e+06 0.000000e+00 -2.672799e+06 -2.672799e+06
## y[184]      -9.555207e+04 0.000000e+00 -9.555207e+04 -9.555207e+04
## y[185]      -9.503205e+05 0.000000e+00 -9.503205e+05 -9.503205e+05
## y[186]      -2.070067e+03 0.000000e+00 -2.070067e+03 -2.070067e+03
## y[187]      -2.420042e+06 0.000000e+00 -2.420042e+06 -2.420042e+06
## y[188]      -8.630810e+05 0.000000e+00 -8.630810e+05 -8.630810e+05
## y[189]      -1.742286e+06 0.000000e+00 -1.742286e+06 -1.742286e+06
## y[190]      -3.685472e+04 0.000000e+00 -3.685472e+04 -3.685472e+04
## y[191]      -2.050133e+06 0.000000e+00 -2.050133e+06 -2.050133e+06
## y[192]      -2.922979e+06 0.000000e+00 -2.922979e+06 -2.922979e+06
## y[193]      -4.884072e+04 0.000000e+00 -4.884072e+04 -4.884072e+04
## y[194]      -3.549591e+05 0.000000e+00 -3.549591e+05 -3.549591e+05
## y[195]      -1.582565e+05 0.000000e+00 -1.582565e+05 -1.582565e+05
## y[196]      -7.344887e+05 0.000000e+00 -7.344887e+05 -7.344887e+05
## y[197]      -1.461561e+05 0.000000e+00 -1.461561e+05 -1.461561e+05
## y[198]      -1.965600e+05 0.000000e+00 -1.965600e+05 -1.965600e+05
## y[199]      -6.565701e+03 0.000000e+00 -6.565701e+03 -6.565701e+03
## y[200]      -1.308938e+06 0.000000e+00 -1.308938e+06 -1.308938e+06
## y[201]      -6.367265e+06 0.000000e+00 -6.367265e+06 -6.367265e+06
## y[202]      -1.856386e+06 0.000000e+00 -1.856386e+06 -1.856386e+06
## y[203]      -2.257115e+05 0.000000e+00 -2.257115e+05 -2.257115e+05
## y[204]      -1.211395e+06 0.000000e+00 -1.211395e+06 -1.211395e+06
## y[205]      -2.946306e+06 0.000000e+00 -2.946306e+06 -2.946306e+06
## y[206]      -4.576936e+05 0.000000e+00 -4.576936e+05 -4.576936e+05
## y[207]      -1.195628e+04 0.000000e+00 -1.195628e+04 -1.195628e+04
## y[208]      -7.872348e+05 0.000000e+00 -7.872348e+05 -7.872348e+05
## y[209]      -8.084544e+05 0.000000e+00 -8.084544e+05 -8.084544e+05
## y[210]      -3.001529e+06 0.000000e+00 -3.001529e+06 -3.001529e+06
## y[211]      -2.657494e+05 0.000000e+00 -2.657494e+05 -2.657494e+05
```

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## y[212]     -1.256550e+06 0.000000e+00 -1.256550e+06 -1.256550e+06
## y[213]     -2.738027e+04 0.000000e+00 -2.738027e+04 -2.738027e+04
## y[214]     -5.600557e+03 0.000000e+00 -5.600557e+03 -5.600557e+03
## y[215]     -1.615177e+05 0.000000e+00 -1.615177e+05 -1.615177e+05
## y[216]     -3.966470e+06 0.000000e+00 -3.966470e+06 -3.966470e+06
## y[217]     -1.315662e+05 0.000000e+00 -1.315662e+05 -1.315662e+05
## y[218]     -3.700070e+05 0.000000e+00 -3.700070e+05 -3.700070e+05
## y[219]     -2.864557e+05 0.000000e+00 -2.864557e+05 -2.864557e+05
## y[220]     -3.052459e+03 0.000000e+00 -3.052459e+03 -3.052459e+03
## y[221]     -9.238558e+04 0.000000e+00 -9.238558e+04 -9.238558e+04
## y[222]     -5.919221e+05 0.000000e+00 -5.919221e+05 -5.919221e+05
## y[223]     -2.112723e+06 0.000000e+00 -2.112723e+06 -2.112723e+06
## y[224]     -9.458461e+05 0.000000e+00 -9.458461e+05 -9.458461e+05
## y[225]     -3.454510e+03 0.000000e+00 -3.454510e+03 -3.454510e+03
## y[226]     -3.034789e+06 0.000000e+00 -3.034789e+06 -3.034789e+06
## y[227]     -2.349728e+05 0.000000e+00 -2.349728e+05 -2.349728e+05
## y[228]     -8.514159e+04 0.000000e+00 -8.514159e+04 -8.514159e+04
## y[229]     -9.679547e+03 0.000000e+00 -9.679547e+03 -9.679547e+03
## y[230]     -1.950774e+06 0.000000e+00 -1.950774e+06 -1.950774e+06
## y[231]     -2.166711e+06 0.000000e+00 -2.166711e+06 -2.166711e+06
## y[232]     -1.941920e+02 0.000000e+00 -1.941920e+02 -1.941920e+02
## y[233]     -2.647734e+05 0.000000e+00 -2.647734e+05 -2.647734e+05
## y[234]     -5.715278e+04 0.000000e+00 -5.715278e+04 -5.715278e+04
## y[235]     -4.089934e+06 0.000000e+00 -4.089934e+06 -4.089934e+06
## y[236]     -9.474499e+05 0.000000e+00 -9.474499e+05 -9.474499e+05
## y[237]     -2.337162e+05 0.000000e+00 -2.337162e+05 -2.337162e+05
## y[238]     -2.751423e+05 0.000000e+00 -2.751423e+05 -2.751423e+05
## y[239]     -2.487445e+05 0.000000e+00 -2.487445e+05 -2.487445e+05
## y[240]     -4.366010e+03 0.000000e+00 -4.366010e+03 -4.366010e+03
## y[241]     -8.919074e+03 0.000000e+00 -8.919074e+03 -8.919074e+03
## y[242]     -4.293305e+05 0.000000e+00 -4.293305e+05 -4.293305e+05
## y[243]     -2.231447e+05 0.000000e+00 -2.231447e+05 -2.231447e+05
## y[244]     -4.195020e+06 0.000000e+00 -4.195020e+06 -4.195020e+06
## y[245]     -1.686804e+04 0.000000e+00 -1.686804e+04 -1.686804e+04
## y[246]     -6.059107e+06 0.000000e+00 -6.059107e+06 -6.059107e+06
## y[247]     -1.209906e+04 0.000000e+00 -1.209906e+04 -1.209906e+04
## y[248]     -1.785674e+05 0.000000e+00 -1.785674e+05 -1.785674e+05
## y[249]     -1.765867e+06 0.000000e+00 -1.765867e+06 -1.765867e+06
## y[250]     -1.705437e+06 0.000000e+00 -1.705437e+06 -1.705437e+06
## y[251]     -9.556864e+05 0.000000e+00 -9.556864e+05 -9.556864e+05
## y[252]     -6.116992e+06 0.000000e+00 -6.116992e+06 -6.116992e+06
## y[253]     -7.051999e+05 0.000000e+00 -7.051999e+05 -7.051999e+05
## y[254]     -5.483167e+04 0.000000e+00 -5.483167e+04 -5.483167e+04
## y[255]     -1.345969e+04 0.000000e+00 -1.345969e+04 -1.345969e+04
## y[256]     -1.059648e+04 0.000000e+00 -1.059648e+04 -1.059648e+04
## y[257]     -2.296140e+04 0.000000e+00 -2.296140e+04 -2.296140e+04
## y[258]     -5.097080e+06 0.000000e+00 -5.097080e+06 -5.097080e+06
## y[259]     -2.313273e+05 0.000000e+00 -2.313273e+05 -2.313273e+05
## y[260]     -4.293973e+05 0.000000e+00 -4.293973e+05 -4.293973e+05
## y[261]     -6.804024e+04 0.000000e+00 -6.804024e+04 -6.804024e+04
## y[262]     -1.101925e+06 0.000000e+00 -1.101925e+06 -1.101925e+06
## y[263]     -1.056357e+07 0.000000e+00 -1.056357e+07 -1.056357e+07
## y[264]     -2.394519e+06 0.000000e+00 -2.394519e+06 -2.394519e+06
## y[265]     -2.010702e+06 0.000000e+00 -2.010702e+06 -2.010702e+06
```

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## y[266]      -9.411138e+05 0.000000e+00 -9.411138e+05 -9.411138e+05
## y[267]      -1.377702e+04 0.000000e+00 -1.377702e+04 -1.377702e+04
## y[268]      -2.938798e+05 0.000000e+00 -2.938798e+05 -2.938798e+05
## y[269]      -1.615221e+05 0.000000e+00 -1.615221e+05 -1.615221e+05
## y[270]      -3.384066e+06 0.000000e+00 -3.384066e+06 -3.384066e+06
## y[271]      -1.700039e+06 0.000000e+00 -1.700039e+06 -1.700039e+06
## y[272]      -6.699069e+05 0.000000e+00 -6.699069e+05 -6.699069e+05
## y[273]      -9.581904e+04 0.000000e+00 -9.581904e+04 -9.581904e+04
## y[274]      -3.448815e+05 0.000000e+00 -3.448815e+05 -3.448815e+05
## y[275]      -4.165421e+05 0.000000e+00 -4.165421e+05 -4.165421e+05
## y[276]      -8.778186e+06 0.000000e+00 -8.778186e+06 -8.778186e+06
## y[277]      -2.026691e+06 0.000000e+00 -2.026691e+06 -2.026691e+06
## y[278]      -1.542258e+06 0.000000e+00 -1.542258e+06 -1.542258e+06
## y[279]      -3.671140e+06 0.000000e+00 -3.671140e+06 -3.671140e+06
## y[280]      -3.068323e+06 0.000000e+00 -3.068323e+06 -3.068323e+06
## y[281]      -6.806389e+06 0.000000e+00 -6.806389e+06 -6.806389e+06
## y[282]      -1.464856e+06 0.000000e+00 -1.464856e+06 -1.464856e+06
## y[283]      -9.509787e+05 0.000000e+00 -9.509787e+05 -9.509787e+05
## y[284]      -8.052220e+03 0.000000e+00 -8.052220e+03 -8.052220e+03
## y[285]      -4.092208e+05 0.000000e+00 -4.092208e+05 -4.092208e+05
## y[286]      -1.361730e+02 0.000000e+00 -1.361730e+02 -1.361730e+02
## y[287]      -4.237186e+05 0.000000e+00 -4.237186e+05 -4.237186e+05
## y[288]      -8.874384e+05 0.000000e+00 -8.874384e+05 -8.874384e+05
## y[289]      -1.139716e+05 0.000000e+00 -1.139716e+05 -1.139716e+05
## y[290]      -2.166308e+06 0.000000e+00 -2.166308e+06 -2.166308e+06
## y[291]      -2.933149e+04 0.000000e+00 -2.933149e+04 -2.933149e+04
## y[292]      -4.572742e+06 0.000000e+00 -4.572742e+06 -4.572742e+06
## y[293]      -3.229358e+05 0.000000e+00 -3.229358e+05 -3.229358e+05
## y[294]      -2.387175e+05 0.000000e+00 -2.387175e+05 -2.387175e+05
## y[295]      -1.863993e+06 0.000000e+00 -1.863993e+06 -1.863993e+06
## y[296]      -2.685827e+05 0.000000e+00 -2.685827e+05 -2.685827e+05
## y[297]      -6.399803e+04 0.000000e+00 -6.399803e+04 -6.399803e+04
## y[298]      -1.759169e+05 0.000000e+00 -1.759169e+05 -1.759169e+05
## y[299]      -2.799479e+06 0.000000e+00 -2.799479e+06 -2.799479e+06
## y[300]      -2.231411e+04 0.000000e+00 -2.231411e+04 -2.231411e+04
## y[301]      -1.051160e+06 0.000000e+00 -1.051160e+06 -1.051160e+06
## y[302]      -5.029649e+04 0.000000e+00 -5.029649e+04 -5.029649e+04
## y[303]      -3.077037e+05 0.000000e+00 -3.077037e+05 -3.077037e+05
## y[304]      -1.248760e+04 0.000000e+00 -1.248760e+04 -1.248760e+04
## y[305]      -6.886033e+03 0.000000e+00 -6.886033e+03 -6.886033e+03
## y[306]      -4.411284e+05 0.000000e+00 -4.411284e+05 -4.411284e+05
## y[307]      -5.008034e+06 0.000000e+00 -5.008034e+06 -5.008034e+06
## y[308]      -6.047816e+04 0.000000e+00 -6.047816e+04 -6.047816e+04
## y[309]      -2.244098e+05 0.000000e+00 -2.244098e+05 -2.244098e+05
## y[310]      -2.595962e+06 0.000000e+00 -2.595962e+06 -2.595962e+06
## y[311]      -2.171201e+06 0.000000e+00 -2.171201e+06 -2.171201e+06
## y[312]      -3.087501e+06 0.000000e+00 -3.087501e+06 -3.087501e+06
## y[313]      -5.181485e+06 0.000000e+00 -5.181485e+06 -5.181485e+06
## y[314]      -4.766226e+06 0.000000e+00 -4.766226e+06 -4.766226e+06
## y[315]      -1.345282e+06 0.000000e+00 -1.345282e+06 -1.345282e+06
## y[316]      -2.820551e+06 0.000000e+00 -2.820551e+06 -2.820551e+06
## y[317]      -7.983658e+05 0.000000e+00 -7.983658e+05 -7.983658e+05
## y[318]      -4.759059e+05 0.000000e+00 -4.759059e+05 -4.759059e+05
## y[319]      -2.058256e+04 0.000000e+00 -2.058256e+04 -2.058256e+04
```

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## y[320]     -9.322060e+05 0.000000e+00 -9.322060e+05 -9.322060e+05
## y[321]     -3.489625e+05 0.000000e+00 -3.489625e+05 -3.489625e+05
## y[322]     -2.472921e+04 0.000000e+00 -2.472921e+04 -2.472921e+04
## y[323]     -7.633843e+06 0.000000e+00 -7.633843e+06 -7.633843e+06
## y[324]     -3.453780e+05 0.000000e+00 -3.453780e+05 -3.453780e+05
## y[325]     -1.606616e+06 0.000000e+00 -1.606616e+06 -1.606616e+06
## y[326]     -1.280395e+04 0.000000e+00 -1.280395e+04 -1.280395e+04
## y[327]     -4.257613e+05 0.000000e+00 -4.257613e+05 -4.257613e+05
## y[328]     -8.411462e+03 0.000000e+00 -8.411462e+03 -8.411462e+03
## y[329]     -2.122491e+05 0.000000e+00 -2.122491e+05 -2.122491e+05
## y[330]     -7.218678e+03 0.000000e+00 -7.218678e+03 -7.218678e+03
## y[331]     -1.337893e+06 0.000000e+00 -1.337893e+06 -1.337893e+06
## y[332]     -4.399631e+04 0.000000e+00 -4.399631e+04 -4.399631e+04
## y[333]     -1.971491e+06 0.000000e+00 -1.971491e+06 -1.971491e+06
## y[334]     -4.886294e+05 0.000000e+00 -4.886294e+05 -4.886294e+05
## y[335]     -2.010869e+05 0.000000e+00 -2.010869e+05 -2.010869e+05
## y[336]     -1.666297e+05 0.000000e+00 -1.666297e+05 -1.666297e+05
## y[337]     -4.127797e+05 0.000000e+00 -4.127797e+05 -4.127797e+05
## y[338]     -2.221067e+06 0.000000e+00 -2.221067e+06 -2.221067e+06
## y[339]     -3.748783e+05 0.000000e+00 -3.748783e+05 -3.748783e+05
## y[340]     -2.721283e+06 0.000000e+00 -2.721283e+06 -2.721283e+06
## y[341]     -1.685077e+05 0.000000e+00 -1.685077e+05 -1.685077e+05
## y[342]     -3.645979e+05 0.000000e+00 -3.645979e+05 -3.645979e+05
## y[343]     -1.287923e+06 0.000000e+00 -1.287923e+06 -1.287923e+06
## y[344]     -1.246310e+06 0.000000e+00 -1.246310e+06 -1.246310e+06
## y[345]     -1.133901e+05 0.000000e+00 -1.133901e+05 -1.133901e+05
## y[346]     -2.537647e+06 0.000000e+00 -2.537647e+06 -2.537647e+06
## y[347]     -3.010566e+06 0.000000e+00 -3.010566e+06 -3.010566e+06
## y[348]     -4.516737e+05 0.000000e+00 -4.516737e+05 -4.516737e+05
## y[349]     -3.850127e+05 0.000000e+00 -3.850127e+05 -3.850127e+05
## y[350]     -1.118376e+06 0.000000e+00 -1.118376e+06 -1.118376e+06
## y[351]     -9.828405e+05 0.000000e+00 -9.828405e+05 -9.828405e+05
## y[352]     -1.857512e+05 0.000000e+00 -1.857512e+05 -1.857512e+05
## y[353]     -7.238549e+05 0.000000e+00 -7.238549e+05 -7.238549e+05
## y[354]     -1.688331e+06 0.000000e+00 -1.688331e+06 -1.688331e+06
## y[355]     -3.236656e+04 0.000000e+00 -3.236656e+04 -3.236656e+04
## y[356]     -2.046257e+04 0.000000e+00 -2.046257e+04 -2.046257e+04
## y[357]     -1.177680e+02 0.000000e+00 -1.177680e+02 -1.177680e+02
## y[358]     -1.901310e+06 0.000000e+00 -1.901310e+06 -1.901310e+06
## y[359]     -2.041636e+05 0.000000e+00 -2.041636e+05 -2.041636e+05
## y[360]     -7.690398e+06 0.000000e+00 -7.690398e+06 -7.690398e+06
## y[361]     -4.937706e+05 0.000000e+00 -4.937706e+05 -4.937706e+05
## y[362]     -3.270871e+06 0.000000e+00 -3.270871e+06 -3.270871e+06
## y[363]     -1.965727e+05 0.000000e+00 -1.965727e+05 -1.965727e+05
## y[364]     -3.167931e+05 0.000000e+00 -3.167931e+05 -3.167931e+05
## y[365]     -1.464652e+06 0.000000e+00 -1.464652e+06 -1.464652e+06
## y[366]     -8.520710e+03 0.000000e+00 -8.520710e+03 -8.520710e+03
## y[367]     -6.376413e+05 0.000000e+00 -6.376413e+05 -6.376413e+05
## y[368]     -1.305388e+06 0.000000e+00 -1.305388e+06 -1.305388e+06
## y[369]     -6.826696e+06 0.000000e+00 -6.826696e+06 -6.826696e+06
## y[370]     -2.010098e+06 0.000000e+00 -2.010098e+06 -2.010098e+06
## y[371]     -1.151017e+06 0.000000e+00 -1.151017e+06 -1.151017e+06
## y[372]     -2.227979e+06 0.000000e+00 -2.227979e+06 -2.227979e+06
## y[373]     -9.594619e+05 0.000000e+00 -9.594619e+05 -9.594619e+05
```

```
## y[374]     -4.137963e+04 0.000000e+00 -4.137963e+04 -4.137963e+04
## y[375]     -1.731436e+06 0.000000e+00 -1.731436e+06 -1.731436e+06
## y[376]     -2.497727e+05 0.000000e+00 -2.497727e+05 -2.497727e+05
## y[377]     -1.100841e+06 0.000000e+00 -1.100841e+06 -1.100841e+06
## y[378]     -6.080409e+05 0.000000e+00 -6.080409e+05 -6.080409e+05
## y[379]     -2.006856e+06 0.000000e+00 -2.006856e+06 -2.006856e+06
## y[380]     -1.515995e+06 0.000000e+00 -1.515995e+06 -1.515995e+06
## y[381]     -9.595783e+05 0.000000e+00 -9.595783e+05 -9.595783e+05
## y[382]     -7.451870e+06 0.000000e+00 -7.451870e+06 -7.451870e+06
## y[383]     -7.858804e+05 0.000000e+00 -7.858804e+05 -7.858804e+05
## y[384]     -1.346215e+06 0.000000e+00 -1.346215e+06 -1.346215e+06
## y[385]     -5.006979e+04 0.000000e+00 -5.006979e+04 -5.006979e+04
## y[386]     -6.020736e+05 0.000000e+00 -6.020736e+05 -6.020736e+05
## y[387]     -3.147895e+06 0.000000e+00 -3.147895e+06 -3.147895e+06
## y[388]     -1.982705e+06 0.000000e+00 -1.982705e+06 -1.982705e+06
## y[389]     -3.436921e+05 0.000000e+00 -3.436921e+05 -3.436921e+05
## y[390]     -8.092499e+04 0.000000e+00 -8.092499e+04 -8.092499e+04
## y[391]     -5.448918e+04 0.000000e+00 -5.448918e+04 -5.448918e+04
## y[392]     -5.071139e+05 0.000000e+00 -5.071139e+05 -5.071139e+05
## y[393]     -1.928449e+05 0.000000e+00 -1.928449e+05 -1.928449e+05
## y[394]     -1.420706e+04 0.000000e+00 -1.420706e+04 -1.420706e+04
## y[395]     -5.535532e+05 0.000000e+00 -5.535532e+05 -5.535532e+05
## y[396]     -7.599384e+05 0.000000e+00 -7.599384e+05 -7.599384e+05
## y[397]     -1.270597e+06 0.000000e+00 -1.270597e+06 -1.270597e+06
## y[398]     -3.284586e+05 0.000000e+00 -3.284586e+05 -3.284586e+05
## y[399]     -4.355086e+04 0.000000e+00 -4.355086e+04 -4.355086e+04
## y[400]     -1.980019e+06 0.000000e+00 -1.980019e+06 -1.980019e+06
## y[401]     -3.250514e+04 0.000000e+00 -3.250514e+04 -3.250514e+04
## y[402]     -2.772444e+06 0.000000e+00 -2.772444e+06 -2.772444e+06
## y[403]     -1.481230e+04 0.000000e+00 -1.481230e+04 -1.481230e+04
## y[404]     -3.056248e+06 0.000000e+00 -3.056248e+06 -3.056248e+06
## y[405]     -3.765159e+06 0.000000e+00 -3.765159e+06 -3.765159e+06
## y[406]     -1.592627e+06 0.000000e+00 -1.592627e+06 -1.592627e+06
## y[407]     -1.122269e+06 0.000000e+00 -1.122269e+06 -1.122269e+06
## y[408]     -4.406910e+06 0.000000e+00 -4.406910e+06 -4.406910e+06
## y[409]     -1.612374e+05 0.000000e+00 -1.612374e+05 -1.612374e+05
## y[410]     -9.016545e+05 0.000000e+00 -9.016545e+05 -9.016545e+05
## y[411]     -5.872739e+04 0.000000e+00 -5.872739e+04 -5.872739e+04
## y[412]     -2.350307e+06 0.000000e+00 -2.350307e+06 -2.350307e+06
## y[413]     -1.181491e+06 0.000000e+00 -1.181491e+06 -1.181491e+06
## y[414]     -4.363729e+05 0.000000e+00 -4.363729e+05 -4.363729e+05
## y[415]     -3.759548e+05 0.000000e+00 -3.759548e+05 -3.759548e+05
## y[416]     -1.148519e+06 0.000000e+00 -1.148519e+06 -1.148519e+06
## y[417]     -2.167196e+05 0.000000e+00 -2.167196e+05 -2.167196e+05
## y[418]     -6.691269e+05 0.000000e+00 -6.691269e+05 -6.691269e+05
## y[419]     -1.065980e+05 0.000000e+00 -1.065980e+05 -1.065980e+05
## y[420]     -1.702488e+05 0.000000e+00 -1.702488e+05 -1.702488e+05
## y[421]     -1.814125e+06 0.000000e+00 -1.814125e+06 -1.814125e+06
## y[422]     -1.367772e+06 0.000000e+00 -1.367772e+06 -1.367772e+06
## y[423]     -1.530483e+05 0.000000e+00 -1.530483e+05 -1.530483e+05
## y[424]     -4.270734e+06 0.000000e+00 -4.270734e+06 -4.270734e+06
## y[425]     -1.189179e+05 0.000000e+00 -1.189179e+05 -1.189179e+05
## y[426]     -2.552484e+06 0.000000e+00 -2.552484e+06 -2.552484e+06
## y[427]     -6.414081e+05 0.000000e+00 -6.414081e+05 -6.414081e+05
```

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## y[428]     -7.670906e+04  0.000000e+00  -7.670906e+04  -7.670906e+04
## y[429]     -2.130420e+05  0.000000e+00  -2.130420e+05  -2.130420e+05
## y[430]     -2.590457e+06  0.000000e+00  -2.590457e+06  -2.590457e+06
## y[431]     -1.073970e+06  0.000000e+00  -1.073970e+06  -1.073970e+06
## y[432]     -1.867281e+04  0.000000e+00  -1.867281e+04  -1.867281e+04
## y[433]     -1.556294e+05  0.000000e+00  -1.556294e+05  -1.556294e+05
## y[434]     -6.953482e+05  0.000000e+00  -6.953482e+05  -6.953482e+05
## y[435]     -1.716703e+06  0.000000e+00  -1.716703e+06  -1.716703e+06
## y[436]     -1.401136e+06  0.000000e+00  -1.401136e+06  -1.401136e+06
## y[437]     -1.358922e+06  0.000000e+00  -1.358922e+06  -1.358922e+06
## y[438]     -8.549107e+04  0.000000e+00  -8.549107e+04  -8.549107e+04
## y[439]     -4.111661e+06  0.000000e+00  -4.111661e+06  -4.111661e+06
## y[440]     -9.735616e+05  0.000000e+00  -9.735616e+05  -9.735616e+05
## y[441]     -2.929288e+04  0.000000e+00  -2.929288e+04  -2.929288e+04
## y[442]     -4.731396e+06  0.000000e+00  -4.731396e+06  -4.731396e+06
## y[443]     -1.236392e+06  0.000000e+00  -1.236392e+06  -1.236392e+06
## y[444]     -7.171357e+04  0.000000e+00  -7.171357e+04  -7.171357e+04
## y[445]     -1.221674e+06  0.000000e+00  -1.221674e+06  -1.221674e+06
## y[446]     -4.344196e+05  0.000000e+00  -4.344196e+05  -4.344196e+05
## y[447]     -4.414660e+05  0.000000e+00  -4.414660e+05  -4.414660e+05
## y[448]     -1.368461e+05  0.000000e+00  -1.368461e+05  -1.368461e+05
## y[449]     -5.707080e+04  0.000000e+00  -5.707080e+04  -5.707080e+04
## y[450]     -3.376100e+01  0.000000e+00  -3.376100e+01  -3.376100e+01
## y[451]     -6.493511e+05  0.000000e+00  -6.493511e+05  -6.493511e+05
## y[452]     -6.367612e+06  0.000000e+00  -6.367612e+06  -6.367612e+06
## y[453]     -6.535665e+04  0.000000e+00  -6.535665e+04  -6.535665e+04
## y[454]     -6.677502e+04  0.000000e+00  -6.677502e+04  -6.677502e+04
## y[455]     -2.550918e+06  0.000000e+00  -2.550918e+06  -2.550918e+06
## y[456]     -1.994619e+05  0.000000e+00  -1.994619e+05  -1.994619e+05
## y[457]     -4.019054e+05  0.000000e+00  -4.019054e+05  -4.019054e+05
## y[458]     -1.469820e+05  0.000000e+00  -1.469820e+05  -1.469820e+05
## y[459]     -1.033096e+06  0.000000e+00  -1.033096e+06  -1.033096e+06
## y[460]     -2.625683e+04  0.000000e+00  -2.625683e+04  -2.625683e+04
## y[461]     -2.280520e+05  0.000000e+00  -2.280520e+05  -2.280520e+05
## y[462]     -1.583641e+05  0.000000e+00  -1.583641e+05  -1.583641e+05
## y[463]     -6.406549e+05  0.000000e+00  -6.406549e+05  -6.406549e+05
## y[464]     -1.707258e+06  0.000000e+00  -1.707258e+06  -1.707258e+06
## y[465]     -2.141793e+05  0.000000e+00  -2.141793e+05  -2.141793e+05
## y[466]     -9.148474e+05  0.000000e+00  -9.148474e+05  -9.148474e+05
## y[467]     -1.535003e+04  0.000000e+00  -1.535003e+04  -1.535003e+04
## y[468]     -1.091649e+05  0.000000e+00  -1.091649e+05  -1.091649e+05
## y[469]     -3.154613e+06  0.000000e+00  -3.154613e+06  -3.154613e+06
## y[470]     -5.957793e+04  0.000000e+00  -5.957793e+04  -5.957793e+04
## y[471]     -1.119785e+05  0.000000e+00  -1.119785e+05  -1.119785e+05
## y[472]     -5.279435e+03  0.000000e+00  -5.279435e+03  -5.279435e+03
## y[473]     -1.963612e+05  0.000000e+00  -1.963612e+05  -1.963612e+05
## y[474]     -8.937521e+05  0.000000e+00  -8.937521e+05  -8.937521e+05
## y[475]     -5.677768e+06  0.000000e+00  -5.677768e+06  -5.677768e+06
## y[476]     -3.805541e+05  0.000000e+00  -3.805541e+05  -3.805541e+05
## y[477]     -8.484842e+05  0.000000e+00  -8.484842e+05  -8.484842e+05
## y[478]     -4.315607e+06  0.000000e+00  -4.315607e+06  -4.315607e+06
## y[479]     -6.180757e+04  0.000000e+00  -6.180757e+04  -6.180757e+04
## y[480]     -1.974719e+05  0.000000e+00  -1.974719e+05  -1.974719e+05
## y[481]     -2.279772e+05  0.000000e+00  -2.279772e+05  -2.279772e+05
```

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## y[482]      -8.014341e+06 0.000000e+00 -8.014341e+06 -8.014341e+06
## y[483]      -1.609367e+05 0.000000e+00 -1.609367e+05 -1.609367e+05
## y[484]      -4.441305e+05 0.000000e+00 -4.441305e+05 -4.441305e+05
## y[485]      -5.306947e+04 0.000000e+00 -5.306947e+04 -5.306947e+04
## y[486]      -1.807609e+06 0.000000e+00 -1.807609e+06 -1.807609e+06
## y[487]      -3.643394e+06 0.000000e+00 -3.643394e+06 -3.643394e+06
## y[488]      -1.136858e+06 0.000000e+00 -1.136858e+06 -1.136858e+06
## y[489]      -4.476116e+05 0.000000e+00 -4.476116e+05 -4.476116e+05
## y[490]      -1.011391e+06 0.000000e+00 -1.011391e+06 -1.011391e+06
## y[491]      -2.234824e+06 0.000000e+00 -2.234824e+06 -2.234824e+06
## y[492]      -3.041217e+06 0.000000e+00 -3.041217e+06 -3.041217e+06
## y[493]      -2.150584e+05 0.000000e+00 -2.150584e+05 -2.150584e+05
## y[494]      -7.875769e+03 0.000000e+00 -7.875769e+03 -7.875769e+03
## y[495]      -3.183187e+06 0.000000e+00 -3.183187e+06 -3.183187e+06
## y[496]      -3.816847e+05 0.000000e+00 -3.816847e+05 -3.816847e+05
## y[497]      -1.122731e+05 0.000000e+00 -1.122731e+05 -1.122731e+05
## y[498]      -4.003246e+06 0.000000e+00 -4.003246e+06 -4.003246e+06
## y[499]      -1.957623e+06 0.000000e+00 -1.957623e+06 -1.957623e+06
## y[500]      -1.899436e+03 0.000000e+00 -1.899436e+03 -1.899436e+03
## y[501]      -8.642749e+04 0.000000e+00 -8.642749e+04 -8.642749e+04
## y[502]      -7.716705e+03 0.000000e+00 -7.716705e+03 -7.716705e+03
## y[503]      -3.439300e+04 0.000000e+00 -3.439300e+04 -3.439300e+04
## y[504]      -2.264497e+06 0.000000e+00 -2.264497e+06 -2.264497e+06
## y[505]      -7.433707e+04 0.000000e+00 -7.433707e+04 -7.433707e+04
## y[506]      -2.231244e+06 0.000000e+00 -2.231244e+06 -2.231244e+06
## y[507]      -1.674905e+05 0.000000e+00 -1.674905e+05 -1.674905e+05
## y[508]      -3.987655e+03 0.000000e+00 -3.987655e+03 -3.987655e+03
## y[509]      -5.153180e+05 0.000000e+00 -5.153180e+05 -5.153180e+05
## y[510]      -1.743239e+06 0.000000e+00 -1.743239e+06 -1.743239e+06
## y[511]      -1.007301e+04 0.000000e+00 -1.007301e+04 -1.007301e+04
## y[512]      -6.855853e+06 0.000000e+00 -6.855853e+06 -6.855853e+06
## y[513]      -3.667830e+06 0.000000e+00 -3.667830e+06 -3.667830e+06
## y[514]      -1.133725e+06 0.000000e+00 -1.133725e+06 -1.133725e+06
## y[515]      -3.379048e+05 0.000000e+00 -3.379048e+05 -3.379048e+05
## y[516]      -1.953415e+05 0.000000e+00 -1.953415e+05 -1.953415e+05
## y[517]      -6.543972e+04 0.000000e+00 -6.543972e+04 -6.543972e+04
## y[518]      -2.513775e+06 0.000000e+00 -2.513775e+06 -2.513775e+06
## y[519]      -1.120091e+06 0.000000e+00 -1.120091e+06 -1.120091e+06
## y[520]      -2.809742e+06 0.000000e+00 -2.809742e+06 -2.809742e+06
## y[521]      -1.896961e+06 0.000000e+00 -1.896961e+06 -1.896961e+06
## y[522]      -1.802401e+06 0.000000e+00 -1.802401e+06 -1.802401e+06
## y[523]      -2.010773e+05 0.000000e+00 -2.010773e+05 -2.010773e+05
## y[524]      -3.614412e+04 0.000000e+00 -3.614412e+04 -3.614412e+04
## y[525]      -1.792875e+06 0.000000e+00 -1.792875e+06 -1.792875e+06
## y[526]      -6.131478e+05 0.000000e+00 -6.131478e+05 -6.131478e+05
## y[527]      -3.071571e+06 0.000000e+00 -3.071571e+06 -3.071571e+06
## y[528]      -1.523621e+06 0.000000e+00 -1.523621e+06 -1.523621e+06
## y[529]      -4.170658e+05 0.000000e+00 -4.170658e+05 -4.170658e+05
## y[530]      -2.232787e+04 0.000000e+00 -2.232787e+04 -2.232787e+04
## y[531]      -3.748222e+03 0.000000e+00 -3.748222e+03 -3.748222e+03
## y[532]      -6.968757e+05 0.000000e+00 -6.968757e+05 -6.968757e+05
## y[533]      -2.830437e+05 0.000000e+00 -2.830437e+05 -2.830437e+05
## y[534]      -3.016880e+06 0.000000e+00 -3.016880e+06 -3.016880e+06
## y[535]      -3.095955e+05 0.000000e+00 -3.095955e+05 -3.095955e+05
```

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## y[536]      -1.257185e+05 0.000000e+00 -1.257185e+05 -1.257185e+05
## y[537]      -8.528239e+03 0.000000e+00 -8.528239e+03 -8.528239e+03
## y[538]      -5.786838e+05 0.000000e+00 -5.786838e+05 -5.786838e+05
## y[539]      -3.371119e+04 0.000000e+00 -3.371119e+04 -3.371119e+04
## y[540]      -1.132742e+05 0.000000e+00 -1.132742e+05 -1.132742e+05
## y[541]      -3.784994e+03 0.000000e+00 -3.784994e+03 -3.784994e+03
## y[542]      -6.194668e+03 0.000000e+00 -6.194668e+03 -6.194668e+03
## y[543]      -4.330938e+06 0.000000e+00 -4.330938e+06 -4.330938e+06
## y[544]      -4.164298e+06 0.000000e+00 -4.164298e+06 -4.164298e+06
## y[545]      -1.447164e+06 0.000000e+00 -1.447164e+06 -1.447164e+06
## y[546]      -1.903145e+05 0.000000e+00 -1.903145e+05 -1.903145e+05
## y[547]      -5.790098e+04 0.000000e+00 -5.790098e+04 -5.790098e+04
## y[548]      -2.850988e+05 0.000000e+00 -2.850988e+05 -2.850988e+05
## y[549]      -4.158985e+04 0.000000e+00 -4.158985e+04 -4.158985e+04
## y[550]      -8.891546e+05 0.000000e+00 -8.891546e+05 -8.891546e+05
## y[551]      -2.235487e+05 0.000000e+00 -2.235487e+05 -2.235487e+05
## y[552]      -4.249341e+06 0.000000e+00 -4.249341e+06 -4.249341e+06
## y[553]      -2.411577e+05 0.000000e+00 -2.411577e+05 -2.411577e+05
## y[554]      -2.542133e+05 0.000000e+00 -2.542133e+05 -2.542133e+05
## y[555]      -2.072037e+05 0.000000e+00 -2.072037e+05 -2.072037e+05
## y[556]      -3.559030e+04 0.000000e+00 -3.559030e+04 -3.559030e+04
## y[557]      -1.367116e+05 0.000000e+00 -1.367116e+05 -1.367116e+05
## y[558]      -4.291448e+05 0.000000e+00 -4.291448e+05 -4.291448e+05
## y[559]      -3.158945e+06 0.000000e+00 -3.158945e+06 -3.158945e+06
## y[560]      -2.413512e+06 0.000000e+00 -2.413512e+06 -2.413512e+06
## y[561]      -1.645532e+04 0.000000e+00 -1.645532e+04 -1.645532e+04
## y[562]      -1.575047e+05 0.000000e+00 -1.575047e+05 -1.575047e+05
## y[563]      -8.988445e+06 0.000000e+00 -8.988445e+06 -8.988445e+06
## y[564]      -7.687364e+04 0.000000e+00 -7.687364e+04 -7.687364e+04
## y[565]      -1.581016e+06 0.000000e+00 -1.581016e+06 -1.581016e+06
## y[566]      -2.730528e+05 0.000000e+00 -2.730528e+05 -2.730528e+05
## y[567]      -1.322572e+06 0.000000e+00 -1.322572e+06 -1.322572e+06
## y[568]      -1.514100e+05 0.000000e+00 -1.514100e+05 -1.514100e+05
## y[569]      -1.174304e+04 0.000000e+00 -1.174304e+04 -1.174304e+04
## y[570]      -8.233206e+04 0.000000e+00 -8.233206e+04 -8.233206e+04
## y[571]      -3.885674e+06 0.000000e+00 -3.885674e+06 -3.885674e+06
## y[572]      -9.339069e+05 0.000000e+00 -9.339069e+05 -9.339069e+05
## y[573]      -5.374787e+06 0.000000e+00 -5.374787e+06 -5.374787e+06
## y[574]      -5.872850e+06 0.000000e+00 -5.872850e+06 -5.872850e+06
## y[575]      -1.523043e+03 0.000000e+00 -1.523043e+03 -1.523043e+03
## y[576]      -1.293364e+04 0.000000e+00 -1.293364e+04 -1.293364e+04
## y[577]      -1.309064e+05 0.000000e+00 -1.309064e+05 -1.309064e+05
## y[578]      -9.603285e+03 0.000000e+00 -9.603285e+03 -9.603285e+03
## y[579]      -1.207719e+06 0.000000e+00 -1.207719e+06 -1.207719e+06
## y[580]      -3.385343e+05 0.000000e+00 -3.385343e+05 -3.385343e+05
## y[581]      -6.906035e+05 0.000000e+00 -6.906035e+05 -6.906035e+05
## y[582]      -1.503703e+03 0.000000e+00 -1.503703e+03 -1.503703e+03
## y[583]      -7.379490e+05 0.000000e+00 -7.379490e+05 -7.379490e+05
## y[584]      -2.498150e+02 0.000000e+00 -2.498150e+02 -2.498150e+02
## y[585]      -1.182170e+06 0.000000e+00 -1.182170e+06 -1.182170e+06
## y[586]      -4.492751e+06 0.000000e+00 -4.492751e+06 -4.492751e+06
## y[587]      -8.934635e+05 0.000000e+00 -8.934635e+05 -8.934635e+05
## y[588]      -3.080942e+06 0.000000e+00 -3.080942e+06 -3.080942e+06
## y[589]      -5.611136e+03 0.000000e+00 -5.611136e+03 -5.611136e+03
```

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## y[590]     -6.660032e+05 0.000000e+00 -6.660032e+05 -6.660032e+05
## y[591]     -2.848907e+06 0.000000e+00 -2.848907e+06 -2.848907e+06
## y[592]     -8.248966e+06 0.000000e+00 -8.248966e+06 -8.248966e+06
## y[593]     -2.180287e+06 0.000000e+00 -2.180287e+06 -2.180287e+06
## y[594]     -1.242002e+06 0.000000e+00 -1.242002e+06 -1.242002e+06
## y[595]     -3.412602e+04 0.000000e+00 -3.412602e+04 -3.412602e+04
## y[596]     -5.344142e+05 0.000000e+00 -5.344142e+05 -5.344142e+05
## y[597]     -6.633097e+06 0.000000e+00 -6.633097e+06 -6.633097e+06
## y[598]     -1.328685e+06 0.000000e+00 -1.328685e+06 -1.328685e+06
## y[599]     -2.140021e+05 0.000000e+00 -2.140021e+05 -2.140021e+05
## y[600]     -4.259791e+04 0.000000e+00 -4.259791e+04 -4.259791e+04
## y[601]     -5.297372e+05 0.000000e+00 -5.297372e+05 -5.297372e+05
## y[602]     -4.021582e+05 0.000000e+00 -4.021582e+05 -4.021582e+05
## y[603]     -1.607166e+04 0.000000e+00 -1.607166e+04 -1.607166e+04
## y[604]     -2.905860e+05 0.000000e+00 -2.905860e+05 -2.905860e+05
## y[605]     -4.136082e+05 0.000000e+00 -4.136082e+05 -4.136082e+05
## y[606]     -3.659611e+05 0.000000e+00 -3.659611e+05 -3.659611e+05
## y[607]     -1.214834e+06 0.000000e+00 -1.214834e+06 -1.214834e+06
## y[608]     -1.456233e+05 0.000000e+00 -1.456233e+05 -1.456233e+05
## y[609]     -1.121840e+06 0.000000e+00 -1.121840e+06 -1.121840e+06
## y[610]     -2.936138e+05 0.000000e+00 -2.936138e+05 -2.936138e+05
## y[611]     -3.176678e+05 0.000000e+00 -3.176678e+05 -3.176678e+05
## y[612]     -3.865958e+06 0.000000e+00 -3.865958e+06 -3.865958e+06
## y[613]     -7.480770e+02 0.000000e+00 -7.480770e+02 -7.480770e+02
## y[614]     -4.401977e+05 0.000000e+00 -4.401977e+05 -4.401977e+05
## y[615]     -6.502002e+05 0.000000e+00 -6.502002e+05 -6.502002e+05
## y[616]     -1.670754e+06 0.000000e+00 -1.670754e+06 -1.670754e+06
## y[617]     -2.016689e+05 0.000000e+00 -2.016689e+05 -2.016689e+05
## y[618]     -1.973425e+06 0.000000e+00 -1.973425e+06 -1.973425e+06
## y[619]     -2.556371e+04 0.000000e+00 -2.556371e+04 -2.556371e+04
## y[620]     -4.124991e+06 0.000000e+00 -4.124991e+06 -4.124991e+06
## y[621]     -7.910389e+05 0.000000e+00 -7.910389e+05 -7.910389e+05
## y[622]     -9.919799e+05 0.000000e+00 -9.919799e+05 -9.919799e+05
## y[623]     -1.310701e+06 0.000000e+00 -1.310701e+06 -1.310701e+06
## y[624]     -2.081500e+05 0.000000e+00 -2.081500e+05 -2.081500e+05
## y[625]     -7.342257e+05 0.000000e+00 -7.342257e+05 -7.342257e+05
## y[626]     -1.191239e+06 0.000000e+00 -1.191239e+06 -1.191239e+06
## y[627]     -2.215030e+06 0.000000e+00 -2.215030e+06 -2.215030e+06
## y[628]     -2.012459e+06 0.000000e+00 -2.012459e+06 -2.012459e+06
## y[629]     -5.234139e+04 0.000000e+00 -5.234139e+04 -5.234139e+04
## y[630]     -7.805918e+04 0.000000e+00 -7.805918e+04 -7.805918e+04
## y[631]     -6.469845e+05 0.000000e+00 -6.469845e+05 -6.469845e+05
## y[632]     -2.228011e+06 0.000000e+00 -2.228011e+06 -2.228011e+06
## y[633]     -1.820986e+05 0.000000e+00 -1.820986e+05 -1.820986e+05
## y[634]     -2.383926e+05 0.000000e+00 -2.383926e+05 -2.383926e+05
## y[635]     -2.264641e+06 0.000000e+00 -2.264641e+06 -2.264641e+06
## y[636]     -5.675252e+05 0.000000e+00 -5.675252e+05 -5.675252e+05
## y[637]     -2.486052e+05 0.000000e+00 -2.486052e+05 -2.486052e+05
## y[638]     -9.084674e+04 0.000000e+00 -9.084674e+04 -9.084674e+04
## y[639]     -2.825274e+06 0.000000e+00 -2.825274e+06 -2.825274e+06
## y[640]     -1.750101e+06 0.000000e+00 -1.750101e+06 -1.750101e+06
## y[641]     -2.099280e+06 0.000000e+00 -2.099280e+06 -2.099280e+06
## y[642]     -5.657999e+05 0.000000e+00 -5.657999e+05 -5.657999e+05
## y[643]     -1.181513e+06 0.000000e+00 -1.181513e+06 -1.181513e+06
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## y[644]    -2.288889e+05 0.000000e+00 -2.288889e+05 -2.288889e+05
## y[645]    -4.454254e+05 0.000000e+00 -4.454254e+05 -4.454254e+05
## y[646]    -2.339192e+03 0.000000e+00 -2.339192e+03 -2.339192e+03
## y[647]    -2.928111e+05 0.000000e+00 -2.928111e+05 -2.928111e+05
## y[648]    -2.650091e+05 0.000000e+00 -2.650091e+05 -2.650091e+05
## y[649]    -1.186790e+06 0.000000e+00 -1.186790e+06 -1.186790e+06
## y[650]    -4.584846e+05 0.000000e+00 -4.584846e+05 -4.584846e+05
## y[651]    -1.653894e+06 0.000000e+00 -1.653894e+06 -1.653894e+06
## y[652]    -5.750474e+06 0.000000e+00 -5.750474e+06 -5.750474e+06
## y[653]    -7.430015e+03 0.000000e+00 -7.430015e+03 -7.430015e+03
## y[654]    -1.386897e+06 0.000000e+00 -1.386897e+06 -1.386897e+06
## y[655]    -1.276227e+05 0.000000e+00 -1.276227e+05 -1.276227e+05
## y[656]    -1.435959e+05 0.000000e+00 -1.435959e+05 -1.435959e+05
## y[657]    -4.716144e+04 0.000000e+00 -4.716144e+04 -4.716144e+04
## y[658]    -1.541235e+03 0.000000e+00 -1.541235e+03 -1.541235e+03
## y[659]    -1.988885e+05 0.000000e+00 -1.988885e+05 -1.988885e+05
## y[660]    -5.514108e+06 0.000000e+00 -5.514108e+06 -5.514108e+06
## y[661]    -1.166345e+06 0.000000e+00 -1.166345e+06 -1.166345e+06
## y[662]    -3.471118e+05 0.000000e+00 -3.471118e+05 -3.471118e+05
## y[663]    -2.158687e+06 0.000000e+00 -2.158687e+06 -2.158687e+06
## y[664]    -2.368296e+06 0.000000e+00 -2.368296e+06 -2.368296e+06
## y[665]    -1.562521e+04 0.000000e+00 -1.562521e+04 -1.562521e+04
## y[666]    -1.956382e+05 0.000000e+00 -1.956382e+05 -1.956382e+05
## y[667]    -1.183098e+05 0.000000e+00 -1.183098e+05 -1.183098e+05
## y[668]    -4.727292e+05 0.000000e+00 -4.727292e+05 -4.727292e+05
## y[669]    -4.653226e+03 0.000000e+00 -4.653226e+03 -4.653226e+03
## y[670]    -1.705106e+06 0.000000e+00 -1.705106e+06 -1.705106e+06
## y[671]    -1.077947e+05 0.000000e+00 -1.077947e+05 -1.077947e+05
## y[672]    -5.640310e+04 0.000000e+00 -5.640310e+04 -5.640310e+04
## y[673]    -2.465503e+05 0.000000e+00 -2.465503e+05 -2.465503e+05
## y[674]    -1.769259e+05 0.000000e+00 -1.769259e+05 -1.769259e+05
## y[675]    -9.245891e+04 0.000000e+00 -9.245891e+04 -9.245891e+04
## y[676]    -1.370007e+06 0.000000e+00 -1.370007e+06 -1.370007e+06
## y[677]    -1.850280e+05 0.000000e+00 -1.850280e+05 -1.850280e+05
## y[678]    -6.413915e+04 0.000000e+00 -6.413915e+04 -6.413915e+04
## y[679]    -1.507716e+05 0.000000e+00 -1.507716e+05 -1.507716e+05
## y[680]    -8.588520e+02 0.000000e+00 -8.588520e+02 -8.588520e+02
## y[681]    -1.339020e+05 0.000000e+00 -1.339020e+05 -1.339020e+05
## y[682]    -1.147563e+06 0.000000e+00 -1.147563e+06 -1.147563e+06
## y[683]    -1.063102e+06 0.000000e+00 -1.063102e+06 -1.063102e+06
## y[684]    -1.298033e+04 0.000000e+00 -1.298033e+04 -1.298033e+04
## y[685]    -8.904743e+05 0.000000e+00 -8.904743e+05 -8.904743e+05
## y[686]    -2.495385e+06 0.000000e+00 -2.495385e+06 -2.495385e+06
## y[687]    -7.667396e+05 0.000000e+00 -7.667396e+05 -7.667396e+05
## y[688]    -2.429204e+05 0.000000e+00 -2.429204e+05 -2.429204e+05
## y[689]    -2.554255e+06 0.000000e+00 -2.554255e+06 -2.554255e+06
## y[690]    -2.185853e+04 0.000000e+00 -2.185853e+04 -2.185853e+04
## y[691]    -2.448365e+05 0.000000e+00 -2.448365e+05 -2.448365e+05
## y[692]    -1.328579e+05 0.000000e+00 -1.328579e+05 -1.328579e+05
## y[693]    -3.237511e+06 0.000000e+00 -3.237511e+06 -3.237511e+06
## y[694]    -1.964360e+06 0.000000e+00 -1.964360e+06 -1.964360e+06
## y[695]    -2.930665e+06 0.000000e+00 -2.930665e+06 -2.930665e+06
## y[696]    -8.442886e+03 0.000000e+00 -8.442886e+03 -8.442886e+03
## y[697]    -7.022688e+05 0.000000e+00 -7.022688e+05 -7.022688e+05
```

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## y[698]      -3.750495e+06 0.000000e+00 -3.750495e+06 -3.750495e+06
## y[699]      -8.160060e+05 0.000000e+00 -8.160060e+05 -8.160060e+05
## y[700]      -6.075747e+04 0.000000e+00 -6.075747e+04 -6.075747e+04
## y[701]      -3.397104e+06 0.000000e+00 -3.397104e+06 -3.397104e+06
## y[702]      -9.897568e+04 0.000000e+00 -9.897568e+04 -9.897568e+04
## y[703]      -2.168555e+06 0.000000e+00 -2.168555e+06 -2.168555e+06
## y[704]      -2.019706e+06 0.000000e+00 -2.019706e+06 -2.019706e+06
## y[705]      -2.004974e+05 0.000000e+00 -2.004974e+05 -2.004974e+05
## y[706]      -8.742587e+05 0.000000e+00 -8.742587e+05 -8.742587e+05
## y[707]      -2.405764e+06 0.000000e+00 -2.405764e+06 -2.405764e+06
## y[708]      -7.510861e+06 0.000000e+00 -7.510861e+06 -7.510861e+06
## y[709]      -1.440921e+06 0.000000e+00 -1.440921e+06 -1.440921e+06
## y[710]      -4.530354e+05 0.000000e+00 -4.530354e+05 -4.530354e+05
## y[711]      -2.383900e+01 0.000000e+00 -2.383900e+01 -2.383900e+01
## y[712]      -6.063371e+05 0.000000e+00 -6.063371e+05 -6.063371e+05
## y[713]      -1.477959e+06 0.000000e+00 -1.477959e+06 -1.477959e+06
## y[714]      -2.766545e+06 0.000000e+00 -2.766545e+06 -2.766545e+06
## y[715]      -2.304725e+03 0.000000e+00 -2.304725e+03 -2.304725e+03
## y[716]      -2.259001e+05 0.000000e+00 -2.259001e+05 -2.259001e+05
## y[717]      -1.347502e+03 0.000000e+00 -1.347502e+03 -1.347502e+03
## y[718]      -6.534898e+05 0.000000e+00 -6.534898e+05 -6.534898e+05
## y[719]      -8.497045e+05 0.000000e+00 -8.497045e+05 -8.497045e+05
## y[720]      -8.810861e+05 0.000000e+00 -8.810861e+05 -8.810861e+05
## y[721]      -2.365796e+05 0.000000e+00 -2.365796e+05 -2.365796e+05
## y[722]      -2.772826e+04 0.000000e+00 -2.772826e+04 -2.772826e+04
## y[723]      -5.689514e+05 0.000000e+00 -5.689514e+05 -5.689514e+05
## y[724]      -9.306678e+04 0.000000e+00 -9.306678e+04 -9.306678e+04
## y[725]      -7.446840e+05 0.000000e+00 -7.446840e+05 -7.446840e+05
## y[726]      -1.567264e+06 0.000000e+00 -1.567264e+06 -1.567264e+06
## y[727]      -1.926851e+05 0.000000e+00 -1.926851e+05 -1.926851e+05
## y[728]      -3.527196e+04 0.000000e+00 -3.527196e+04 -3.527196e+04
## y[729]      -1.754114e+05 0.000000e+00 -1.754114e+05 -1.754114e+05
## y[730]      -1.256728e+06 0.000000e+00 -1.256728e+06 -1.256728e+06
## y[731]      -7.632449e+05 0.000000e+00 -7.632449e+05 -7.632449e+05
## y[732]      -5.816024e+03 0.000000e+00 -5.816024e+03 -5.816024e+03
## y[733]      -4.446997e+04 0.000000e+00 -4.446997e+04 -4.446997e+04
## y[734]      -1.369712e+04 0.000000e+00 -1.369712e+04 -1.369712e+04
## y[735]      -2.012743e+06 0.000000e+00 -2.012743e+06 -2.012743e+06
## y[736]      -2.301437e+06 0.000000e+00 -2.301437e+06 -2.301437e+06
## y[737]      -1.391248e+06 0.000000e+00 -1.391248e+06 -1.391248e+06
## y[738]      -3.465173e+06 0.000000e+00 -3.465173e+06 -3.465173e+06
## y[739]      -7.628296e+04 0.000000e+00 -7.628296e+04 -7.628296e+04
## y[740]      -1.213183e+06 0.000000e+00 -1.213183e+06 -1.213183e+06
## y[741]      -1.281096e+05 0.000000e+00 -1.281096e+05 -1.281096e+05
## y[742]      -1.240776e+06 0.000000e+00 -1.240776e+06 -1.240776e+06
## y[743]      -2.424288e+06 0.000000e+00 -2.424288e+06 -2.424288e+06
## y[744]      -1.198193e+07 0.000000e+00 -1.198193e+07 -1.198193e+07
## y[745]      -1.313175e+06 0.000000e+00 -1.313175e+06 -1.313175e+06
## y[746]      -7.194898e+05 0.000000e+00 -7.194898e+05 -7.194898e+05
## y[747]      -3.045504e+05 0.000000e+00 -3.045504e+05 -3.045504e+05
## y[748]      -9.998786e+05 0.000000e+00 -9.998786e+05 -9.998786e+05
## y[749]      -1.336977e+05 0.000000e+00 -1.336977e+05 -1.336977e+05
## y[750]      -5.160048e+05 0.000000e+00 -5.160048e+05 -5.160048e+05
## y[751]      -6.169275e+06 0.000000e+00 -6.169275e+06 -6.169275e+06
```

```
## y[752]      -1.547767e+06 0.000000e+00 -1.547767e+06 -1.547767e+06
## y[753]      -6.757483e+05 0.000000e+00 -6.757483e+05 -6.757483e+05
## y[754]      -2.188471e+06 0.000000e+00 -2.188471e+06 -2.188471e+06
## y[755]      -1.500944e+06 0.000000e+00 -1.500944e+06 -1.500944e+06
## y[756]      -1.341490e+04 0.000000e+00 -1.341490e+04 -1.341490e+04
## y[757]      -1.928220e+05 0.000000e+00 -1.928220e+05 -1.928220e+05
## y[758]      -9.092959e+05 0.000000e+00 -9.092959e+05 -9.092959e+05
## y[759]      -3.708767e+05 0.000000e+00 -3.708767e+05 -3.708767e+05
## y[760]      -1.284298e+05 0.000000e+00 -1.284298e+05 -1.284298e+05
## y[761]      -4.392958e+06 0.000000e+00 -4.392958e+06 -4.392958e+06
## y[762]      -3.821996e+06 0.000000e+00 -3.821996e+06 -3.821996e+06
## y[763]      -1.862080e+05 0.000000e+00 -1.862080e+05 -1.862080e+05
## y[764]      -3.198812e+04 0.000000e+00 -3.198812e+04 -3.198812e+04
## y[765]      -2.317459e+05 0.000000e+00 -2.317459e+05 -2.317459e+05
## y[766]      -6.751868e+05 0.000000e+00 -6.751868e+05 -6.751868e+05
## y[767]      -5.866149e+04 0.000000e+00 -5.866149e+04 -5.866149e+04
## y[768]      -9.468272e+05 0.000000e+00 -9.468272e+05 -9.468272e+05
## y[769]      -2.022588e+06 0.000000e+00 -2.022588e+06 -2.022588e+06
## y[770]      -1.252187e+05 0.000000e+00 -1.252187e+05 -1.252187e+05
## y[771]      -2.031408e+06 0.000000e+00 -2.031408e+06 -2.031408e+06
## y[772]      -4.250048e+06 0.000000e+00 -4.250048e+06 -4.250048e+06
## y[773]      -2.550763e+05 0.000000e+00 -2.550763e+05 -2.550763e+05
## y[774]      -3.502241e+03 0.000000e+00 -3.502241e+03 -3.502241e+03
## y[775]      -2.717131e+06 0.000000e+00 -2.717131e+06 -2.717131e+06
## y[776]      -3.006166e+05 0.000000e+00 -3.006166e+05 -3.006166e+05
## y[777]      -7.778863e+04 0.000000e+00 -7.778863e+04 -7.778863e+04
## y[778]      -3.003708e+04 0.000000e+00 -3.003708e+04 -3.003708e+04
## y[779]      -8.103795e+05 0.000000e+00 -8.103795e+05 -8.103795e+05
## y[780]      -2.840197e+05 0.000000e+00 -2.840197e+05 -2.840197e+05
## y[781]      -1.073598e+06 0.000000e+00 -1.073598e+06 -1.073598e+06
## y[782]      -4.415289e+06 0.000000e+00 -4.415289e+06 -4.415289e+06
## y[783]      -7.872288e+05 0.000000e+00 -7.872288e+05 -7.872288e+05
## y[784]      -1.946373e+06 0.000000e+00 -1.946373e+06 -1.946373e+06
## y[785]      -9.985416e+05 0.000000e+00 -9.985416e+05 -9.985416e+05
## y[786]      -5.109277e+03 0.000000e+00 -5.109277e+03 -5.109277e+03
## y[787]      -2.574748e+04 0.000000e+00 -2.574748e+04 -2.574748e+04
## y[788]      -6.192421e+04 0.000000e+00 -6.192421e+04 -6.192421e+04
## y[789]      -5.661651e+05 0.000000e+00 -5.661651e+05 -5.661651e+05
## y[790]      -5.294843e+05 0.000000e+00 -5.294843e+05 -5.294843e+05
## y[791]      -5.988666e+05 0.000000e+00 -5.988666e+05 -5.988666e+05
## y[792]      -2.468277e+06 0.000000e+00 -2.468277e+06 -2.468277e+06
## y[793]      -4.745289e+04 0.000000e+00 -4.745289e+04 -4.745289e+04
## y[794]      -3.536240e+06 0.000000e+00 -3.536240e+06 -3.536240e+06
## y[795]      -1.199617e+06 0.000000e+00 -1.199617e+06 -1.199617e+06
## y[796]      -2.096657e+05 0.000000e+00 -2.096657e+05 -2.096657e+05
## y[797]      -1.282196e+06 0.000000e+00 -1.282196e+06 -1.282196e+06
## y[798]      -2.705903e+06 0.000000e+00 -2.705903e+06 -2.705903e+06
## y[799]      -3.383220e+05 0.000000e+00 -3.383220e+05 -3.383220e+05
## y[800]      -2.728503e+05 0.000000e+00 -2.728503e+05 -2.728503e+05
## y[801]      -3.952594e+05 0.000000e+00 -3.952594e+05 -3.952594e+05
## y[802]      -2.487086e+03 0.000000e+00 -2.487086e+03 -2.487086e+03
## y[803]      -7.850719e+05 0.000000e+00 -7.850719e+05 -7.850719e+05
## y[804]      -1.284290e+05 0.000000e+00 -1.284290e+05 -1.284290e+05
## y[805]      -2.138684e+05 0.000000e+00 -2.138684e+05 -2.138684e+05
```

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## y[806]      -1.701999e+06 0.000000e+00 -1.701999e+06 -1.701999e+06
## y[807]      -5.792093e+05 0.000000e+00 -5.792093e+05 -5.792093e+05
## y[808]      -4.569047e+03 0.000000e+00 -4.569047e+03 -4.569047e+03
## y[809]      -8.666178e+03 0.000000e+00 -8.666178e+03 -8.666178e+03
## y[810]      -1.731017e+04 0.000000e+00 -1.731017e+04 -1.731017e+04
## y[811]      -2.176735e+06 0.000000e+00 -2.176735e+06 -2.176735e+06
## y[812]      -1.495836e+06 0.000000e+00 -1.495836e+06 -1.495836e+06
## y[813]      -1.509717e+06 0.000000e+00 -1.509717e+06 -1.509717e+06
## y[814]      -4.621755e+06 0.000000e+00 -4.621755e+06 -4.621755e+06
## y[815]      -1.239987e+06 0.000000e+00 -1.239987e+06 -1.239987e+06
## y[816]      -2.470300e+06 0.000000e+00 -2.470300e+06 -2.470300e+06
## y[817]      -2.019053e+06 0.000000e+00 -2.019053e+06 -2.019053e+06
## y[818]      -3.770842e+04 0.000000e+00 -3.770842e+04 -3.770842e+04
## y[819]      -2.215253e+05 0.000000e+00 -2.215253e+05 -2.215253e+05
## y[820]      -1.734232e+05 0.000000e+00 -1.734232e+05 -1.734232e+05
## y[821]      -1.579518e+05 0.000000e+00 -1.579518e+05 -1.579518e+05
## y[822]      -3.345371e+05 0.000000e+00 -3.345371e+05 -3.345371e+05
## y[823]      -2.235545e+06 0.000000e+00 -2.235545e+06 -2.235545e+06
## y[824]      -1.854908e+06 0.000000e+00 -1.854908e+06 -1.854908e+06
## y[825]      -3.068329e+04 0.000000e+00 -3.068329e+04 -3.068329e+04
## y[826]      -3.584636e+04 0.000000e+00 -3.584636e+04 -3.584636e+04
## y[827]      -1.010385e+04 0.000000e+00 -1.010385e+04 -1.010385e+04
## y[828]      -2.882850e+05 0.000000e+00 -2.882850e+05 -2.882850e+05
## y[829]      -2.581378e+06 0.000000e+00 -2.581378e+06 -2.581378e+06
## y[830]      -4.655538e+05 0.000000e+00 -4.655538e+05 -4.655538e+05
## y[831]      -2.805979e+05 0.000000e+00 -2.805979e+05 -2.805979e+05
## y[832]      -9.292727e+05 0.000000e+00 -9.292727e+05 -9.292727e+05
## y[833]      -6.998302e+04 0.000000e+00 -6.998302e+04 -6.998302e+04
## y[834]      -1.740094e+03 0.000000e+00 -1.740094e+03 -1.740094e+03
## y[835]      -8.168741e+05 0.000000e+00 -8.168741e+05 -8.168741e+05
## y[836]      -3.005552e+05 0.000000e+00 -3.005552e+05 -3.005552e+05
## y[837]      -2.824200e+01 0.000000e+00 -2.824200e+01 -2.824200e+01
## y[838]      -4.250332e+05 0.000000e+00 -4.250332e+05 -4.250332e+05
## y[839]      -8.526148e+04 0.000000e+00 -8.526148e+04 -8.526148e+04
## y[840]      -2.979657e+05 0.000000e+00 -2.979657e+05 -2.979657e+05
## y[841]      -5.993328e+06 0.000000e+00 -5.993328e+06 -5.993328e+06
## y[842]      -1.510551e+05 0.000000e+00 -1.510551e+05 -1.510551e+05
## y[843]      -2.105469e+05 0.000000e+00 -2.105469e+05 -2.105469e+05
## y[844]      -7.659228e+04 0.000000e+00 -7.659228e+04 -7.659228e+04
## y[845]      -3.351514e+05 0.000000e+00 -3.351514e+05 -3.351514e+05
## y[846]      -9.428350e+05 0.000000e+00 -9.428350e+05 -9.428350e+05
## y[847]      -1.870091e+04 0.000000e+00 -1.870091e+04 -1.870091e+04
## y[848]      -2.500952e+05 0.000000e+00 -2.500952e+05 -2.500952e+05
## y[849]      -1.111053e+06 0.000000e+00 -1.111053e+06 -1.111053e+06
## y[850]      -5.950518e+06 0.000000e+00 -5.950518e+06 -5.950518e+06
## y[851]      -2.906338e+03 0.000000e+00 -2.906338e+03 -2.906338e+03
## y[852]      -1.279987e+06 0.000000e+00 -1.279987e+06 -1.279987e+06
## y[853]      -4.500568e+06 0.000000e+00 -4.500568e+06 -4.500568e+06
## y[854]      -6.253872e+05 0.000000e+00 -6.253872e+05 -6.253872e+05
## y[855]      -3.038455e+05 0.000000e+00 -3.038455e+05 -3.038455e+05
## y[856]      -2.330951e+06 0.000000e+00 -2.330951e+06 -2.330951e+06
## y[857]      -4.263692e+03 0.000000e+00 -4.263692e+03 -4.263692e+03
## y[858]      -3.256245e+05 0.000000e+00 -3.256245e+05 -3.256245e+05
## y[859]      -4.071024e+05 0.000000e+00 -4.071024e+05 -4.071024e+05
```

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## y[860]     -1.559431e+05 0.000000e+00 -1.559431e+05 -1.559431e+05
## y[861]     -7.060918e+03 0.000000e+00 -7.060918e+03 -7.060918e+03
## y[862]     -7.415560e+04 0.000000e+00 -7.415560e+04 -7.415560e+04
## y[863]     -5.181987e+05 0.000000e+00 -5.181987e+05 -5.181987e+05
## y[864]     -3.227010e+06 0.000000e+00 -3.227010e+06 -3.227010e+06
## y[865]     -2.594167e+06 0.000000e+00 -2.594167e+06 -2.594167e+06
## y[866]     -1.620406e+04 0.000000e+00 -1.620406e+04 -1.620406e+04
## y[867]     -4.483849e+06 0.000000e+00 -4.483849e+06 -4.483849e+06
## y[868]     -1.496187e+06 0.000000e+00 -1.496187e+06 -1.496187e+06
## y[869]     -8.015509e+05 0.000000e+00 -8.015509e+05 -8.015509e+05
## y[870]     -3.553666e+05 0.000000e+00 -3.553666e+05 -3.553666e+05
## y[871]     -2.203091e+06 0.000000e+00 -2.203091e+06 -2.203091e+06
## y[872]     -1.375429e+05 0.000000e+00 -1.375429e+05 -1.375429e+05
## y[873]     -3.021502e+06 0.000000e+00 -3.021502e+06 -3.021502e+06
## y[874]     -2.022283e+06 0.000000e+00 -2.022283e+06 -2.022283e+06
## y[875]     -6.204704e+04 0.000000e+00 -6.204704e+04 -6.204704e+04
## y[876]     -1.405452e+06 0.000000e+00 -1.405452e+06 -1.405452e+06
## y[877]     -6.536051e+06 0.000000e+00 -6.536051e+06 -6.536051e+06
## y[878]     -3.564148e+05 0.000000e+00 -3.564148e+05 -3.564148e+05
## y[879]     -9.465780e+02 0.000000e+00 -9.465780e+02 -9.465780e+02
## y[880]     -4.689765e+05 0.000000e+00 -4.689765e+05 -4.689765e+05
## y[881]     -8.089840e+05 0.000000e+00 -8.089840e+05 -8.089840e+05
## y[882]     -2.841553e+05 0.000000e+00 -2.841553e+05 -2.841553e+05
## y[883]     -2.805626e+05 0.000000e+00 -2.805626e+05 -2.805626e+05
## y[884]     -1.095136e+05 0.000000e+00 -1.095136e+05 -1.095136e+05
## y[885]     -2.674308e+05 0.000000e+00 -2.674308e+05 -2.674308e+05
## y[886]     -1.188098e+04 0.000000e+00 -1.188098e+04 -1.188098e+04
## y[887]     -1.119028e+06 0.000000e+00 -1.119028e+06 -1.119028e+06
## y[888]     -1.136762e+05 0.000000e+00 -1.136762e+05 -1.136762e+05
## y[889]     -6.424974e+04 0.000000e+00 -6.424974e+04 -6.424974e+04
## y[890]     -1.258548e+05 0.000000e+00 -1.258548e+05 -1.258548e+05
## y[891]     -1.159033e+06 0.000000e+00 -1.159033e+06 -1.159033e+06
## y[892]     -3.726846e+06 0.000000e+00 -3.726846e+06 -3.726846e+06
## y[893]     -1.709846e+06 0.000000e+00 -1.709846e+06 -1.709846e+06
## y[894]     -5.912688e+04 0.000000e+00 -5.912688e+04 -5.912688e+04
## y[895]     -1.467388e+05 0.000000e+00 -1.467388e+05 -1.467388e+05
## y[896]     -2.811864e+05 0.000000e+00 -2.811864e+05 -2.811864e+05
## y[897]     -1.162904e+06 0.000000e+00 -1.162904e+06 -1.162904e+06
## y[898]     -2.104396e+05 0.000000e+00 -2.104396e+05 -2.104396e+05
## y[899]     -4.286381e+06 0.000000e+00 -4.286381e+06 -4.286381e+06
## y[900]     -1.679282e+06 0.000000e+00 -1.679282e+06 -1.679282e+06
## y[901]     -2.562429e+05 0.000000e+00 -2.562429e+05 -2.562429e+05
## y[902]     -1.779898e+05 0.000000e+00 -1.779898e+05 -1.779898e+05
## y[903]     -8.965532e+05 0.000000e+00 -8.965532e+05 -8.965532e+05
## y[904]     -3.787292e+05 0.000000e+00 -3.787292e+05 -3.787292e+05
## y[905]     -4.989321e+05 0.000000e+00 -4.989321e+05 -4.989321e+05
## y[906]     -5.863545e+06 0.000000e+00 -5.863545e+06 -5.863545e+06
## y[907]     -1.559696e+05 0.000000e+00 -1.559696e+05 -1.559696e+05
## y[908]     -1.474480e+02 0.000000e+00 -1.474480e+02 -1.474480e+02
## y[909]     -6.021978e+05 0.000000e+00 -6.021978e+05 -6.021978e+05
## y[910]     -6.194229e+05 0.000000e+00 -6.194229e+05 -6.194229e+05
## y[911]     -7.075179e+05 0.000000e+00 -7.075179e+05 -7.075179e+05
## y[912]     -8.037799e+05 0.000000e+00 -8.037799e+05 -8.037799e+05
## y[913]     -1.062632e+06 0.000000e+00 -1.062632e+06 -1.062632e+06
```

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## y[914]    -1.551741e+05 0.000000e+00 -1.551741e+05 -1.551741e+05
## y[915]    -2.445544e+06 0.000000e+00 -2.445544e+06 -2.445544e+06
## y[916]    -1.839375e+05 0.000000e+00 -1.839375e+05 -1.839375e+05
## y[917]    -2.168288e+06 0.000000e+00 -2.168288e+06 -2.168288e+06
## y[918]    -1.750316e+06 0.000000e+00 -1.750316e+06 -1.750316e+06
## y[919]    -2.015327e+05 0.000000e+00 -2.015327e+05 -2.015327e+05
## y[920]    -4.453630e+06 0.000000e+00 -4.453630e+06 -4.453630e+06
## y[921]    -1.291516e+05 0.000000e+00 -1.291516e+05 -1.291516e+05
## y[922]    -1.005501e+06 0.000000e+00 -1.005501e+06 -1.005501e+06
## y[923]    -2.660636e+04 0.000000e+00 -2.660636e+04 -2.660636e+04
## y[924]    -1.976770e+06 0.000000e+00 -1.976770e+06 -1.976770e+06
## y[925]    -6.556195e+05 0.000000e+00 -6.556195e+05 -6.556195e+05
## y[926]    -2.154932e+05 0.000000e+00 -2.154932e+05 -2.154932e+05
## y[927]    -2.589131e+06 0.000000e+00 -2.589131e+06 -2.589131e+06
## y[928]    -8.017760e+05 0.000000e+00 -8.017760e+05 -8.017760e+05
## y[929]    -1.156347e+05 0.000000e+00 -1.156347e+05 -1.156347e+05
## y[930]    -2.834160e+06 0.000000e+00 -2.834160e+06 -2.834160e+06
## y[931]    -4.256973e+05 0.000000e+00 -4.256973e+05 -4.256973e+05
## y[932]    -4.160543e+06 0.000000e+00 -4.160543e+06 -4.160543e+06
## y[933]    -1.018968e+06 0.000000e+00 -1.018968e+06 -1.018968e+06
## y[934]    -3.139913e+05 0.000000e+00 -3.139913e+05 -3.139913e+05
## y[935]    -4.342868e+04 0.000000e+00 -4.342868e+04 -4.342868e+04
## y[936]    -3.264367e+06 0.000000e+00 -3.264367e+06 -3.264367e+06
## y[937]    -2.687717e+05 0.000000e+00 -2.687717e+05 -2.687717e+05
## y[938]    -2.752589e+03 0.000000e+00 -2.752589e+03 -2.752589e+03
## y[939]    -6.313312e+04 0.000000e+00 -6.313312e+04 -6.313312e+04
## y[940]    -1.093400e+06 0.000000e+00 -1.093400e+06 -1.093400e+06
## y[941]    -5.812011e+05 0.000000e+00 -5.812011e+05 -5.812011e+05
## y[942]    -4.851758e+05 0.000000e+00 -4.851758e+05 -4.851758e+05
## y[943]    -3.670578e+06 0.000000e+00 -3.670578e+06 -3.670578e+06
## y[944]    -2.820042e+03 0.000000e+00 -2.820042e+03 -2.820042e+03
## y[945]    -9.299183e+05 0.000000e+00 -9.299183e+05 -9.299183e+05
## y[946]    -1.720900e+01 0.000000e+00 -1.720900e+01 -1.720900e+01
## y[947]    -6.295450e+05 0.000000e+00 -6.295450e+05 -6.295450e+05
## y[948]    -7.049785e+04 0.000000e+00 -7.049785e+04 -7.049785e+04
## y[949]    -1.201952e+07 0.000000e+00 -1.201952e+07 -1.201952e+07
## y[950]    -2.926821e+03 0.000000e+00 -2.926821e+03 -2.926821e+03
## y[951]    -1.204016e+04 0.000000e+00 -1.204016e+04 -1.204016e+04
## y[952]    -9.650140e+04 0.000000e+00 -9.650140e+04 -9.650140e+04
## y[953]    -2.044268e+06 0.000000e+00 -2.044268e+06 -2.044268e+06
## y[954]    -9.959219e+05 0.000000e+00 -9.959219e+05 -9.959219e+05
## y[955]    -6.873922e+04 0.000000e+00 -6.873922e+04 -6.873922e+04
## y[956]    -7.022128e+05 0.000000e+00 -7.022128e+05 -7.022128e+05
## y[957]    -2.989206e+05 0.000000e+00 -2.989206e+05 -2.989206e+05
## y[958]    -1.178650e+06 0.000000e+00 -1.178650e+06 -1.178650e+06
## y[959]    -4.787845e+06 0.000000e+00 -4.787845e+06 -4.787845e+06
## y[960]    -2.383790e+05 0.000000e+00 -2.383790e+05 -2.383790e+05
## y[961]    -1.884285e+06 0.000000e+00 -1.884285e+06 -1.884285e+06
## y[962]    -6.006382e+06 0.000000e+00 -6.006382e+06 -6.006382e+06
## y[963]    -7.954211e+04 0.000000e+00 -7.954211e+04 -7.954211e+04
## y[964]    -4.430610e+05 0.000000e+00 -4.430610e+05 -4.430610e+05
## y[965]    -3.154086e+05 0.000000e+00 -3.154086e+05 -3.154086e+05
## y[966]    -1.956416e+05 0.000000e+00 -1.956416e+05 -1.956416e+05
## y[967]    -1.810571e+05 0.000000e+00 -1.810571e+05 -1.810571e+05
```

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## y[968]      -3.617006e+04 0.000000e+00 -3.617006e+04 -3.617006e+04
## y[969]      -2.234716e+05 0.000000e+00 -2.234716e+05 -2.234716e+05
## y[970]      -2.464163e+06 0.000000e+00 -2.464163e+06 -2.464163e+06
## y[971]      -2.924424e+04 0.000000e+00 -2.924424e+04 -2.924424e+04
## y[972]      -4.026677e+05 0.000000e+00 -4.026677e+05 -4.026677e+05
## y[973]      -1.139432e+05 0.000000e+00 -1.139432e+05 -1.139432e+05
## y[974]      -4.006229e+05 0.000000e+00 -4.006229e+05 -4.006229e+05
## y[975]      -6.843363e+05 0.000000e+00 -6.843363e+05 -6.843363e+05
## y[976]      -4.601885e+05 0.000000e+00 -4.601885e+05 -4.601885e+05
## y[977]      -2.524240e+06 0.000000e+00 -2.524240e+06 -2.524240e+06
## y[978]      -1.675758e+06 0.000000e+00 -1.675758e+06 -1.675758e+06
## y[979]      -6.036431e+05 0.000000e+00 -6.036431e+05 -6.036431e+05
## y[980]      -2.850051e+06 0.000000e+00 -2.850051e+06 -2.850051e+06
## y[981]      -1.611305e+05 0.000000e+00 -1.611305e+05 -1.611305e+05
## y[982]      -2.811536e+06 0.000000e+00 -2.811536e+06 -2.811536e+06
## y[983]      -3.526948e+04 0.000000e+00 -3.526948e+04 -3.526948e+04
## y[984]      -1.613970e+05 0.000000e+00 -1.613970e+05 -1.613970e+05
## y[985]      -3.241508e+06 0.000000e+00 -3.241508e+06 -3.241508e+06
## y[986]      -1.718220e+04 0.000000e+00 -1.718220e+04 -1.718220e+04
## y[987]      -1.251933e+05 0.000000e+00 -1.251933e+05 -1.251933e+05
## y[988]      -5.402316e+03 0.000000e+00 -5.402316e+03 -5.402316e+03
## y[989]      -1.113647e+04 0.000000e+00 -1.113647e+04 -1.113647e+04
## y[990]      -2.583384e+04 0.000000e+00 -2.583384e+04 -2.583384e+04
## y[991]      -1.116331e+06 0.000000e+00 -1.116331e+06 -1.116331e+06
## y[992]      -2.946661e+06 0.000000e+00 -2.946661e+06 -2.946661e+06
## y[993]      -5.145213e+03 0.000000e+00 -5.145213e+03 -5.145213e+03
## y[994]      -1.259416e+06 0.000000e+00 -1.259416e+06 -1.259416e+06
## y[995]      -2.133091e+06 0.000000e+00 -2.133091e+06 -2.133091e+06
## y[996]      -7.326669e+05 0.000000e+00 -7.326669e+05 -7.326669e+05
## y[997]      -5.135196e+04 0.000000e+00 -5.135196e+04 -5.135196e+04
## y[998]      -3.981738e+06 0.000000e+00 -3.981738e+06 -3.981738e+06
## y[999]      -1.946454e+06 0.000000e+00 -1.946454e+06 -1.946454e+06
## y[1000]     -3.387527e+06 0.000000e+00 -3.387527e+06 -3.387527e+06
## deviance     4.002776e+04 5.855200e+01  3.991477e+04  3.998782e+04
##                      50%          75%         97.5%  Rhat n.eff
## beta0       -3.393200e+01 1.764050e+02  5.820980e+02 1.001  4000
## beta1       -3.079671e+03 -2.871661e+03 -2.493379e+03 1.001 3500
## meanX        5.791600e+01 5.917000e+01  6.167700e+01 1.001  2800
## sigma2       3.519791e+12 3.637890e+12  3.879933e+12 1.001  4000
## sigma2X      3.519791e+12 3.637890e+12  3.879933e+12 1.001  4000
## x[1]         7.191300e+01 1.033960e+02  1.604780e+02 1.001  4000
## x[2]         5.835100e+01 8.950900e+01  1.468670e+02 1.001  4000
## x[3]         5.731000e+01 8.978200e+01  1.471840e+02 1.001  4000
## x[4]         5.727000e+01 8.691900e+01  1.471650e+02 1.001  4000
## x[5]         5.759800e+01 8.906700e+01  1.512620e+02 1.002  2300
## x[6]         5.770300e+01 8.923900e+01  1.470270e+02 1.001  3400
## x[7]         6.210600e+01 9.393700e+01  1.533900e+02 1.001  4000
## x[8]         3.830400e+01 3.830400e+01  3.830400e+01 1.000     1
## x[9]         6.526600e+01 6.526600e+01  6.526600e+01 1.000     1
## x[10]        2.689980e+02 2.689980e+02  2.689980e+02 1.000     1
## x[11]        8.569900e+01 8.569900e+01  8.569900e+01 1.000     1
## x[12]        3.216750e+02 3.216750e+02  3.216750e+02 1.000     1
## x[13]        2.781450e+02 2.781450e+02  2.781450e+02 1.000     1
## x[14]        5.980000e+01 9.187400e+01  1.505890e+02 1.001  2500
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## x[15]        2.396070e+02  2.396070e+02  2.396070e+02 1.000     1
## x[16]        6.019000e+01  9.115400e+01  1.474350e+02 1.001  4000
## x[17]        5.614400e+01  8.861700e+01  1.459340e+02 1.001  2700
## x[18]        5.772500e+01  8.843100e+01  1.465990e+02 1.001  4000
## x[19]        4.951800e+01  4.951800e+01  4.951800e+01 1.000     1
## x[20]        1.488160e+02  1.488160e+02  1.488160e+02 1.000     1
## x[21]        1.339750e+02  1.339750e+02  1.339750e+02 1.000     1
## x[22]        6.172800e+01  9.289300e+01  1.489440e+02 1.001  4000
## x[23]        1.805960e+02  1.805960e+02  1.805960e+02 1.000     1
## x[24]        5.793400e+01  8.850500e+01  1.514100e+02 1.002  1800
## x[25]        1.772920e+02  1.772920e+02  1.772920e+02 1.000     1
## x[26]        5.772800e+01  8.986300e+01  1.508610e+02 1.001  4000
## x[27]        1.252280e+02  1.252280e+02  1.252280e+02 1.000     1
## x[28]        1.091750e+02  1.091750e+02  1.091750e+02 1.000     1
## x[29]        5.833700e+01  8.940000e+01  1.487110e+02 1.001  4000
## x[30]        2.239400e+01  2.239400e+01  2.239400e+01 1.000     1
## x[31]       -3.708500e+01 -3.708500e+01 -3.708500e+01 1.000     1
## x[32]        1.218710e+02  1.218710e+02  1.218710e+02 1.000     1
## x[33]        6.106500e+01  6.106500e+01  6.106500e+01 1.000     1
## x[34]        5.775000e+01  8.891700e+01  1.503420e+02 1.001  4000
## x[35]        7.951000e+00  7.951000e+00  7.951000e+00 1.000     1
## x[36]        5.704100e+01  9.007700e+01  1.493090e+02 1.001  4000
## x[37]        6.170400e+01  9.170600e+01  1.524410e+02 1.001  3300
## x[38]       -6.051300e+01 -6.051300e+01 -6.051300e+01 1.000     1
## x[39]        3.577100e+01  3.577100e+01  3.577100e+01 1.000     1
## x[40]        8.149900e+01  8.149900e+01  8.149900e+01 1.000     1
## x[41]        1.718550e+02  1.718550e+02  1.718550e+02 1.000     1
## x[42]        5.631800e+01  8.804400e+01  1.468770e+02 1.001  3400
## x[43]        2.145700e+01  2.145700e+01  2.145700e+01 1.000     1
## x[44]       -8.115500e+01 -8.115500e+01 -8.115500e+01 1.000     1
## x[45]        5.702000e+01  8.829900e+01  1.440030e+02 1.001  3500
## x[46]        9.847000e+00  9.847000e+00  9.847000e+00 1.000     1
## x[47]        1.850520e+02  1.850520e+02  1.850520e+02 1.000     1
## x[48]        1.091190e+02  1.091190e+02  1.091190e+02 1.000     1
## x[49]        6.005300e+01  6.005300e+01  6.005300e+01 1.000     1
## x[50]        1.431070e+02  1.431070e+02  1.431070e+02 1.000     1
## x[51]        5.649000e+01  8.801200e+01  1.448690e+02 1.002  1800
## x[52]        4.923300e+01  4.923300e+01  4.923300e+01 1.000     1
## x[53]        8.671500e+01  8.671500e+01  8.671500e+01 1.000     1
## x[54]        2.207160e+02  2.207160e+02  2.207160e+02 1.000     1
## x[55]        1.223740e+02  1.223740e+02  1.223740e+02 1.000     1
## x[56]        9.810400e+01  9.810400e+01  9.810400e+01 1.000     1
## x[57]       -1.067870e+02 -1.067870e+02 -1.067870e+02 1.000     1
## x[58]        8.182500e+01  8.182500e+01  8.182500e+01 1.000     1
## x[59]        6.659900e+01  6.659900e+01  6.659900e+01 1.000     1
## x[60]       -3.999100e+01 -3.999100e+01 -3.999100e+01 1.000     1
## x[61]        5.763700e+01  5.763700e+01  5.763700e+01 1.000     1
## x[62]        5.828300e+01  8.923900e+01  1.497420e+02 1.001  4000
## x[63]        6.049500e+01  9.166100e+01  1.481350e+02 1.001  2500
## x[64]        1.204810e+02  1.204810e+02  1.204810e+02 1.000     1
## x[65]        8.189700e+01  8.189700e+01  8.189700e+01 1.000     1
## x[66]        1.609250e+02  1.609250e+02  1.609250e+02 1.000     1
## x[67]        1.269150e+02  1.269150e+02  1.269150e+02 1.000     1
## x[68]        6.059500e+01  9.133500e+01  1.518930e+02 1.001  4000
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## x[69]      1.760680e+02  1.760680e+02  1.760680e+02 1.000     1
## x[70]      6.070100e+01  9.111600e+01  1.493000e+02 1.001  4000
## x[71]      9.326300e+01  9.326300e+01  9.326300e+01 1.000     1
## x[72]     -4.226000e+01 -4.226000e+01 -4.226000e+01 1.000     1
## x[73]      5.805700e+01  8.951000e+01  1.454870e+02 1.001  4000
## x[74]     -3.666600e+01 -3.666600e+01 -3.666600e+01 1.000     1
## x[75]     -1.139520e+02 -1.139520e+02 -1.139520e+02 1.000     1
## x[76]      5.780600e+01  8.942600e+01  1.503790e+02 1.001  4000
## x[77]      5.702300e+01  8.856800e+01  1.476910e+02 1.001  4000
## x[78]     -5.760000e+00 -5.760000e+00 -5.760000e+00 1.000     1
## x[79]      4.376000e+01  4.376000e+01  4.376000e+01 1.000     1
## x[80]      7.159400e+01  1.033520e+02  1.628830e+02 1.001  4000
## x[81]      5.915000e+01  9.052300e+01  1.518080e+02 1.001  3800
## x[82]      5.042500e+01  5.042500e+01  5.042500e+01 1.000     1
## x[83]      5.836500e+01  8.906600e+01  1.499570e+02 1.001  4000
## x[84]      5.764400e+01  8.866800e+01  1.501900e+02 1.001  4000
## x[85]     -2.927000e+01 -2.927000e+01 -2.927000e+01 1.000     1
## x[86]      5.983400e+01  9.132300e+01  1.518630e+02 1.001  3500
## x[87]      1.539300e+01  1.539300e+01  1.539300e+01 1.000     1
## x[88]      5.763800e+01  9.043900e+01  1.507730e+02 1.001  4000
## x[89]      5.975000e+01  9.165900e+01  1.501600e+02 1.001  3400
## x[90]      1.087270e+02  1.087270e+02  1.087270e+02 1.000     1
## x[91]      6.586400e+01  9.690800e+01  1.582330e+02 1.001  3500
## x[92]     -1.454200e+01 -1.454200e+01 -1.454200e+01 1.000     1
## x[93]      1.118990e+02  1.118990e+02  1.118990e+02 1.000     1
## x[94]      5.925900e+01  9.065900e+01  1.492680e+02 1.001  4000
## x[95]      1.346500e+02  1.346500e+02  1.346500e+02 1.000     1
## x[96]      5.881500e+01  9.121300e+01  1.494870e+02 1.001  4000
## x[97]      1.617990e+02  1.617990e+02  1.617990e+02 1.000     1
## x[98]     -1.040000e+02 -1.040000e+02 -1.040000e+02 1.000     1
## x[99]      5.633400e+01  8.952900e+01  1.466070e+02 1.002  1300
## x[100]     3.493300e+01  3.493300e+01  3.493300e+01 1.000     1
## x[101]     1.019060e+02  1.019060e+02  1.019060e+02 1.000     1
## x[102]     1.087540e+02  1.087540e+02  1.087540e+02 1.000     1
## x[103]     4.206700e+01  4.206700e+01  4.206700e+01 1.000     1
## x[104]     5.940500e+01  8.966400e+01  1.480830e+02 1.001  4000
## x[105]     5.870100e+01  8.932700e+01  1.465810e+02 1.002  2200
## x[106]    -1.103880e+02 -1.103880e+02 -1.103880e+02 1.000     1
## x[107]     1.491290e+02  1.491290e+02  1.491290e+02 1.000     1
## x[108]     6.124100e+01  9.209900e+01  1.516740e+02 1.002  2400
## x[109]     5.924600e+01  9.088600e+01  1.494640e+02 1.001  4000
## x[110]     5.821300e+01  9.014800e+01  1.503970e+02 1.002  2000
## x[111]     7.374000e+00  7.374000e+00  7.374000e+00 1.000     1
## x[112]     9.589300e+01  9.589300e+01  9.589300e+01 1.000     1
## x[113]     6.029300e+01  8.938900e+01  1.504770e+02 1.001  3400
## x[114]     5.929600e+01  8.937600e+01  1.509420e+02 1.001  2500
## x[115]     5.825800e+01  8.918600e+01  1.480920e+02 1.001  4000
## x[116]     6.603900e+01  9.672800e+01  1.568090e+02 1.001  4000
## x[117]     5.947000e+01  9.011200e+01  1.515380e+02 1.001  4000
## x[118]     1.603450e+02  1.603450e+02  1.603450e+02 1.000     1
## x[119]     1.482770e+02  1.482770e+02  1.482770e+02 1.000     1
## x[120]     8.043300e+01  8.043300e+01  8.043300e+01 1.000     1
## x[121]     5.957600e+01  8.950300e+01  1.503730e+02 1.001  4000
## x[122]     2.069890e+02  2.069890e+02  2.069890e+02 1.000     1
```

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## x[123]     1.188450e+02  1.188450e+02  1.188450e+02 1.000     1
## x[124]     3.224000e+01  3.224000e+01  3.224000e+01 1.000     1
## x[125]     1.229200e+02  1.229200e+02  1.229200e+02 1.000     1
## x[126]     2.033250e+02  2.033250e+02  2.033250e+02 1.000     1
## x[127]     1.006580e+02  1.006580e+02  1.006580e+02 1.000     1
## x[128]     5.333300e+01  5.333300e+01  5.333300e+01 1.000     1
## x[129]     5.889500e+01  8.976300e+01  1.483470e+02 1.001  4000
## x[130]     1.519160e+02  1.519160e+02  1.519160e+02 1.000     1
## x[131]    -9.334000e+00 -9.334000e+00 -9.334000e+00 1.000     1
## x[132]     1.312410e+02  1.312410e+02  1.312410e+02 1.000     1
## x[133]     5.915300e+01  9.075500e+01  1.515890e+02 1.001  4000
## x[134]     8.683100e+01  8.683100e+01  8.683100e+01 1.000     1
## x[135]     1.634820e+02  1.634820e+02  1.634820e+02 1.000     1
## x[136]    -2.571000e+01 -2.571000e+01 -2.571000e+01 1.000     1
## x[137]     5.942900e+01  8.953600e+01  1.474790e+02 1.002  2100
## x[138]     1.415930e+02  1.415930e+02  1.415930e+02 1.000     1
## x[139]     5.854400e+01  8.924100e+01  1.505180e+02 1.001  4000
## x[140]     6.224700e+01  9.275500e+01  1.528780e+02 1.001  4000
## x[141]     5.987700e+01  9.176400e+01  1.497390e+02 1.002  1300
## x[142]    -3.747900e+01 -3.747900e+01 -3.747900e+01 1.000     1
## x[143]     5.758900e+01  8.849500e+01  1.504560e+02 1.001  4000
## x[144]     7.072100e+01  7.072100e+01  7.072100e+01 1.000     1
## x[145]     9.823600e+01  9.823600e+01  9.823600e+01 1.000     1
## x[146]     5.878100e+01  8.956900e+01  1.507190e+02 1.001  4000
## x[147]    -3.889300e+01 -3.889300e+01 -3.889300e+01 1.000     1
## x[148]     9.859400e+01  9.859400e+01  9.859400e+01 1.000     1
## x[149]     6.036900e+01  9.026000e+01  1.469540e+02 1.001  4000
## x[150]    -5.979200e+01 -5.979200e+01 -5.979200e+01 1.000     1
## x[151]     5.782000e+01  8.776500e+01  1.478610e+02 1.002  1800
## x[152]     1.597300e+02  1.597300e+02  1.597300e+02 1.000     1
## x[153]    -4.066900e+01 -4.066900e+01 -4.066900e+01 1.000     1
## x[154]     2.925400e+01  2.925400e+01  2.925400e+01 1.000     1
## x[155]     1.178860e+02  1.178860e+02  1.178860e+02 1.000     1
## x[156]    -2.977900e+01 -2.977900e+01 -2.977900e+01 1.000     1
## x[157]     6.090100e+01  9.201200e+01  1.509170e+02 1.001  4000
## x[158]     6.293300e+01  9.341500e+01  1.519490e+02 1.001  4000
## x[159]     6.523500e+01  9.648100e+01  1.536710e+02 1.001  4000
## x[160]     5.657400e+01  8.757000e+01  1.510990e+02 1.001  3600
## x[161]     5.956300e+01  9.082300e+01  1.527080e+02 1.002  2200
## x[162]     5.941900e+01  5.941900e+01  5.941900e+01 1.000     1
## x[163]     5.841000e+01  8.969800e+01  1.487970e+02 1.001  4000
## x[164]     6.072200e+01  9.167200e+01  1.481240e+02 1.001  4000
## x[165]     6.048400e+01  9.356500e+01  1.531180e+02 1.001  4000
## x[166]     1.806600e+01  1.806600e+01  1.806600e+01 1.000     1
## x[167]     5.747000e+01  9.095900e+01  1.491130e+02 1.001  4000
## x[168]     1.185050e+02  1.185050e+02  1.185050e+02 1.000     1
## x[169]     8.202400e+01  8.202400e+01  8.202400e+01 1.000     1
## x[170]    -1.414940e+02 -1.414940e+02 -1.414940e+02 1.000     1
## x[171]    -1.839960e+02 -1.839960e+02 -1.839960e+02 1.000     1
## x[172]     9.828600e+01  9.828600e+01  9.828600e+01 1.000     1
## x[173]     1.678530e+02  1.678530e+02  1.678530e+02 1.000     1
## x[174]    -7.927800e+01 -7.927800e+01 -7.927800e+01 1.000     1
## x[175]     6.001500e+01  9.090300e+01  1.514580e+02 1.001  3700
## x[176]     7.560400e+01  7.560400e+01  7.560400e+01 1.000     1
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## x[177]    1.227840e+02  1.227840e+02  1.227840e+02 1.000      1
## x[178]    1.824110e+02  1.824110e+02  1.824110e+02 1.000      1
## x[179]    6.471600e+01  6.471600e+01  6.471600e+01 1.000      1
## x[180]   -9.854000e+00 -9.854000e+00 -9.854000e+00 1.000      1
## x[181]    2.692530e+02  2.692530e+02  2.692530e+02 1.000      1
## x[182]    7.245300e+01  1.034220e+02  1.619370e+02 1.001   4000
## x[183]    1.634870e+02  1.634870e+02  1.634870e+02 1.000      1
## x[184]    5.944100e+01  9.018800e+01  1.454860e+02 1.001   3600
## x[185]    9.748400e+01  9.748400e+01  9.748400e+01 1.000      1
## x[186]    5.848700e+01  8.934500e+01  1.474890e+02 1.001   4000
## x[187]    6.296500e+01  9.221700e+01  1.548670e+02 1.001   2500
## x[188]    9.290200e+01  9.290200e+01  9.290200e+01 1.000      1
## x[189]    6.024200e+01  9.199300e+01  1.546060e+02 1.001   3200
## x[190]    5.690000e+01  8.841200e+01  1.440920e+02 1.001   4000
## x[191]   -1.431830e+02 -1.431830e+02 -1.431830e+02 1.000      1
## x[192]    1.709670e+02  1.709670e+02  1.709670e+02 1.000      1
## x[193]    2.210000e+01  2.210000e+01  2.210000e+01 1.000      1
## x[194]   -5.957800e+01 -5.957800e+01 -5.957800e+01 1.000      1
## x[195]    3.978100e+01  3.978100e+01  3.978100e+01 1.000      1
## x[196]    8.570200e+01  8.570200e+01  8.570200e+01 1.000      1
## x[197]    5.814300e+01  8.852300e+01  1.495140e+02 1.001   4000
## x[198]    5.719500e+01  8.836100e+01  1.491800e+02 1.001   4000
## x[199]   -8.102000e+00 -8.102000e+00 -8.102000e+00 1.000      1
## x[200]    1.144090e+02  1.144090e+02  1.144090e+02 1.000      1
## x[201]    6.992300e+01  9.949300e+01  1.577900e+02 1.001   4000
## x[202]    1.362490e+02  1.362490e+02  1.362490e+02 1.000      1
## x[203]    5.740800e+01  8.866600e+01  1.479780e+02 1.001   4000
## x[204]    5.995900e+01  9.061600e+01  1.517650e+02 1.001   4000
## x[205]    6.231900e+01  9.319300e+01  1.527110e+02 1.001   4000
## x[206]   -6.765300e+01 -6.765300e+01 -6.765300e+01 1.000      1
## x[207]   -1.093400e+01 -1.093400e+01 -1.093400e+01 1.000      1
## x[208]    8.872600e+01  8.872600e+01  8.872600e+01 1.000      1
## x[209]   -8.991400e+01 -8.991400e+01 -8.991400e+01 1.000      1
## x[210]    1.732490e+02  1.732490e+02  1.732490e+02 1.000      1
## x[211]    5.155100e+01  5.155100e+01  5.155100e+01 1.000      1
## x[212]   -1.120960e+02 -1.120960e+02 -1.120960e+02 1.000      1
## x[213]    5.693700e+01  8.860500e+01  1.482460e+02 1.001   4000
## x[214]    5.676200e+01  8.767600e+01  1.436920e+02 1.001   4000
## x[215]    5.836400e+01  8.942800e+01  1.487910e+02 1.001   4000
## x[216]    1.991600e+02  1.991600e+02  1.991600e+02 1.000      1
## x[217]    3.627200e+01  3.627200e+01  3.627200e+01 1.000      1
## x[218]    6.082800e+01  6.082800e+01  6.082800e+01 1.000      1
## x[219]    5.827700e+01  8.840500e+01  1.472840e+02 1.001   4000
## x[220]    5.526000e+00  5.526000e+00  5.526000e+00 1.000      1
## x[221]    3.039500e+01  3.039500e+01  3.039500e+01 1.000      1
## x[222]    5.829400e+01  8.901100e+01  1.483610e+02 1.001   4000
## x[223]    1.453520e+02  1.453520e+02  1.453520e+02 1.000      1
## x[224]    9.725500e+01  9.725500e+01  9.725500e+01 1.000      1
## x[225]   -5.878000e+00 -5.878000e+00 -5.878000e+00 1.000      1
## x[226]    1.742060e+02  1.742060e+02  1.742060e+02 1.000      1
## x[227]    5.807800e+01  8.953500e+01  1.487600e+02 1.002   1500
## x[228]   -2.917900e+01 -2.917900e+01 -2.917900e+01 1.000      1
## x[229]    9.838000e+00  9.838000e+00  9.838000e+00 1.000      1
## x[230]    6.102400e+01  9.206500e+01  1.523410e+02 1.001   4000
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## x[231]     1.471970e+02  1.471970e+02  1.471970e+02 1.000      1
## x[232]     5.787900e+01  8.917100e+01  1.470700e+02 1.002   1700
## x[233]     5.145600e+01  5.145600e+01  5.145600e+01 1.000      1
## x[234]     2.390600e+01  2.390600e+01  2.390600e+01 1.000      1
## x[235]     6.345800e+01  9.505500e+01  1.561430e+02 1.001   3600
## x[236]    -9.733700e+01 -9.733700e+01 -9.733700e+01 1.000      1
## x[237]     5.768000e+01  8.829300e+01  1.460110e+02 1.001   4000
## x[238]     5.245400e+01  5.245400e+01  5.245400e+01 1.000      1
## x[239]     4.987400e+01  4.987400e+01  4.987400e+01 1.000      1
## x[240]     6.607000e+00  6.607000e+00  6.607000e+00 1.000      1
## x[241]     9.444000e+00  9.444000e+00  9.444000e+00 1.000      1
## x[242]     6.552300e+01  6.552300e+01  6.552300e+01 1.000      1
## x[243]    -4.723800e+01 -4.723800e+01 -4.723800e+01 1.000      1
## x[244]     6.509800e+01  9.679600e+01  1.561650e+02 1.001   4000
## x[245]     5.991000e+01  9.011600e+01  1.494360e+02 1.001   4000
## x[246]     2.461530e+02  2.461530e+02  2.461530e+02 1.000      1
## x[247]     5.700200e+01  8.929500e+01  1.484370e+02 1.002   1500
## x[248]     5.801900e+01  8.955100e+01  1.494230e+02 1.001   4000
## x[249]    -1.328860e+02 -1.328860e+02 -1.328860e+02 1.000      1
## x[250]     1.305920e+02  1.305920e+02  1.305920e+02 1.000      1
## x[251]    -9.775900e+01 -9.775900e+01 -9.775900e+01 1.000      1
## x[252]     7.009900e+01  9.927100e+01  1.572390e+02 1.001   4000
## x[253]    -8.397600e+01 -8.397600e+01 -8.397600e+01 1.000      1
## x[254]     2.341600e+01  2.341600e+01  2.341600e+01 1.000      1
## x[255]     1.160100e+01  1.160100e+01  1.160100e+01 1.000      1
## x[256]     5.819300e+01  8.925400e+01  1.477560e+02 1.001   2600
## x[257]    -1.515200e+01 -1.515200e+01 -1.515200e+01 1.000      1
## x[258]     6.813000e+01  9.846200e+01  1.568810e+02 1.001   2800
## x[259]     4.809700e+01  4.809700e+01  4.809700e+01 1.000      1
## x[260]     6.552800e+01  6.552800e+01  6.552800e+01 1.000      1
## x[261]    -2.608500e+01 -2.608500e+01 -2.608500e+01 1.000      1
## x[262]    -1.049730e+02 -1.049730e+02 -1.049730e+02 1.000      1
## x[263]     3.250170e+02  3.250170e+02  3.250170e+02 1.000      1
## x[264]     1.547420e+02  1.547420e+02  1.547420e+02 1.000      1
## x[265]     6.075600e+01  9.108900e+01  1.519370e+02 1.001   4000
## x[266]     9.701100e+01  9.701100e+01  9.701100e+01 1.000      1
## x[267]     5.844200e+01  8.908200e+01  1.466220e+02 1.001   4000
## x[268]     5.421100e+01  5.421100e+01  5.421100e+01 1.000      1
## x[269]    -4.019000e+01 -4.019000e+01 -4.019000e+01 1.000      1
## x[270]     6.263400e+01  9.269000e+01  1.535870e+02 1.002   1700
## x[271]     1.303850e+02  1.303850e+02  1.303850e+02 1.000      1
## x[272]     8.184800e+01  8.184800e+01  8.184800e+01 1.000      1
## x[273]     5.701200e+01  8.875900e+01  1.468810e+02 1.001   3000
## x[274]     5.885600e+01  8.929100e+01  1.485340e+02 1.001   4000
## x[275]     6.454000e+01  6.454000e+01  6.454000e+01 1.000      1
## x[276]     7.235400e+01  1.032060e+02  1.662970e+02 1.001   4000
## x[277]     1.423620e+02  1.423620e+02  1.423620e+02 1.000      1
## x[278]     1.241880e+02  1.241880e+02  1.241880e+02 1.000      1
## x[279]     6.435100e+01  9.627800e+01  1.537340e+02 1.001   3400
## x[280]     1.751660e+02  1.751660e+02  1.751660e+02 1.000      1
## x[281]     2.608910e+02  2.608910e+02  2.608910e+02 1.000      1
## x[282]     1.210310e+02  1.210310e+02  1.210310e+02 1.000      1
## x[283]    -9.751800e+01 -9.751800e+01 -9.751800e+01 1.000      1
## x[284]    -8.973000e+00 -8.973000e+00 -8.973000e+00 1.000      1
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## x[285]    6.397000e+01  6.397000e+01  6.397000e+01 1.000     1
## x[286]    5.627000e+01  8.713600e+01  1.467140e+02 1.002  1600
## x[287]    5.716400e+01  8.887200e+01  1.448720e+02 1.001  4000
## x[288]    9.420400e+01  9.420400e+01  9.420400e+01 1.000     1
## x[289]    5.884200e+01  9.000300e+01  1.463780e+02 1.001  4000
## x[290]    1.471840e+02  1.471840e+02  1.471840e+02 1.000     1
## x[291]   -1.712700e+01 -1.712700e+01 -1.712700e+01 1.000     1
## x[292]    2.138400e+02  2.138400e+02  2.138400e+02 1.000     1
## x[293]    5.877100e+01  8.990200e+01  1.483220e+02 1.001  4000
## x[294]    5.754600e+01  8.846600e+01  1.447740e+02 1.001  4000
## x[295]    6.091800e+01  9.251800e+01  1.524930e+02 1.001  4000
## x[296]    5.182500e+01  5.182500e+01  5.182500e+01 1.000     1
## x[297]    2.529800e+01  2.529800e+01  2.529800e+01 1.000     1
## x[298]    5.754700e+01  8.894200e+01  1.453790e+02 1.001  4000
## x[299]   -1.673160e+02 -1.673160e+02 -1.673160e+02 1.000     1
## x[300]    5.721600e+01  8.900200e+01  1.471690e+02 1.001  4000
## x[301]    5.991800e+01  9.157800e+01  1.487090e+02 1.001  4000
## x[302]    2.242700e+01  2.242700e+01  2.242700e+01 1.000     1
## x[303]    5.547100e+01  5.547100e+01  5.547100e+01 1.000     1
## x[304]    1.117500e+01  1.117500e+01  1.117500e+01 1.000     1
## x[305]    8.298000e+00  8.298000e+00  8.298000e+00 1.000     1
## x[306]   -6.641800e+01 -6.641800e+01 -6.641800e+01 1.000     1
## x[307]    6.724800e+01  9.788300e+01  1.561100e+02 1.001  2500
## x[308]    2.459200e+01  2.459200e+01  2.459200e+01 1.000     1
## x[309]    5.658600e+01  8.838000e+01  1.491150e+02 1.001  3400
## x[310]    1.611200e+02  1.611200e+02  1.611200e+02 1.000     1
## x[311]    1.473500e+02  1.473500e+02  1.473500e+02 1.000     1
## x[312]    6.355600e+01  9.442500e+01  1.543370e+02 1.001  4000
## x[313]    2.276290e+02  2.276290e+02  2.276290e+02 1.000     1
## x[314]    6.656800e+01  9.788000e+01  1.582910e+02 1.001  3200
## x[315]    1.159860e+02  1.159860e+02  1.159860e+02 1.000     1
## x[316]    1.679450e+02  1.679450e+02  1.679450e+02 1.000     1
## x[317]    6.019600e+01  8.965500e+01  1.476890e+02 1.001  3700
## x[318]    5.861000e+01  8.932000e+01  1.472510e+02 1.002  2100
## x[319]    5.732000e+01  8.748900e+01  1.476280e+02 1.001  4000
## x[320]   -9.655100e+01 -9.655100e+01 -9.655100e+01 1.000     1
## x[321]    5.869300e+01  8.964600e+01  1.477090e+02 1.002  2300
## x[322]    5.820600e+01  8.980000e+01  1.470870e+02 1.001  4000
## x[323]    2.762940e+02  2.762940e+02  2.762940e+02 1.000     1
## x[324]    5.901300e+01  8.921400e+01  1.469640e+02 1.002  1600
## x[325]    6.045800e+01  9.072400e+01  1.509050e+02 1.001  3100
## x[326]   -1.131600e+01 -1.131600e+01 -1.131600e+01 1.000     1
## x[327]    6.525000e+01  6.525000e+01  6.525000e+01 1.000     1
## x[328]   -9.171000e+00 -9.171000e+00 -9.171000e+00 1.000     1
## x[329]   -4.607000e+01 -4.607000e+01 -4.607000e+01 1.000     1
## x[330]   -8.496000e+00 -8.496000e+00 -8.496000e+00 1.000     1
## x[331]    1.156670e+02  1.156670e+02  1.156670e+02 1.000     1
## x[332]    5.777000e+01  8.844200e+01  1.495390e+02 1.002  1900
## x[333]    1.404100e+02  1.404100e+02  1.404100e+02 1.000     1
## x[334]    5.904800e+01  8.950200e+01  1.467690e+02 1.002  2000
## x[335]    4.484300e+01  4.484300e+01  4.484300e+01 1.000     1
## x[336]    5.839100e+01  8.788100e+01  1.480950e+02 1.001  4000
## x[337]    5.773200e+01  8.967200e+01  1.501840e+02 1.002  1600
## x[338]    1.490320e+02  1.490320e+02  1.490320e+02 1.000     1
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## x[339]    5.731200e+01  8.900800e+01  1.485930e+02 1.001  4000
## x[340]    1.649630e+02  1.649630e+02  1.649630e+02 1.000     1
## x[341]    5.783600e+01  9.012100e+01  1.503510e+02 1.001  2700
## x[342]   -6.038200e+01 -6.038200e+01 -6.038200e+01 1.000     1
## x[343]    5.987400e+01  9.054500e+01  1.513010e+02 1.001  4000
## x[344]    5.861000e+01  9.146500e+01  1.477910e+02 1.002  1300
## x[345]    5.840500e+01  8.916700e+01  1.539530e+02 1.001  4000
## x[346]    1.593000e+02  1.593000e+02  1.593000e+02 1.000     1
## x[347]    1.735100e+02  1.735100e+02  1.735100e+02 1.000     1
## x[348]    5.753700e+01  8.893100e+01  1.468190e+02 1.001  4000
## x[349]    6.204900e+01  6.204900e+01  6.204900e+01 1.000     1
## x[350]    5.989800e+01  9.222300e+01  1.518300e+02 1.001  4000
## x[351]    9.913800e+01  9.913800e+01  9.913800e+01 1.000     1
## x[352]    4.309900e+01  4.309900e+01  4.309900e+01 1.000     1
## x[353]    5.928400e+01  8.956500e+01  1.452790e+02 1.001  4000
## x[354]    6.023100e+01  9.154200e+01  1.496600e+02 1.001  4000
## x[355]    1.799100e+01  1.799100e+01  1.799100e+01 1.000     1
## x[356]    5.817400e+01  8.965100e+01  1.478890e+02 1.001  4000
## x[357]   -1.073000e+00 -1.073000e+00 -1.073000e+00 1.000     1
## x[358]    6.153300e+01  9.329700e+01  1.525210e+02 1.002  2100
## x[359]   -4.518500e+01 -4.518500e+01 -4.518500e+01 1.000     1
## x[360]    7.194000e+01  1.043150e+02  1.607580e+02 1.001  4000
## x[361]    7.026900e+01  7.026900e+01  7.026900e+01 1.000     1
## x[362]    6.399200e+01  9.483000e+01  1.522460e+02 1.002  1800
## x[363]    4.433600e+01  4.433600e+01  4.433600e+01 1.000     1
## x[364]    5.628400e+01  5.628400e+01  5.628400e+01 1.000     1
## x[365]    6.017300e+01  9.075800e+01  1.481410e+02 1.001  4000
## x[366]   -9.231000e+00 -9.231000e+00 -9.231000e+00 1.000     1
## x[367]    5.825900e+01  9.094300e+01  1.488530e+02 1.002  2100
## x[368]    5.991100e+01  9.203500e+01  1.511510e+02 1.001  4000
## x[369]    2.612800e+02  2.612800e+02  2.612800e+02 1.000     1
## x[370]    1.417780e+02  1.417780e+02  1.417780e+02 1.000     1
## x[371]   -1.072850e+02 -1.072850e+02 -1.072850e+02 1.000     1
## x[372]    1.492640e+02  1.492640e+02  1.492640e+02 1.000     1
## x[373]    6.091200e+01  9.328900e+01  1.505040e+02 1.002  1700
## x[374]    5.811500e+01  8.993000e+01  1.468290e+02 1.001  4000
## x[375]    6.103500e+01  9.045800e+01  1.480650e+02 1.001  4000
## x[376]    5.898400e+01  8.921200e+01  1.492580e+02 1.002  2000
## x[377]    6.032500e+01  9.132300e+01  1.501900e+02 1.001  4000
## x[378]    7.797700e+01  7.797700e+01  7.797700e+01 1.000     1
## x[379]    6.166000e+01  9.225400e+01  1.522580e+02 1.001  4000
## x[380]   -1.231260e+02 -1.231260e+02 -1.231260e+02 1.000     1
## x[381]   -9.795800e+01 -9.795800e+01 -9.795800e+01 1.000     1
## x[382]    2.729810e+02  2.729810e+02  2.729810e+02 1.000     1
## x[383]    8.865000e+01  8.865000e+01  8.865000e+01 1.000     1
## x[384]    1.160270e+02  1.160270e+02  1.160270e+02 1.000     1
## x[385]    2.237600e+01  2.237600e+01  2.237600e+01 1.000     1
## x[386]    7.759300e+01  7.759300e+01  7.759300e+01 1.000     1
## x[387]   -1.774230e+02 -1.774230e+02 -1.774230e+02 1.000     1
## x[388]    1.408090e+02  1.408090e+02  1.408090e+02 1.000     1
## x[389]    5.698400e+01  8.759800e+01  1.456770e+02 1.001  4000
## x[390]    2.844700e+01  2.844700e+01  2.844700e+01 1.000     1
## x[391]   -2.334300e+01 -2.334300e+01 -2.334300e+01 1.000     1
## x[392]    5.983600e+01  9.225400e+01  1.477640e+02 1.001  4000
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## x[393]      5.608200e+01   8.820900e+01   1.473830e+02 1.001   4000
## x[394]     -1.191900e+01  -1.191900e+01  -1.191900e+01 1.000      1
## x[395]      7.440100e+01   7.440100e+01   7.440100e+01 1.000      1
## x[396]      8.717400e+01   8.717400e+01   8.717400e+01 1.000      1
## x[397]      5.919300e+01   9.180600e+01   1.496460e+02 1.001   4000
## x[398]      5.884100e+01   8.993900e+01   1.474390e+02 1.001   4000
## x[399]     -2.086900e+01  -2.086900e+01  -2.086900e+01 1.000      1
## x[400]      6.211000e+01   9.242500e+01   1.523370e+02 1.001   4000
## x[401]      1.802900e+01   1.802900e+01   1.802900e+01 1.000      1
## x[402]      6.252700e+01   9.361300e+01   1.521510e+02 1.002   2300
## x[403]      5.802100e+01   9.050700e+01   1.491220e+02 1.001   4000
## x[404]      1.748210e+02   1.748210e+02   1.748210e+02 1.000      1
## x[405]      1.940400e+02   1.940400e+02   1.940400e+02 1.000      1
## x[406]      1.261990e+02   1.261990e+02   1.261990e+02 1.000      1
## x[407]      1.059370e+02   1.059370e+02   1.059370e+02 1.000      1
## x[408]      2.099260e+02   2.099260e+02   2.099260e+02 1.000      1
## x[409]      4.015400e+01   4.015400e+01   4.015400e+01 1.000      1
## x[410]      5.797600e+01   8.829000e+01   1.463350e+02 1.001   4000
## x[411]      2.423400e+01   2.423400e+01   2.423400e+01 1.000      1
## x[412]     -1.533070e+02  -1.533070e+02  -1.533070e+02 1.000      1
## x[413]      1.086960e+02   1.086960e+02   1.086960e+02 1.000      1
## x[414]      6.605900e+01   6.605900e+01   6.605900e+01 1.000      1
## x[415]      5.530200e+01   8.660400e+01   1.480860e+02 1.001   4000
## x[416]      1.071690e+02   1.071690e+02   1.071690e+02 1.000      1
## x[417]     -4.655300e+01  -4.655300e+01  -4.655300e+01 1.000      1
## x[418]      8.180000e+01   8.180000e+01   8.180000e+01 1.000      1
## x[419]      5.783800e+01   8.794800e+01   1.507210e+02 1.002   2400
## x[420]     -4.126100e+01  -4.126100e+01  -4.126100e+01 1.000      1
## x[421]      6.071300e+01   9.349800e+01   1.503540e+02 1.001   4000
## x[422]      5.914700e+01   9.012800e+01   1.529280e+02 1.001   4000
## x[423]      3.912100e+01   3.912100e+01   3.912100e+01 1.000      1
## x[424]      2.066580e+02   2.066580e+02   2.066580e+02 1.000      1
## x[425]     -3.448500e+01  -3.448500e+01  -3.448500e+01 1.000      1
## x[426]      6.096800e+01   9.231200e+01   1.521040e+02 1.001   4000
## x[427]      8.008800e+01   8.008800e+01   8.008800e+01 1.000      1
## x[428]     -2.769700e+01  -2.769700e+01  -2.769700e+01 1.000      1
## x[429]      4.615700e+01   4.615700e+01   4.615700e+01 1.000      1
## x[430]      1.609490e+02   1.609490e+02   1.609490e+02 1.000      1
## x[431]      5.883100e+01   9.006100e+01   1.485610e+02 1.001   2600
## x[432]      1.366500e+01   1.366500e+01   1.366500e+01 1.000      1
## x[433]      5.855000e+01   8.838900e+01   1.469300e+02 1.001   4000
## x[434]      8.338700e+01   8.338700e+01   8.338700e+01 1.000      1
## x[435]      1.310230e+02   1.310230e+02   1.310230e+02 1.000      1
## x[436]     -1.183700e+02  -1.183700e+02  -1.183700e+02 1.000      1
## x[437]      1.165730e+02   1.165730e+02   1.165730e+02 1.000      1
## x[438]     -2.923900e+01  -2.923900e+01  -2.923900e+01 1.000      1
## x[439]      6.374200e+01   9.530800e+01   1.559540e+02 1.001   3700
## x[440]      5.948800e+01   9.099000e+01   1.501790e+02 1.001   2600
## x[441]      5.798100e+01   8.852400e+01   1.484520e+02 1.001   2500
## x[442]      6.815900e+01   9.723000e+01   1.538730e+02 1.001   2900
## x[443]      5.891300e+01   9.053900e+01   1.561850e+02 1.001   4000
## x[444]      2.677900e+01   2.677900e+01   2.677900e+01 1.000      1
## x[445]      5.856200e+01   9.007000e+01   1.510210e+02 1.001   4000
## x[446]      5.852000e+01   8.975600e+01   1.507780e+02 1.001   4000
```

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## x[447]     5.779300e+01   8.876800e+01   1.458490e+02 1.001   4000
## x[448]     5.900300e+01   8.969700e+01   1.453690e+02 1.001   4000
## x[449]     5.711500e+01   8.820300e+01   1.455140e+02 1.001   4000
## x[450]     5.800600e+01   8.981400e+01   1.502710e+02 1.001   4000
## x[451]    -8.058200e+01  -8.058200e+01  -8.058200e+01 1.000      1
## x[452]     6.882200e+01   9.783700e+01   1.569790e+02 1.001   4000
## x[453]    -2.556500e+01  -2.556500e+01  -2.556500e+01 1.000      1
## x[454]     5.765500e+01   8.807600e+01   1.498290e+02 1.001   3100
## x[455]     1.597160e+02   1.597160e+02   1.597160e+02 1.000      1
## x[456]    -4.466100e+01  -4.466100e+01  -4.466100e+01 1.000      1
## x[457]    -6.339600e+01  -6.339600e+01  -6.339600e+01 1.000      1
## x[458]     5.649700e+01   8.871700e+01   1.488310e+02 1.001   4000
## x[459]     5.930500e+01   9.104500e+01   1.521300e+02 1.002   1300
## x[460]     1.620400e+01   1.620400e+01   1.620400e+01 1.000      1
## x[461]     4.775500e+01   4.775500e+01   4.775500e+01 1.000      1
## x[462]     3.979500e+01   3.979500e+01   3.979500e+01 1.000      1
## x[463]     8.004100e+01   8.004100e+01   8.004100e+01 1.000      1
## x[464]     1.306620e+02   1.306620e+02   1.306620e+02 1.000      1
## x[465]     4.627900e+01   4.627900e+01   4.627900e+01 1.000      1
## x[466]     5.811500e+01   8.987100e+01   1.489220e+02 1.001   3400
## x[467]    -1.238900e+01  -1.238900e+01  -1.238900e+01 1.000      1
## x[468]     3.304000e+01   3.304000e+01   3.304000e+01 1.000      1
## x[469]     6.345000e+01   9.374400e+01   1.545040e+02 1.001   2600
## x[470]     5.799100e+01   8.931800e+01   1.479300e+02 1.001   3700
## x[471]     5.820700e+01   8.942400e+01   1.470730e+02 1.002   2200
## x[472]     7.268000e+00   7.268000e+00   7.268000e+00 1.000      1
## x[473]     4.431300e+01   4.431300e+01   4.431300e+01 1.000      1
## x[474]    -9.453800e+01  -9.453800e+01  -9.453800e+01 1.000      1
## x[475]     2.382810e+02   2.382810e+02   2.382810e+02 1.000      1
## x[476]     5.621100e+01   8.741100e+01   1.457620e+02 1.001   4000
## x[477]     9.211300e+01   9.211300e+01   9.211300e+01 1.000      1
## x[478]     6.740500e+01   9.724200e+01   1.562370e+02 1.001   4000
## x[479]     5.784600e+01   8.890700e+01   1.468240e+02 1.001   4000
## x[480]     4.443800e+01   4.443800e+01   4.443800e+01 1.000      1
## x[481]     5.810400e+01   8.945300e+01   1.478430e+02 1.001   3800
## x[482]     7.071800e+01   1.035650e+02   1.628910e+02 1.001   4000
## x[483]     5.682100e+01   8.838900e+01   1.493390e+02 1.001   4000
## x[484]     5.864100e+01   8.885600e+01   1.499970e+02 1.001   4000
## x[485]     2.303600e+01   2.303600e+01   2.303600e+01 1.000      1
## x[486]     1.344470e+02   1.344470e+02   1.344470e+02 1.000      1
## x[487]     6.451600e+01   9.566500e+01   1.541030e+02 1.001   3200
## x[488]    -1.066240e+02  -1.066240e+02  -1.066240e+02 1.000      1
## x[489]     6.690400e+01   6.690400e+01   6.690400e+01 1.000      1
## x[490]     5.971300e+01   9.068900e+01   1.475190e+02 1.001   4000
## x[491]     1.494930e+02   1.494930e+02   1.494930e+02 1.000      1
## x[492]     1.743910e+02   1.743910e+02   1.743910e+02 1.000      1
## x[493]     4.637400e+01   4.637400e+01   4.637400e+01 1.000      1
## x[494]     8.874000e+00   8.874000e+00   8.874000e+00 1.000      1
## x[495]     1.784150e+02   1.784150e+02   1.784150e+02 1.000      1
## x[496]    -6.178100e+01  -6.178100e+01  -6.178100e+01 1.000      1
## x[497]     5.823300e+01   8.975300e+01   1.483040e+02 1.001   4000
## x[498]     6.640500e+01   9.750400e+01   1.554090e+02 1.002   1500
## x[499]     1.399150e+02   1.399150e+02   1.399150e+02 1.000      1
## x[500]     5.961700e+01   8.965600e+01   1.487180e+02 1.002   1800
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## x[501]     2.939800e+01  2.939800e+01  2.939800e+01 1.000     1
## x[502]     5.700800e+01  8.780000e+01  1.464870e+02 1.001  4000
## x[503]    -1.854500e+01 -1.854500e+01 -1.854500e+01 1.000     1
## x[504]     1.504820e+02  1.504820e+02  1.504820e+02 1.000     1
## x[505]    -2.726500e+01 -2.726500e+01 -2.726500e+01 1.000     1
## x[506]    -1.493730e+02 -1.493730e+02 -1.493730e+02 1.000     1
## x[507]     5.987100e+01  9.122700e+01  1.489940e+02 1.001  3400
## x[508]    -6.316000e+00 -6.316000e+00 -6.316000e+00 1.000     1
## x[509]     5.851300e+01  9.020100e+01  1.492200e+02 1.001  4000
## x[510]     6.187000e+01  9.211200e+01  1.492550e+02 1.001  4000
## x[511]     5.730800e+01  8.734400e+01  1.442920e+02 1.002  2400
## x[512]     2.618370e+02  2.618370e+02  2.618370e+02 1.000     1
## x[513]     6.528900e+01  9.616000e+01  1.560070e+02 1.001  3200
## x[514]     1.064770e+02  1.064770e+02  1.064770e+02 1.000     1
## x[515]    -5.813000e+01 -5.813000e+01 -5.813000e+01 1.000     1
## x[516]    -4.419800e+01 -4.419800e+01 -4.419800e+01 1.000     1
## x[517]     2.558200e+01  2.558200e+01  2.558200e+01 1.000     1
## x[518]     1.585490e+02  1.585490e+02  1.585490e+02 1.000     1
## x[519]     1.058340e+02  1.058340e+02  1.058340e+02 1.000     1
## x[520]    -1.676230e+02 -1.676230e+02 -1.676230e+02 1.000     1
## x[521]     1.377300e+02  1.377300e+02  1.377300e+02 1.000     1
## x[522]     1.342540e+02  1.342540e+02  1.342540e+02 1.000     1
## x[523]     4.484200e+01  4.484200e+01  4.484200e+01 1.000     1
## x[524]    -1.901200e+01 -1.901200e+01 -1.901200e+01 1.000     1
## x[525]    -1.338980e+02 -1.338980e+02 -1.338980e+02 1.000     1
## x[526]     5.744000e+01  9.016900e+01  1.468930e+02 1.001  4000
## x[527]     6.226600e+01  9.391100e+01  1.527700e+02 1.001  4000
## x[528]     1.234350e+02  1.234350e+02  1.234350e+02 1.000     1
## x[529]     6.458100e+01  6.458100e+01  6.458100e+01 1.000     1
## x[530]     5.801100e+01  8.820500e+01  1.475430e+02 1.001  3000
## x[531]    -6.122000e+00 -6.122000e+00 -6.122000e+00 1.000     1
## x[532]     8.347900e+01  8.347900e+01  8.347900e+01 1.000     1
## x[533]     5.320200e+01  5.320200e+01  5.320200e+01 1.000     1
## x[534]     6.224800e+01  9.469000e+01  1.511460e+02 1.001  4000
## x[535]     5.764200e+01  8.821100e+01  1.471600e+02 1.001  4000
## x[536]     5.746500e+01  8.918400e+01  1.507030e+02 1.002  1900
## x[537]     5.750700e+01  8.924300e+01  1.497760e+02 1.001  3300
## x[538]    -7.607100e+01 -7.607100e+01 -7.607100e+01 1.000     1
## x[539]    -1.836100e+01 -1.836100e+01 -1.836100e+01 1.000     1
## x[540]     3.365600e+01  3.365600e+01  3.365600e+01 1.000     1
## x[541]     6.153000e+00  6.153000e+00  6.153000e+00 1.000     1
## x[542]    -7.870000e+00 -7.870000e+00 -7.870000e+00 1.000     1
## x[543]     2.081090e+02  2.081090e+02  2.081090e+02 1.000     1
## x[544]     2.040660e+02  2.040660e+02  2.040660e+02 1.000     1
## x[545]     6.159300e+01  9.210200e+01  1.525210e+02 1.001  4000
## x[546]     4.362500e+01  4.362500e+01  4.362500e+01 1.000     1
## x[547]     5.708400e+01  8.794800e+01  1.491780e+02 1.001  3200
## x[548]    -5.339500e+01 -5.339500e+01 -5.339500e+01 1.000     1
## x[549]     2.039400e+01  2.039400e+01  2.039400e+01 1.000     1
## x[550]     5.813400e+01  9.119000e+01  1.485740e+02 1.002  1900
## x[551]     4.728100e+01  4.728100e+01  4.728100e+01 1.000     1
## x[552]     2.061390e+02  2.061390e+02  2.061390e+02 1.000     1
## x[553]    -4.910800e+01 -4.910800e+01 -4.910800e+01 1.000     1
## x[554]     5.821200e+01  8.863700e+01  1.484480e+02 1.002  1800
```

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## x[555]    5.871500e+01  8.863400e+01  1.474130e+02 1.001  4000
## x[556]    5.837000e+01  8.928800e+01  1.476060e+02 1.002  2400
## x[557]    3.697500e+01  3.697500e+01  3.697500e+01 1.000     1
## x[558]    6.550900e+01  6.550900e+01  6.550900e+01 1.000     1
## x[559]    1.777340e+02  1.777340e+02  1.777340e+02 1.000     1
## x[560]    1.553550e+02  1.553550e+02  1.553550e+02 1.000     1
## x[561]    1.282800e+01  1.282800e+01  1.282800e+01 1.000     1
## x[562]    3.968700e+01  3.968700e+01  3.968700e+01 1.000     1
## x[563]    7.481000e+01  1.058790e+02  1.684150e+02 1.001  4000
## x[564]   -2.772600e+01 -2.772600e+01 -2.772600e+01 1.000     1
## x[565]    6.146100e+01  9.125400e+01  1.530960e+02 1.001  4000
## x[566]    5.225500e+01  5.225500e+01  5.225500e+01 1.000     1
## x[567]    5.941700e+01  9.058600e+01  1.478220e+02 1.002  2200
## x[568]    5.689900e+01  8.742100e+01  1.471980e+02 1.002  2200
## x[569]    5.901100e+01  8.928300e+01  1.499560e+02 1.001  4000
## x[570]    2.869400e+01  2.869400e+01  2.869400e+01 1.000     1
## x[571]    1.971210e+02  1.971210e+02  1.971210e+02 1.000     1
## x[572]    9.663900e+01  9.663900e+01  9.663900e+01 1.000     1
## x[573]    6.898100e+01  1.001450e+02  1.580320e+02 1.001  3300
## x[574]    2.423400e+02  2.423400e+02  2.423400e+02 1.000     1
## x[575]    5.680300e+01  8.921300e+01  1.469160e+02 1.001  4000
## x[576]    1.137200e+01  1.137200e+01  1.137200e+01 1.000     1
## x[577]    5.797500e+01  8.758600e+01  1.469300e+02 1.001  3500
## x[578]    9.799000e+00  9.799000e+00  9.799000e+00 1.000     1
## x[579]    6.151400e+01  9.031500e+01  1.512170e+02 1.001  3000
## x[580]    5.797600e+01  8.784900e+01  1.486680e+02 1.001  3700
## x[581]    8.310300e+01  8.310300e+01  8.310300e+01 1.000     1
## x[582]    5.659200e+01  8.818900e+01  1.497630e+02 1.001  4000
## x[583]    6.012200e+01  9.286800e+01  1.500590e+02 1.001  2500
## x[584]   -1.579000e+00 -1.579000e+00 -1.579000e+00 1.000     1
## x[585]    5.997400e+01  9.097200e+01  1.492380e+02 1.002  1900
## x[586]    2.119610e+02  2.119610e+02  2.119610e+02 1.000     1
## x[587]    6.008500e+01  9.056700e+01  1.475430e+02 1.001  4000
## x[588]    1.755260e+02  1.755260e+02  1.755260e+02 1.000     1
## x[589]   -7.491000e+00 -7.491000e+00 -7.491000e+00 1.000     1
## x[590]    8.160900e+01  8.160900e+01  8.160900e+01 1.000     1
## x[591]   -1.687870e+02 -1.687870e+02 -1.687870e+02 1.000     1
## x[592]    2.872100e+02  2.872100e+02  2.872100e+02 1.000     1
## x[593]    1.476580e+02  1.476580e+02  1.476580e+02 1.000     1
## x[594]    1.114450e+02  1.114450e+02  1.114450e+02 1.000     1
## x[595]    1.847400e+01  1.847400e+01  1.847400e+01 1.000     1
## x[596]    7.310400e+01  7.310400e+01  7.310400e+01 1.000     1
## x[597]    2.575480e+02  2.575480e+02  2.575480e+02 1.000     1
## x[598]    1.152680e+02  1.152680e+02  1.152680e+02 1.000     1
## x[599]    5.805500e+01  8.864700e+01  1.462050e+02 1.001  4000
## x[600]    5.953400e+01  8.984500e+01  1.478840e+02 1.002  1900
## x[601]    5.959100e+01  8.984200e+01  1.500820e+02 1.001  4000
## x[602]    5.735000e+01  8.875700e+01  1.472380e+02 1.001  4000
## x[603]    5.676800e+01  8.825000e+01  1.479430e+02 1.001  4000
## x[604]    5.901400e+01  9.035500e+01  1.503780e+02 1.001  4000
## x[605]    6.431200e+01  6.431200e+01  6.431200e+01 1.000     1
## x[606]    6.049500e+01  6.049500e+01  6.049500e+01 1.000     1
## x[607]    1.102200e+02  1.102200e+02  1.102200e+02 1.000     1
## x[608]    3.816000e+01  3.816000e+01  3.816000e+01 1.000     1
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## x[609]    5.803100e+01    8.974400e+01    1.478250e+02 1.001    4000
## x[610]    5.844000e+01    8.838000e+01    1.492710e+02 1.001    2800
## x[611]    5.636200e+01    5.636200e+01    5.636200e+01 1.000       1
## x[612]    1.966200e+02    1.966200e+02    1.966200e+02 1.000       1
## x[613]    2.737000e+00    2.737000e+00    2.737000e+00 1.000       1
## x[614]    5.794000e+01    8.711000e+01    1.479630e+02 1.001    4000
## x[615]    5.849800e+01    9.061300e+01    1.505320e+02 1.001    4000
## x[616]    6.011300e+01    9.127300e+01    1.503450e+02 1.001    4000
## x[617]   -4.490800e+01   -4.490800e+01   -4.490800e+01 1.000       1
## x[618]    1.404790e+02    1.404790e+02    1.404790e+02 1.000       1
## x[619]    1.598900e+01    1.598900e+01    1.598900e+01 1.000       1
## x[620]    2.031010e+02    2.031010e+02    2.031010e+02 1.000       1
## x[621]    8.894000e+01    8.894000e+01    8.894000e+01 1.000       1
## x[622]    9.959800e+01    9.959800e+01    9.959800e+01 1.000       1
## x[623]    1.144860e+02    1.144860e+02    1.144860e+02 1.000       1
## x[624]    5.800700e+01    8.834600e+01    1.513620e+02 1.002    1400
## x[625]   -8.568700e+01   -8.568700e+01   -8.568700e+01 1.000       1
## x[626]    5.885600e+01    9.008800e+01    1.483960e+02 1.001    4000
## x[627]   -1.488300e+02   -1.488300e+02   -1.488300e+02 1.000       1
## x[628]    1.418610e+02    1.418610e+02    1.418610e+02 1.000       1
## x[629]   -2.287800e+01   -2.287800e+01   -2.287800e+01 1.000       1
## x[630]    2.793900e+01    2.793900e+01    2.793900e+01 1.000       1
## x[631]    8.043500e+01    8.043500e+01    8.043500e+01 1.000       1
## x[632]    1.492650e+02    1.492650e+02    1.492650e+02 1.000       1
## x[633]    4.267300e+01    4.267300e+01    4.267300e+01 1.000       1
## x[634]    5.740100e+01    8.821100e+01    1.489700e+02 1.001    4000
## x[635]    6.359100e+01    9.301500e+01    1.547650e+02 1.001    4000
## x[636]    7.533400e+01    7.533400e+01    7.533400e+01 1.000       1
## x[637]    5.607600e+01    8.810900e+01    1.489700e+02 1.001    4000
## x[638]    5.732800e+01    8.899900e+01    1.473900e+02 1.001    4000
## x[639]    6.223800e+01    9.446100e+01    1.535850e+02 1.001    4000
## x[640]    6.143300e+01    9.158700e+01    1.499470e+02 1.001    4000
## x[641]    1.448890e+02    1.448890e+02    1.448890e+02 1.000       1
## x[642]    5.962100e+01    8.913700e+01    1.467410e+02 1.001    4000
## x[643]   -1.086970e+02   -1.086970e+02   -1.086970e+02 1.000       1
## x[644]    4.784200e+01    4.784200e+01    4.784200e+01 1.000       1
## x[645]    5.959200e+01    8.909100e+01    1.475650e+02 1.001    4000
## x[646]    5.776200e+01    8.857400e+01    1.466350e+02 1.001    4000
## x[647]   -5.411200e+01   -5.411200e+01   -5.411200e+01 1.000       1
## x[648]    5.147900e+01    5.147900e+01    5.147900e+01 1.000       1
## x[649]   -1.089400e+02   -1.089400e+02   -1.089400e+02 1.000       1
## x[650]   -6.771200e+01   -6.771200e+01   -6.771200e+01 1.000       1
## x[651]    5.970200e+01    9.116000e+01    1.499480e+02 1.001    3100
## x[652]    2.398010e+02    2.398010e+02    2.398010e+02 1.000       1
## x[653]    5.835100e+01    8.837500e+01    1.515540e+02 1.001    4000
## x[654]    6.003300e+01    9.193800e+01    1.508980e+02 1.001    4000
## x[655]   -3.572500e+01   -3.572500e+01   -3.572500e+01 1.000       1
## x[656]    3.789400e+01    3.789400e+01    3.789400e+01 1.000       1
## x[657]    5.856000e+01    8.796200e+01    1.508460e+02 1.001    4000
## x[658]    5.781200e+01    8.870600e+01    1.519310e+02 1.001    4000
## x[659]    5.649800e+01    8.846000e+01    1.496970e+02 1.002    4000
## x[660]    2.348210e+02    2.348210e+02    2.348210e+02 1.000       1
## x[661]    5.899300e+01    8.879300e+01    1.473120e+02 1.001    4000
## x[662]    5.805000e+01    9.070800e+01    1.486150e+02 1.001    4000
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## x[663]      6.083500e+01   9.184200e+01   1.489550e+02 1.001   3600
## x[664]      1.538930e+02   1.538930e+02   1.538930e+02 1.000      1
## x[665]     -1.250000e+01  -1.250000e+01  -1.250000e+01 1.000      1
## x[666]      4.423100e+01   4.423100e+01   4.423100e+01 1.000      1
## x[667]      5.945900e+01   8.997400e+01   1.497000e+02 1.002   2000
## x[668]      6.875500e+01   6.875500e+01   6.875500e+01 1.000      1
## x[669]      6.822000e+00   6.822000e+00   6.822000e+00 1.000      1
## x[670]     -1.305800e+02  -1.305800e+02  -1.305800e+02 1.000      1
## x[671]      3.283200e+01   3.283200e+01   3.283200e+01 1.000      1
## x[672]     -2.375000e+01  -2.375000e+01  -2.375000e+01 1.000      1
## x[673]      5.654800e+01   8.632600e+01   1.455130e+02 1.001   3400
## x[674]      5.612400e+01   8.753300e+01   1.494440e+02 1.001   4000
## x[675]      3.040700e+01   3.040700e+01   3.040700e+01 1.000      1
## x[676]      6.053500e+01   9.033100e+01   1.473440e+02 1.001   4000
## x[677]     -4.301500e+01  -4.301500e+01  -4.301500e+01 1.000      1
## x[678]     -2.532600e+01  -2.532600e+01  -2.532600e+01 1.000      1
## x[679]      3.883000e+01   3.883000e+01   3.883000e+01 1.000      1
## x[680]      2.931000e+00   2.931000e+00   2.931000e+00 1.000      1
## x[681]     -3.659200e+01  -3.659200e+01  -3.659200e+01 1.000      1
## x[682]     -1.071240e+02  -1.071240e+02  -1.071240e+02 1.000      1
## x[683]      5.972400e+01   9.012500e+01   1.476890e+02 1.001   4000
## x[684]      5.807100e+01   8.872400e+01   1.437290e+02 1.001   4000
## x[685]      5.796100e+01   8.901200e+01   1.489260e+02 1.001   3300
## x[686]      6.119500e+01   9.203000e+01   1.533400e+02 1.001   4000
## x[687]      8.756400e+01   8.756400e+01   8.756400e+01 1.000      1
## x[688]     -4.928700e+01  -4.928700e+01  -4.928700e+01 1.000      1
## x[689]      6.051600e+01   9.120700e+01   1.513660e+02 1.001   4000
## x[690]      5.925100e+01   8.914500e+01   1.484910e+02 1.001   3300
## x[691]      4.948100e+01   4.948100e+01   4.948100e+01 1.000      1
## x[692]      3.644900e+01   3.644900e+01   3.644900e+01 1.000      1
## x[693]      1.799310e+02   1.799310e+02   1.799310e+02 1.000      1
## x[694]      6.132300e+01   9.310600e+01   1.498360e+02 1.002   1800
## x[695]      1.711920e+02   1.711920e+02   1.711920e+02 1.000      1
## x[696]     -9.188000e+00  -9.188000e+00  -9.188000e+00 1.000      1
## x[697]      8.380100e+01   8.380100e+01   8.380100e+01 1.000      1
## x[698]      1.936620e+02   1.936620e+02   1.936620e+02 1.000      1
## x[699]      9.033300e+01   9.033300e+01   9.033300e+01 1.000      1
## x[700]      5.785400e+01   8.729400e+01   1.455100e+02 1.002   2100
## x[701]      1.843120e+02   1.843120e+02   1.843120e+02 1.000      1
## x[702]      5.745300e+01   8.903700e+01   1.498970e+02 1.002   1400
## x[703]      1.472600e+02   1.472600e+02   1.472600e+02 1.000      1
## x[704]      6.051600e+01   9.152900e+01   1.526330e+02 1.001   4000
## x[705]      4.477700e+01   4.477700e+01   4.477700e+01 1.000      1
## x[706]     -9.350200e+01  -9.350200e+01  -9.350200e+01 1.000      1
## x[707]      1.551050e+02   1.551050e+02   1.551050e+02 1.000      1
## x[708]      6.844000e+01   1.000530e+02   1.640720e+02 1.001   4000
## x[709]      1.200380e+02   1.200380e+02   1.200380e+02 1.000      1
## x[710]     -6.730800e+01  -6.730800e+01  -6.730800e+01 1.000      1
## x[711]      4.990000e-01   4.990000e-01   4.990000e-01 1.000      1
## x[712]      7.786800e+01   7.786800e+01   7.786800e+01 1.000      1
## x[713]      1.215710e+02   1.215710e+02   1.215710e+02 1.000      1
## x[714]     -1.663290e+02  -1.663290e+02  -1.663290e+02 1.000      1
## x[715]      5.586800e+01   8.607300e+01   1.457460e+02 1.002   2100
## x[716]     -4.752900e+01  -4.752900e+01  -4.752900e+01 1.000      1
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## x[717]    5.891800e+01  8.712600e+01  1.508660e+02 1.001  3200
## x[718]    8.083900e+01  8.083900e+01  8.083900e+01 1.000     1
## x[719]    9.217900e+01  9.217900e+01  9.217900e+01 1.000     1
## x[720]    9.386600e+01  9.386600e+01  9.386600e+01 1.000     1
## x[721]    5.806600e+01  8.803100e+01  1.482990e+02 1.001  4000
## x[722]    5.738300e+01  8.893400e+01  1.466930e+02 1.001  4000
## x[723]    7.542900e+01  7.542900e+01  7.542900e+01 1.000     1
## x[724]    5.938700e+01  8.933300e+01  1.483270e+02 1.001  3700
## x[725]    5.868200e+01  8.925700e+01  1.507760e+02 1.001  4000
## x[726]    1.251900e+02  1.251900e+02  1.251900e+02 1.000     1
## x[727]    5.770500e+01  8.879000e+01  1.480170e+02 1.001  4000
## x[728]    1.878000e+01  1.878000e+01  1.878000e+01 1.000     1
## x[729]    5.700400e+01  8.962600e+01  1.484220e+02 1.001  4000
## x[730]    6.150200e+01  9.223500e+01  1.498010e+02 1.001  3400
## x[731]    8.736400e+01  8.736400e+01  8.736400e+01 1.000     1
## x[732]    5.874500e+01  8.966600e+01  1.476680e+02 1.001  3900
## x[733]    2.108800e+01  2.108800e+01  2.108800e+01 1.000     1
## x[734]    1.170400e+01  1.170400e+01  1.170400e+01 1.000     1
## x[735]    1.418710e+02  1.418710e+02  1.418710e+02 1.000     1
## x[736]    1.517050e+02  1.517050e+02  1.517050e+02 1.000     1
## x[737]    5.973600e+01  9.150100e+01  1.511270e+02 1.001  4000
## x[738]    1.861500e+02  1.861500e+02  1.861500e+02 1.000     1
## x[739]    2.762000e+01  2.762000e+01  2.762000e+01 1.000     1
## x[740]    6.193400e+01  9.207800e+01  1.494240e+02 1.001  4000
## x[741]    3.579200e+01  3.579200e+01  3.579200e+01 1.000     1
## x[742]    5.971000e+01  9.128200e+01  1.513300e+02 1.001  3500
## x[743]    6.218200e+01  9.245300e+01  1.497910e+02 1.001  4000
## x[744]    3.461490e+02  3.461490e+02  3.461490e+02 1.000     1
## x[745]    6.066300e+01  9.057200e+01  1.522480e+02 1.001  3400
## x[746]    8.482300e+01  8.482300e+01  8.482300e+01 1.000     1
## x[747]    5.668100e+01  8.830500e+01  1.490940e+02 1.001  4000
## x[748]    9.999400e+01  9.999400e+01  9.999400e+01 1.000     1
## x[749]    5.644700e+01  8.801800e+01  1.489810e+02 1.001  4000
## x[750]    5.814600e+01  8.965600e+01  1.491010e+02 1.001  4000
## x[751]    2.483800e+02  2.483800e+02  2.483800e+02 1.000     1
## x[752]   -1.244090e+02 -1.244090e+02 -1.244090e+02 1.000     1
## x[753]    6.104700e+01  9.098300e+01  1.523390e+02 1.001  4000
## x[754]   -1.479350e+02 -1.479350e+02 -1.479350e+02 1.000     1
## x[755]    6.033600e+01  9.106000e+01  1.513470e+02 1.001  4000
## x[756]    1.158300e+01  1.158300e+01  1.158300e+01 1.000     1
## x[757]    5.639500e+01  8.819600e+01  1.496890e+02 1.001  4000
## x[758]    5.943700e+01  8.907000e+01  1.483350e+02 1.001  4000
## x[759]    6.090000e+01  6.090000e+01  6.090000e+01 1.000     1
## x[760]    5.842900e+01  8.972700e+01  1.507200e+02 1.002  1700
## x[761]    6.716000e+01  9.831000e+01  1.528400e+02 1.002  1800
## x[762]    1.954990e+02  1.954990e+02  1.954990e+02 1.000     1
## x[763]    5.866800e+01  8.791000e+01  1.485190e+02 1.001  4000
## x[764]    1.788500e+01  1.788500e+01  1.788500e+01 1.000     1
## x[765]    4.814000e+01  4.814000e+01  4.814000e+01 1.000     1
## x[766]   -8.217000e+01 -8.217000e+01 -8.217000e+01 1.000     1
## x[767]    5.856100e+01  8.993200e+01  1.475590e+02 1.001  3600
## x[768]    5.989200e+01  9.132900e+01  1.508860e+02 1.001  2700
## x[769]    6.082000e+01  9.156900e+01  1.510770e+02 1.001  4000
## x[770]   -3.538600e+01 -3.538600e+01 -3.538600e+01 1.000     1
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## x[771]     6.053500e+01  9.174800e+01  1.507270e+02 1.002   1700
## x[772]     6.542300e+01  9.698300e+01  1.568550e+02 1.001   4000
## x[773]    -5.050500e+01 -5.050500e+01 -5.050500e+01 1.000      1
## x[774]     5.844300e+01  8.995900e+01  1.486010e+02 1.001   4000
## x[775]     6.201300e+01  9.325600e+01  1.543200e+02 1.001   4000
## x[776]     5.482900e+01  5.482900e+01  5.482900e+01 1.000      1
## x[777]     2.789100e+01  2.789100e+01  2.789100e+01 1.000      1
## x[778]     5.667800e+01  8.869800e+01  1.484600e+02 1.001   4000
## x[779]     5.871900e+01  8.961500e+01  1.467700e+02 1.001   2600
## x[780]     5.858500e+01  8.847500e+01  1.465850e+02 1.001   4000
## x[781]     6.066000e+01  9.035700e+01  1.508030e+02 1.001   4000
## x[782]     2.101260e+02  2.101260e+02  2.101260e+02 1.000      1
## x[783]     8.872600e+01  8.872600e+01  8.872600e+01 1.000      1
## x[784]     6.177600e+01  9.172600e+01  1.522740e+02 1.002   1900
## x[785]     9.992700e+01  9.992700e+01  9.992700e+01 1.000      1
## x[786]    -7.148000e+00 -7.148000e+00 -7.148000e+00 1.000      1
## x[787]     5.807800e+01  8.831300e+01  1.487530e+02 1.001   4000
## x[788]     5.660000e+01  8.746700e+01  1.487410e+02 1.001   3300
## x[789]     7.524400e+01  7.524400e+01  7.524400e+01 1.000      1
## x[790]     7.276600e+01  7.276600e+01  7.276600e+01 1.000      1
## x[791]     5.792900e+01  9.095700e+01  1.474080e+02 1.001   4000
## x[792]     6.069300e+01  9.242500e+01  1.520910e+02 1.001   4000
## x[793]     5.653300e+01  8.804900e+01  1.445820e+02 1.002   2100
## x[794]    -1.880490e+02 -1.880490e+02 -1.880490e+02 1.000      1
## x[795]     5.988700e+01  9.069000e+01  1.489630e+02 1.001   4000
## x[796]     5.791000e+01  8.958400e+01  1.504400e+02 1.001   4000
## x[797]     1.132340e+02  1.132340e+02  1.132340e+02 1.000      1
## x[798]     1.644960e+02  1.644960e+02  1.644960e+02 1.000      1
## x[799]    -5.816600e+01 -5.816600e+01 -5.816600e+01 1.000      1
## x[800]     5.673000e+01  8.686200e+01  1.466230e+02 1.001   4000
## x[801]     6.287000e+01  6.287000e+01  6.287000e+01 1.000      1
## x[802]    -4.987000e+00 -4.987000e+00 -4.987000e+00 1.000      1
## x[803]    -8.860400e+01 -8.860400e+01 -8.860400e+01 1.000      1
## x[804]     3.583700e+01  3.583700e+01  3.583700e+01 1.000      1
## x[805]     5.993200e+01  8.888700e+01  1.527920e+02 1.001   4000
## x[806]     6.090900e+01  9.204000e+01  1.489630e+02 1.001   4000
## x[807]    -7.610600e+01 -7.610600e+01 -7.610600e+01 1.000      1
## x[808]    -6.760000e+00 -6.760000e+00 -6.760000e+00 1.000      1
## x[809]    -9.309000e+00 -9.309000e+00 -9.309000e+00 1.000      1
## x[810]     5.772200e+01  8.942700e+01  1.482620e+02 1.002   1800
## x[811]     1.475380e+02  1.475380e+02  1.475380e+02 1.000      1
## x[812]     1.223040e+02  1.223040e+02  1.223040e+02 1.000      1
## x[813]     1.228710e+02  1.228710e+02  1.228710e+02 1.000      1
## x[814]     2.149830e+02  2.149830e+02  2.149830e+02 1.000      1
## x[815]     1.113550e+02  1.113550e+02  1.113550e+02 1.000      1
## x[816]     6.164000e+01  9.203800e+01  1.515960e+02 1.001   4000
## x[817]     1.420930e+02  1.420930e+02  1.420930e+02 1.000      1
## x[818]     5.786200e+01  8.900400e+01  1.472610e+02 1.001   4000
## x[819]     4.706700e+01  4.706700e+01  4.706700e+01 1.000      1
## x[820]     4.164400e+01  4.164400e+01  4.164400e+01 1.000      1
## x[821]     3.974300e+01  3.974300e+01  3.974300e+01 1.000      1
## x[822]     5.770800e+01  9.035700e+01  1.506420e+02 1.001   3400
## x[823]     6.212400e+01  9.284500e+01  1.535540e+02 1.001   4000
## x[824]     1.361950e+02  1.361950e+02  1.361950e+02 1.000      1
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## x[825]     -1.751600e+01 -1.751600e+01 -1.751600e+01 1.000       1
## x[826]      5.662700e+01  8.759100e+01  1.460160e+02 1.001    2700
## x[827]      5.833900e+01  8.950200e+01  1.493510e+02 1.001    4000
## x[828]      5.881700e+01  9.016000e+01  1.492130e+02 1.001    4000
## x[829]      1.606670e+02  1.606670e+02  1.606670e+02 1.000       1
## x[830]      6.823100e+01  6.823100e+01  6.823100e+01 1.000       1
## x[831]      5.297100e+01  5.297100e+01  5.297100e+01 1.000       1
## x[832]      5.885000e+01  9.052400e+01  1.504040e+02 1.001    4000
## x[833]      2.645400e+01  2.645400e+01  2.645400e+01 1.000       1
## x[834]      4.172000e+00  4.172000e+00  4.172000e+00 1.000       1
## x[835]      6.088100e+01  9.081000e+01  1.482030e+02 1.001    4000
## x[836]      5.482300e+01  5.482300e+01  5.482300e+01 1.000       1
## x[837]      5.300000e-01  5.300000e-01  5.300000e-01 1.000       1
## x[838]      5.904500e+01  8.953600e+01  1.505400e+02 1.001    3200
## x[839]      2.920000e+01  2.920000e+01  2.920000e+01 1.000       1
## x[840]      5.458600e+01  5.458600e+01  5.458600e+01 1.000       1
## x[841]      6.918300e+01  1.010800e+02  1.611610e+02 1.002    2200
## x[842]      3.886600e+01  3.886600e+01  3.886600e+01 1.000       1
## x[843]      5.656700e+01  8.781600e+01  1.487140e+02 1.001    3200
## x[844]     -2.767500e+01 -2.767500e+01 -2.767500e+01 1.000       1
## x[845]      5.789200e+01  5.789200e+01  5.789200e+01 1.000       1
## x[846]      5.990700e+01  9.014900e+01  1.505800e+02 1.001    4000
## x[847]      1.367500e+01  1.367500e+01  1.367500e+01 1.000       1
## x[848]     -5.000900e+01 -5.000900e+01 -5.000900e+01 1.000       1
## x[849]      6.138100e+01  9.275600e+01  1.490100e+02 1.002    1900
## x[850]      6.798500e+01  9.876200e+01  1.559210e+02 1.001    4000
## x[851]      5.390000e+00  5.390000e+00  5.390000e+00 1.000       1
## x[852]      6.047300e+01  9.195800e+01  1.512660e+02 1.001    4000
## x[853]      6.484600e+01  9.709400e+01  1.572110e+02 1.001    4000
## x[854]      5.854900e+01  9.179600e+01  1.505000e+02 1.001    3400
## x[855]     -5.512200e+01 -5.512200e+01 -5.512200e+01 1.000       1
## x[856]      1.526740e+02  1.526740e+02  1.526740e+02 1.000       1
## x[857]     -6.529000e+00 -6.529000e+00 -6.529000e+00 1.000       1
## x[858]      5.706400e+01  5.706400e+01  5.706400e+01 1.000       1
## x[859]     -6.380400e+01 -6.380400e+01 -6.380400e+01 1.000       1
## x[860]      5.677000e+01  8.843300e+01  1.537310e+02 1.002    2100
## x[861]     -8.402000e+00 -8.402000e+00 -8.402000e+00 1.000       1
## x[862]      5.640100e+01  8.686400e+01  1.447180e+02 1.001    4000
## x[863]      5.877300e+01  9.020300e+01  1.496610e+02 1.001    4000
## x[864]      1.796390e+02  1.796390e+02  1.796390e+02 1.000       1
## x[865]      1.610640e+02  1.610640e+02  1.610640e+02 1.000       1
## x[866]     -1.273000e+01 -1.273000e+01 -1.273000e+01 1.000       1
## x[867]      2.117510e+02  2.117510e+02  2.117510e+02 1.000       1
## x[868]      1.223190e+02  1.223190e+02  1.223190e+02 1.000       1
## x[869]      5.869900e+01  9.027300e+01  1.483180e+02 1.001    4000
## x[870]      5.779100e+01  9.026100e+01  1.501190e+02 1.001    3300
## x[871]      1.484280e+02  1.484280e+02  1.484280e+02 1.000       1
## x[872]     -3.708700e+01 -3.708700e+01 -3.708700e+01 1.000       1
## x[873]      6.227000e+01  9.280600e+01  1.524010e+02 1.001    4000
## x[874]      1.422070e+02  1.422070e+02  1.422070e+02 1.000       1
## x[875]     -2.490900e+01 -2.490900e+01 -2.490900e+01 1.000       1
## x[876]      6.046300e+01  9.137800e+01  1.523950e+02 1.001    4000
## x[877]      2.556570e+02  2.556570e+02  2.556570e+02 1.000       1
## x[878]     -5.970100e+01 -5.970100e+01 -5.970100e+01 1.000       1
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## x[879]    3.081000e+00  3.081000e+00  3.081000e+00 1.000     1
## x[880]    5.889200e+01  9.004200e+01  1.502300e+02 1.001  4000
## x[881]    5.948800e+01  8.899800e+01  1.484050e+02 1.002  2300
## x[882]    5.330600e+01  5.330600e+01  5.330600e+01 1.000     1
## x[883]    5.296800e+01  5.296800e+01  5.296800e+01 1.000     1
## x[884]   -3.309300e+01 -3.309300e+01 -3.309300e+01 1.000     1
## x[885]    5.787900e+01  8.895300e+01  1.456010e+02 1.002  1700
## x[886]   -1.090000e+01 -1.090000e+01 -1.090000e+01 1.000     1
## x[887]   -1.057840e+02 -1.057840e+02 -1.057840e+02 1.000     1
## x[888]    3.371600e+01  3.371600e+01  3.371600e+01 1.000     1
## x[889]    5.751600e+01  8.828700e+01  1.485230e+02 1.001  4000
## x[890]    3.547600e+01  3.547600e+01  3.547600e+01 1.000     1
## x[891]    6.032900e+01  9.038100e+01  1.482960e+02 1.001  4000
## x[892]    6.446900e+01  9.415000e+01  1.537720e+02 1.001  3700
## x[893]   -1.307610e+02 -1.307610e+02 -1.307610e+02 1.000     1
## x[894]    5.908800e+01  8.900800e+01  1.505990e+02 1.001  4000
## x[895]   -3.830700e+01 -3.830700e+01 -3.830700e+01 1.000     1
## x[896]    5.685300e+01  8.837900e+01  1.455930e+02 1.001  4000
## x[897]   -1.078380e+02 -1.078380e+02 -1.078380e+02 1.000     1
## x[898]    4.587400e+01  4.587400e+01  4.587400e+01 1.000     1
## x[899]    2.070360e+02  2.070360e+02  2.070360e+02 1.000     1
## x[900]    6.075700e+01  9.104300e+01  1.528660e+02 1.002  2100
## x[901]    5.990400e+01  9.006300e+01  1.483060e+02 1.001  4000
## x[902]    4.218900e+01  4.218900e+01  4.218900e+01 1.000     1
## x[903]    5.865100e+01  8.986200e+01  1.467430e+02 1.001  3900
## x[904]    6.154100e+01  6.154100e+01  6.154100e+01 1.000     1
## x[905]    5.791500e+01  8.919500e+01  1.477530e+02 1.001  4000
## x[906]    2.421480e+02  2.421480e+02  2.421480e+02 1.000     1
## x[907]    3.949300e+01  3.949300e+01  3.949300e+01 1.000     1
## x[908]    5.721600e+01  8.730200e+01  1.478590e+02 1.001  4000
## x[909]    5.823300e+01  8.956600e+01  1.521370e+02 1.001  4000
## x[910]    5.827600e+01  9.024200e+01  1.517820e+02 1.002  2000
## x[911]   -8.411400e+01 -8.411400e+01 -8.411400e+01 1.000     1
## x[912]    6.014100e+01  9.071500e+01  1.477730e+02 1.001  4000
## x[913]    6.027800e+01  9.094400e+01  1.501930e+02 1.001  4000
## x[914]    5.602000e+01  8.660600e+01  1.482590e+02 1.001  2600
## x[915]    1.563820e+02  1.563820e+02  1.563820e+02 1.000     1
## x[916]    4.288800e+01  4.288800e+01  4.288800e+01 1.000     1
## x[917]    6.162000e+01  9.127000e+01  1.495120e+02 1.001  4000
## x[918]    5.965000e+01  9.076500e+01  1.514990e+02 1.002  2000
## x[919]    4.489200e+01  4.489200e+01  4.489200e+01 1.000     1
## x[920]    2.110360e+02  2.110360e+02  2.110360e+02 1.000     1
## x[921]    3.593800e+01  3.593800e+01  3.593800e+01 1.000     1
## x[922]    6.074000e+01  9.017300e+01  1.500050e+02 1.003  1000
## x[923]   -1.631200e+01 -1.631200e+01 -1.631200e+01 1.000     1
## x[924]    6.176600e+01  9.266800e+01  1.509450e+02 1.002  2400
## x[925]    8.097000e+01  8.097000e+01  8.097000e+01 1.000     1
## x[926]    4.642100e+01  4.642100e+01  4.642100e+01 1.000     1
## x[927]    1.609080e+02  1.609080e+02  1.609080e+02 1.000     1
## x[928]    8.954200e+01  8.954200e+01  8.954200e+01 1.000     1
## x[929]   -3.400500e+01 -3.400500e+01 -3.400500e+01 1.000     1
## x[930]    1.683500e+02  1.683500e+02  1.683500e+02 1.000     1
## x[931]    5.855400e+01  8.920100e+01  1.475360e+02 1.002  2100
## x[932]    6.429700e+01  9.508400e+01  1.539210e+02 1.001  4000
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## x[933]    5.930200e+01  9.135600e+01  1.539100e+02 1.001  2900
## x[934]    5.987200e+01  9.041700e+01  1.515570e+02 1.001  4000
## x[935]    2.084000e+01  2.084000e+01  2.084000e+01 1.000     1
## x[936]    1.806760e+02  1.806760e+02  1.806760e+02 1.000     1
## x[937]    5.184300e+01  5.184300e+01  5.184300e+01 1.000     1
## x[938]   -5.245000e+00 -5.245000e+00 -5.245000e+00 1.000     1
## x[939]    2.512600e+01  2.512600e+01  2.512600e+01 1.000     1
## x[940]    1.045660e+02  1.045660e+02  1.045660e+02 1.000     1
## x[941]    5.738200e+01  8.801500e+01  1.475710e+02 1.001  4000
## x[942]    5.814200e+01  8.926400e+01  1.496120e+02 1.001  4000
## x[943]    1.915880e+02  1.915880e+02  1.915880e+02 1.000     1
## x[944]    5.664200e+01  8.948200e+01  1.510610e+02 1.001  3300
## x[945]    9.643200e+01  9.643200e+01  9.643200e+01 1.000     1
## x[946]   -3.910000e-01 -3.910000e-01 -3.910000e-01 1.000     1
## x[947]    7.934400e+01  7.934400e+01  7.934400e+01 1.000     1
## x[948]    5.781500e+01  8.881200e+01  1.468860e+02 1.001  4000
## x[949]    3.466920e+02  3.466920e+02  3.466920e+02 1.000     1
## x[950]    5.411000e+00  5.411000e+00  5.411000e+00 1.000     1
## x[951]    1.097300e+01  1.097300e+01  1.097300e+01 1.000     1
## x[952]    3.106500e+01  3.106500e+01  3.106500e+01 1.000     1
## x[953]    6.275400e+01  9.292800e+01  1.533510e+02 1.001  4000
## x[954]   -9.979600e+01 -9.979600e+01 -9.979600e+01 1.000     1
## x[955]    2.621800e+01  2.621800e+01  2.621800e+01 1.000     1
## x[956]    8.379800e+01  8.379800e+01  8.379800e+01 1.000     1
## x[957]    5.467400e+01  5.467400e+01  5.467400e+01 1.000     1
## x[958]    1.085660e+02  1.085660e+02  1.085660e+02 1.000     1
## x[959]    6.789400e+01  9.850800e+01  1.560080e+02 1.001  4000
## x[960]    5.754700e+01  8.796100e+01  1.493960e+02 1.001  3900
## x[961]    6.266700e+01  9.305600e+01  1.519300e+02 1.001  4000
## x[962]    7.000700e+01  1.001700e+02  1.591420e+02 1.001  4000
## x[963]   -2.820300e+01 -2.820300e+01 -2.820300e+01 1.000     1
## x[964]    5.707600e+01  8.752000e+01  1.485530e+02 1.001  4000
## x[965]    5.767800e+01  8.849000e+01  1.512750e+02 1.001  4000
## x[966]    5.832600e+01  8.866200e+01  1.509010e+02 1.001  4000
## x[967]   -4.255100e+01 -4.255100e+01 -4.255100e+01 1.000     1
## x[968]    5.679600e+01  8.751300e+01  1.446130e+02 1.002  1800
## x[969]    5.864300e+01  9.103600e+01  1.498720e+02 1.001  4000
## x[970]    6.148900e+01  9.428100e+01  1.537820e+02 1.001  4000
## x[971]    1.710100e+01  1.710100e+01  1.710100e+01 1.000     1
## x[972]   -6.345600e+01 -6.345600e+01 -6.345600e+01 1.000     1
## x[973]    3.375500e+01  3.375500e+01  3.375500e+01 1.000     1
## x[974]   -6.329500e+01 -6.329500e+01 -6.329500e+01 1.000     1
## x[975]    8.272500e+01  8.272500e+01  8.272500e+01 1.000     1
## x[976]   -6.783700e+01 -6.783700e+01 -6.783700e+01 1.000     1
## x[977]    6.216300e+01  9.114300e+01  1.524280e+02 1.001  4000
## x[978]    1.294510e+02  1.294510e+02  1.294510e+02 1.000     1
## x[979]    7.769400e+01  7.769400e+01  7.769400e+01 1.000     1
## x[980]    1.688210e+02  1.688210e+02  1.688210e+02 1.000     1
## x[981]   -4.014100e+01 -4.014100e+01 -4.014100e+01 1.000     1
## x[982]    1.676760e+02  1.676760e+02  1.676760e+02 1.000     1
## x[983]   -1.878000e+01 -1.878000e+01 -1.878000e+01 1.000     1
## x[984]    4.017400e+01  4.017400e+01  4.017400e+01 1.000     1
## x[985]   -1.800420e+02 -1.800420e+02 -1.800420e+02 1.000     1
## x[986]    5.637800e+01  8.834700e+01  1.472450e+02 1.001  4000
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## x[987]      5.955500e+01  8.974800e+01   1.492550e+02 1.001    2900
## x[988]      5.722300e+01  8.705600e+01   1.478350e+02 1.001    4000
## x[989]      1.055300e+01  1.055300e+01   1.055300e+01 1.000       1
## x[990]     -1.607300e+01 -1.607300e+01  -1.607300e+01 1.000       1
## x[991]      6.034100e+01  9.087000e+01   1.475710e+02 1.002    2400
## x[992]      1.716580e+02  1.716580e+02   1.716580e+02 1.000       1
## x[993]     -7.173000e+00 -7.173000e+00  -7.173000e+00 1.000       1
## x[994]      6.007000e+01  9.041000e+01   1.477260e+02 1.002    2100
## x[995]      6.196700e+01  9.307500e+01   1.541330e+02 1.001    3600
## x[996]      5.835000e+01  8.878500e+01   1.509600e+02 1.001    4000
## x[997]      2.266100e+01  2.266100e+01   2.266100e+01 1.000       1
## x[998]      1.995430e+02  1.995430e+02   1.995430e+02 1.000       1
## x[999]      6.082900e+01  9.295700e+01   1.536310e+02 1.001    4000
## x[1000]     1.840520e+02  1.840520e+02   1.840520e+02 1.000       1
## y[1]       -7.768745e+06 -7.768745e+06  -7.768745e+06 1.000       1
## y[2]       -4.854915e+05 -4.854915e+05  -4.854915e+05 1.000       1
## y[3]       -3.774936e+04 -3.774936e+04  -3.774936e+04 1.000       1
## y[4]       -7.692891e+03 -7.692891e+03  -7.692891e+03 1.000       1
## y[5]       -2.215342e+05 -2.215342e+05  -2.215342e+05 1.000       1
## y[6]       -2.000588e+05 -2.000588e+05  -2.000588e+05 1.000       1
## y[7]       -1.557853e+06 -1.557853e+06  -1.557853e+06 1.000       1
## y[8]       -1.467248e+05 -1.467248e+05  -1.467248e+05 1.000       1
## y[9]       -4.259626e+05 -4.259626e+05  -4.259626e+05 1.000       1
## y[10]      -7.235981e+06 -7.235981e+06  -7.235981e+06 1.000       1
## y[11]      -7.344273e+05 -7.344273e+05  -7.344273e+05 1.000       1
## y[12]      -1.034749e+07 -1.034749e+07  -1.034749e+07 1.000       1
## y[13]      -7.736474e+06 -7.736474e+06  -7.736474e+06 1.000       1
## y[14]      -6.790090e+05 -6.790090e+05  -6.790090e+05 1.000       1
## y[15]      -5.741136e+06 -5.741136e+06  -5.741136e+06 1.000       1
## y[16]      -9.364065e+05 -9.364065e+05  -9.364065e+05 1.000       1
## y[17]      -1.550789e+05 -1.550789e+05  -1.550789e+05 1.000       1
## y[18]      -3.712170e+04 -3.712170e+04  -3.712170e+04 1.000       1
## y[19]      -2.452004e+05 -2.452004e+05  -2.452004e+05 1.000       1
## y[20]      -2.214632e+06 -2.214632e+06  -2.214632e+06 1.000       1
## y[21]      -1.794930e+06 -1.794930e+06  -1.794930e+06 1.000       1
## y[22]      -1.452848e+06 -1.452848e+06  -1.452848e+06 1.000       1
## y[23]      -3.261508e+06 -3.261508e+06  -3.261508e+06 1.000       1
## y[24]      -7.885369e+05 -7.885369e+05  -7.885369e+05 1.000       1
## y[25]      -3.143234e+06 -3.143234e+06  -3.143234e+06 1.000       1
## y[26]      -4.681188e+05 -4.681188e+05  -4.681188e+05 1.000       1
## y[27]      -1.568205e+06 -1.568205e+06  -1.568205e+06 1.000       1
## y[28]      -1.191907e+06 -1.191907e+06  -1.191907e+06 1.000       1
## y[29]      -2.333384e+05 -2.333384e+05  -2.333384e+05 1.000       1
## y[30]      -5.014799e+04 -5.014799e+04  -5.014799e+04 1.000       1
## y[31]      -1.375314e+05 -1.375314e+05  -1.375314e+05 1.000       1
## y[32]      -1.485256e+06 -1.485256e+06  -1.485256e+06 1.000       1
## y[33]      -3.728965e+05 -3.728965e+05  -3.728965e+05 1.000       1
## y[34]      -1.776920e+05 -1.776920e+05  -1.776920e+05 1.000       1
## y[35]      -6.320995e+03 -6.320995e+03  -6.320995e+03 1.000       1
## y[36]      -3.859677e+03 -3.859677e+03  -3.859677e+03 1.000       1
## y[37]      -2.242548e+06 -2.242548e+06  -2.242548e+06 1.000       1
## y[38]      -3.661827e+05 -3.661827e+05  -3.661827e+05 1.000       1
## y[39]      -1.279591e+05 -1.279591e+05  -1.279591e+05 1.000       1
## y[40]      -6.642169e+05 -6.642169e+05  -6.642169e+05 1.000       1
```

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## y[41]       -2.953417e+06 -2.953417e+06 -2.953417e+06 1.000        1
## y[42]       -3.972890e+04 -3.972890e+04 -3.972890e+04 1.000        1
## y[43]       -4.603731e+04 -4.603731e+04 -4.603731e+04 1.000        1
## y[44]       -6.586180e+05 -6.586180e+05 -6.586180e+05 1.000        1
## y[45]       -1.187920e+04 -1.187920e+04 -1.187920e+04 1.000        1
## y[46]       -9.696489e+03 -9.696489e+03 -9.696489e+03 1.000        1
## y[47]       -3.424415e+06 -3.424415e+06 -3.424415e+06 1.000        1
## y[48]       -1.190695e+06 -1.190695e+06 -1.190695e+06 1.000        1
## y[49]       -3.606305e+05 -3.606305e+05 -3.606305e+05 1.000        1
## y[50]       -2.047966e+06 -2.047966e+06 -2.047966e+06 1.000        1
## y[51]       -5.628938e+04 -5.628938e+04 -5.628938e+04 1.000        1
## y[52]       -2.423912e+05 -2.423912e+05 -2.423912e+05 1.000        1
## y[53]       -7.519526e+05 -7.519526e+05 -7.519526e+05 1.000        1
## y[54]       -4.871567e+06 -4.871567e+06 -4.871567e+06 1.000        1
## y[55]       -1.497540e+06 -1.497540e+06 -1.497540e+06 1.000        1
## y[56]       -9.624309e+05 -9.624309e+05 -9.624309e+05 1.000        1
## y[57]       -1.140343e+06 -1.140343e+06 -1.140343e+06 1.000        1
## y[58]       -6.695334e+05 -6.695334e+05 -6.695334e+05 1.000        1
## y[59]       -4.435451e+05 -4.435451e+05 -4.435451e+05 1.000        1
## y[60]       -1.599279e+05 -1.599279e+05 -1.599279e+05 1.000        1
## y[61]       -3.322051e+05 -3.322051e+05 -3.322051e+05 1.000        1
## y[62]       -4.344844e+05 -4.344844e+05 -4.344844e+05 1.000        1
## y[63]       -1.089255e+06 -1.089255e+06 -1.089255e+06 1.000        1
## y[64]       -1.451561e+06 -1.451561e+06 -1.451561e+06 1.000        1
## y[65]       -6.707121e+05 -6.707121e+05 -6.707121e+05 1.000        1
## y[66]       -2.589687e+06 -2.589687e+06 -2.589687e+06 1.000        1
## y[67]       -1.610754e+06 -1.610754e+06 -1.610754e+06 1.000        1
## y[68]       -2.733976e+06 -2.733976e+06 -2.733976e+06 1.000        1
## y[69]       -3.100007e+06 -3.100007e+06 -3.100007e+06 1.000        1
## y[70]       -1.441498e+06 -1.441498e+06 -1.441498e+06 1.000        1
## y[71]       -8.697930e+05 -8.697930e+05 -8.697930e+05 1.000        1
## y[72]       -1.785929e+05 -1.785929e+05 -1.785929e+05 1.000        1
## y[73]       -1.336175e+04 -1.336175e+04 -1.336175e+04 1.000        1
## y[74]       -1.344403e+05 -1.344403e+05 -1.344403e+05 1.000        1
## y[75]       -1.298499e+06 -1.298499e+06 -1.298499e+06 1.000        1
## y[76]       -6.820110e+05 -6.820110e+05 -6.820110e+05 1.000        1
## y[77]       -1.513500e+05 -1.513500e+05 -1.513500e+05 1.000        1
## y[78]       -3.318691e+03 -3.318691e+03 -3.318691e+03 1.000        1
## y[79]       -1.914925e+05 -1.914925e+05 -1.914925e+05 1.000        1
## y[80]       -8.542132e+06 -8.542132e+06 -8.542132e+06 1.000        1
## y[81]       -7.099509e+05 -7.099509e+05 -7.099509e+05 1.000        1
## y[82]       -2.542645e+05 -2.542645e+05 -2.542645e+05 1.000        1
## y[83]       -2.800737e+05 -2.800737e+05 -2.800737e+05 1.000        1
## y[84]       -1.135968e+04 -1.135968e+04 -1.135968e+04 1.000        1
## y[85]       -8.567600e+04 -8.567600e+04 -8.567600e+04 1.000        1
## y[86]       -3.545787e+04 -3.545787e+04 -3.545787e+04 1.000        1
## y[87]       -2.369488e+04 -2.369488e+04 -2.369488e+04 1.000        1
## y[88]       -3.817846e+04 -3.817846e+04 -3.817846e+04 1.000        1
## y[89]       -1.653521e+06 -1.653521e+06 -1.653521e+06 1.000        1
## y[90]       -1.182166e+06 -1.182166e+06 -1.182166e+06 1.000        1
## y[91]       -4.561618e+06 -4.561618e+06 -4.561618e+06 1.000        1
## y[92]       -2.114813e+04 -2.114813e+04 -2.114813e+04 1.000        1
## y[93]       -1.252143e+06 -1.252143e+06 -1.252143e+06 1.000        1
## y[94]       -5.422758e+05 -5.422758e+05 -5.422758e+05 1.000        1
```

```
## y[95]     -1.813066e+06 -1.813066e+06 -1.813066e+06 1.000    1
## y[96]     -5.424818e+03 -5.424818e+03 -5.424818e+03 1.000    1
## y[97]     -2.617899e+06 -2.617899e+06 -2.617899e+06 1.000    1
## y[98]     -1.081603e+06 -1.081603e+06 -1.081603e+06 1.000    1
## y[99]     -3.830489e+03 -3.830489e+03 -3.830489e+03 1.000    1
## y[100]    -1.220307e+05 -1.220307e+05 -1.220307e+05 1.000    1
## y[101]    -1.038478e+06 -1.038478e+06 -1.038478e+06 1.000    1
## y[102]    -1.182740e+06 -1.182740e+06 -1.182740e+06 1.000    1
## y[103]    -1.769585e+05 -1.769585e+05 -1.769585e+05 1.000    1
## y[104]    -4.547619e+05 -4.547619e+05 -4.547619e+05 1.000    1
## y[105]    -6.540306e+05 -6.540306e+05 -6.540306e+05 1.000    1
## y[106]    -1.218549e+06 -1.218549e+06 -1.218549e+06 1.000    1
## y[107]    -2.223946e+06 -2.223946e+06 -2.223946e+06 1.000    1
## y[108]    -2.320202e+06 -2.320202e+06 -2.320202e+06 1.000    1
## y[109]    -1.795990e+06 -1.795990e+06 -1.795990e+06 1.000    1
## y[110]    -3.844978e+05 -3.844978e+05 -3.844978e+05 1.000    1
## y[111]    -5.438787e+03 -5.438787e+03 -5.438787e+03 1.000    1
## y[112]    -9.195389e+05 -9.195389e+05 -9.195389e+05 1.000    1
## y[113]    -1.311133e+06 -1.311133e+06 -1.311133e+06 1.000    1
## y[114]    -1.235499e+06 -1.235499e+06 -1.235499e+06 1.000    1
## y[115]    -1.514859e+05 -1.514859e+05 -1.514859e+05 1.000    1
## y[116]    -4.177495e+06 -4.177495e+06 -4.177495e+06 1.000    1
## y[117]    -5.502147e+05 -5.502147e+05 -5.502147e+05 1.000    1
## y[118]    -2.571044e+06 -2.571044e+06 -2.571044e+06 1.000    1
## y[119]    -2.198615e+06 -2.198615e+06 -2.198615e+06 1.000    1
## y[120]    -6.469413e+05 -6.469413e+05 -6.469413e+05 1.000    1
## y[121]    -1.112430e+06 -1.112430e+06 -1.112430e+06 1.000    1
## y[122]    -4.284448e+06 -4.284448e+06 -4.284448e+06 1.000    1
## y[123]    -1.412412e+06 -1.412412e+06 -1.412412e+06 1.000    1
## y[124]    -1.039403e+05 -1.039403e+05 -1.039403e+05 1.000    1
## y[125]    -1.510935e+06 -1.510935e+06 -1.510935e+06 1.000    1
## y[126]    -4.134109e+06 -4.134109e+06 -4.134109e+06 1.000    1
## y[127]    -1.013201e+06 -1.013201e+06 -1.013201e+06 1.000    1
## y[128]    -2.844377e+05 -2.844377e+05 -2.844377e+05 1.000    1
## y[129]    -9.361548e+05 -9.361548e+05 -9.361548e+05 1.000    1
## y[130]    -2.307842e+06 -2.307842e+06 -2.307842e+06 1.000    1
## y[131]    -8.711308e+03 -8.711308e+03 -8.711308e+03 1.000    1
## y[132]    -1.722421e+06 -1.722421e+06 -1.722421e+06 1.000    1
## y[133]    -1.866414e+06 -1.866414e+06 -1.866414e+06 1.000    1
## y[134]    -7.539597e+05 -7.539597e+05 -7.539597e+05 1.000    1
## y[135]    -2.672633e+06 -2.672633e+06 -2.672633e+06 1.000    1
## y[136]    -6.609871e+04 -6.609871e+04 -6.609871e+04 1.000    1
## y[137]    -8.934408e+05 -8.934408e+05 -8.934408e+05 1.000    1
## y[138]    -2.004865e+06 -2.004865e+06 -2.004865e+06 1.000    1
## y[139]    -5.925286e+05 -5.925286e+05 -5.925286e+05 1.000    1
## y[140]    -2.272676e+06 -2.272676e+06 -2.272676e+06 1.000    1
## y[141]    -9.243541e+05 -9.243541e+05 -9.243541e+05 1.000    1
## y[142]    -1.404655e+05 -1.404655e+05 -1.404655e+05 1.000    1
## y[143]    -4.425299e+05 -4.425299e+05 -4.425299e+05 1.000    1
## y[144]    -5.001422e+05 -5.001422e+05 -5.001422e+05 1.000    1
## y[145]    -9.650354e+05 -9.650354e+05 -9.650354e+05 1.000    1
## y[146]    -1.834771e+05 -1.834771e+05 -1.834771e+05 1.000    1
## y[147]    -1.512663e+05 -1.512663e+05 -1.512663e+05 1.000    1
## y[148]    -9.720845e+05 -9.720845e+05 -9.720845e+05 1.000    1
```

```
## y[149]      -7.064343e+05 -7.064343e+05 -7.064343e+05 1.000      1
## y[150]      -3.575124e+05 -3.575124e+05 -3.575124e+05 1.000      1
## y[151]      -2.082476e+04 -2.082476e+04 -2.082476e+04 1.000      1
## y[152]      -2.551369e+06 -2.551369e+06 -2.551369e+06 1.000      1
## y[153]      -1.653968e+05 -1.653968e+05 -1.653968e+05 1.000      1
## y[154]      -8.558081e+04 -8.558081e+04 -8.558081e+04 1.000      1
## y[155]      -1.389715e+06 -1.389715e+06 -1.389715e+06 1.000      1
## y[156]      -8.867796e+04 -8.867796e+04 -8.867796e+04 1.000      1
## y[157]      -1.191459e+06 -1.191459e+06 -1.191459e+06 1.000      1
## y[158]      -2.823569e+06 -2.823569e+06 -2.823569e+06 1.000      1
## y[159]      -2.967245e+06 -2.967245e+06 -2.967245e+06 1.000      1
## y[160]      -2.392081e+05 -2.392081e+05 -2.392081e+05 1.000      1
## y[161]      -7.149085e+05 -7.149085e+05 -7.149085e+05 1.000      1
## y[162]      -3.530596e+05 -3.530596e+05 -3.530596e+05 1.000      1
## y[163]      -2.568398e+05 -2.568398e+05 -2.568398e+05 1.000      1
## y[164]      -1.544111e+06 -1.544111e+06 -1.544111e+06 1.000      1
## y[165]      -2.378340e+06 -2.378340e+06 -2.378340e+06 1.000      1
## y[166]      -3.263942e+04 -3.263942e+04 -3.263942e+04 1.000      1
## y[167]      -6.767420e+05 -6.767420e+05 -6.767420e+05 1.000      1
## y[168]      -1.404352e+06 -1.404352e+06 -1.404352e+06 1.000      1
## y[169]      -6.727985e+05 -6.727985e+05 -6.727985e+05 1.000      1
## y[170]      -2.002049e+06 -2.002049e+06 -2.002049e+06 1.000      1
## y[171]      -3.385464e+06 -3.385464e+06 -3.385464e+06 1.000      1
## y[172]      -9.660218e+05 -9.660218e+05 -9.660218e+05 1.000      1
## y[173]      -2.817464e+06 -2.817464e+06 -2.817464e+06 1.000      1
## y[174]      -6.284973e+05 -6.284973e+05 -6.284973e+05 1.000      1
## y[175]      -1.244949e+06 -1.244949e+06 -1.244949e+06 1.000      1
## y[176]      -5.715986e+05 -5.715986e+05 -5.715986e+05 1.000      1
## y[177]      -1.507587e+06 -1.507587e+06 -1.507587e+06 1.000      1
## y[178]      -3.327380e+06 -3.327380e+06 -3.327380e+06 1.000      1
## y[179]      -4.188113e+05 -4.188113e+05 -4.188113e+05 1.000      1
## y[180]      -9.709539e+03 -9.709539e+03 -9.709539e+03 1.000      1
## y[181]      -7.249719e+06 -7.249719e+06 -7.249719e+06 1.000      1
## y[182]      -7.992567e+06 -7.992567e+06 -7.992567e+06 1.000      1
## y[183]      -2.672799e+06 -2.672799e+06 -2.672799e+06 1.000      1
## y[184]      -9.555207e+04 -9.555207e+04 -9.555207e+04 1.000      1
## y[185]      -9.503205e+05 -9.503205e+05 -9.503205e+05 1.000      1
## y[186]      -2.070067e+03 -2.070067e+03 -2.070067e+03 1.000      1
## y[187]      -2.420042e+06 -2.420042e+06 -2.420042e+06 1.000      1
## y[188]      -8.630810e+05 -8.630810e+05 -8.630810e+05 1.000      1
## y[189]      -1.742286e+06 -1.742286e+06 -1.742286e+06 1.000      1
## y[190]      -3.685472e+04 -3.685472e+04 -3.685472e+04 1.000      1
## y[191]      -2.050133e+06 -2.050133e+06 -2.050133e+06 1.000      1
## y[192]      -2.922979e+06 -2.922979e+06 -2.922979e+06 1.000      1
## y[193]      -4.884072e+04 -4.884072e+04 -4.884072e+04 1.000      1
## y[194]      -3.549591e+05 -3.549591e+05 -3.549591e+05 1.000      1
## y[195]      -1.582565e+05 -1.582565e+05 -1.582565e+05 1.000      1
## y[196]      -7.344887e+05 -7.344887e+05 -7.344887e+05 1.000      1
## y[197]      -1.461561e+05 -1.461561e+05 -1.461561e+05 1.000      1
## y[198]      -1.965600e+05 -1.965600e+05 -1.965600e+05 1.000      1
## y[199]      -6.565701e+03 -6.565701e+03 -6.565701e+03 1.000      1
## y[200]      -1.308938e+06 -1.308938e+06 -1.308938e+06 1.000      1
## y[201]      -6.367265e+06 -6.367265e+06 -6.367265e+06 1.000      1
## y[202]      -1.856386e+06 -1.856386e+06 -1.856386e+06 1.000      1
```

```
## y[203]     -2.257115e+05 -2.257115e+05 -2.257115e+05 1.000     1
## y[204]     -1.211395e+06 -1.211395e+06 -1.211395e+06 1.000     1
## y[205]     -2.946306e+06 -2.946306e+06 -2.946306e+06 1.000     1
## y[206]     -4.576936e+05 -4.576936e+05 -4.576936e+05 1.000     1
## y[207]     -1.195628e+04 -1.195628e+04 -1.195628e+04 1.000     1
## y[208]     -7.872348e+05 -7.872348e+05 -7.872348e+05 1.000     1
## y[209]     -8.084544e+05 -8.084544e+05 -8.084544e+05 1.000     1
## y[210]     -3.001529e+06 -3.001529e+06 -3.001529e+06 1.000     1
## y[211]     -2.657494e+05 -2.657494e+05 -2.657494e+05 1.000     1
## y[212]     -1.256550e+06 -1.256550e+06 -1.256550e+06 1.000     1
## y[213]     -2.738027e+04 -2.738027e+04 -2.738027e+04 1.000     1
## y[214]     -5.600557e+03 -5.600557e+03 -5.600557e+03 1.000     1
## y[215]     -1.615177e+05 -1.615177e+05 -1.615177e+05 1.000     1
## y[216]     -3.966470e+06 -3.966470e+06 -3.966470e+06 1.000     1
## y[217]     -1.315662e+05 -1.315662e+05 -1.315662e+05 1.000     1
## y[218]     -3.700070e+05 -3.700070e+05 -3.700070e+05 1.000     1
## y[219]     -2.864557e+05 -2.864557e+05 -2.864557e+05 1.000     1
## y[220]     -3.052459e+03 -3.052459e+03 -3.052459e+03 1.000     1
## y[221]     -9.238558e+04 -9.238558e+04 -9.238558e+04 1.000     1
## y[222]     -5.919221e+05 -5.919221e+05 -5.919221e+05 1.000     1
## y[223]     -2.112723e+06 -2.112723e+06 -2.112723e+06 1.000     1
## y[224]     -9.458461e+05 -9.458461e+05 -9.458461e+05 1.000     1
## y[225]     -3.454510e+03 -3.454510e+03 -3.454510e+03 1.000     1
## y[226]     -3.034789e+06 -3.034789e+06 -3.034789e+06 1.000     1
## y[227]     -2.349728e+05 -2.349728e+05 -2.349728e+05 1.000     1
## y[228]     -8.514159e+04 -8.514159e+04 -8.514159e+04 1.000     1
## y[229]     -9.679547e+03 -9.679547e+03 -9.679547e+03 1.000     1
## y[230]     -1.950774e+06 -1.950774e+06 -1.950774e+06 1.000     1
## y[231]     -2.166711e+06 -2.166711e+06 -2.166711e+06 1.000     1
## y[232]     -1.941920e+02 -1.941920e+02 -1.941920e+02 1.000     1
## y[233]     -2.647734e+05 -2.647734e+05 -2.647734e+05 1.000     1
## y[234]     -5.715278e+04 -5.715278e+04 -5.715278e+04 1.000     1
## y[235]     -4.089934e+06 -4.089934e+06 -4.089934e+06 1.000     1
## y[236]     -9.474499e+05 -9.474499e+05 -9.474499e+05 1.000     1
## y[237]     -2.337162e+05 -2.337162e+05 -2.337162e+05 1.000     1
## y[238]     -2.751423e+05 -2.751423e+05 -2.751423e+05 1.000     1
## y[239]     -2.487445e+05 -2.487445e+05 -2.487445e+05 1.000     1
## y[240]     -4.366010e+03 -4.366010e+03 -4.366010e+03 1.000     1
## y[241]     -8.919074e+03 -8.919074e+03 -8.919074e+03 1.000     1
## y[242]     -4.293305e+05 -4.293305e+05 -4.293305e+05 1.000     1
## y[243]     -2.231447e+05 -2.231447e+05 -2.231447e+05 1.000     1
## y[244]     -4.195020e+06 -4.195020e+06 -4.195020e+06 1.000     1
## y[245]     -1.686804e+04 -1.686804e+04 -1.686804e+04 1.000     1
## y[246]     -6.059107e+06 -6.059107e+06 -6.059107e+06 1.000     1
## y[247]     -1.209906e+04 -1.209906e+04 -1.209906e+04 1.000     1
## y[248]     -1.785674e+05 -1.785674e+05 -1.785674e+05 1.000     1
## y[249]     -1.765867e+06 -1.765867e+06 -1.765867e+06 1.000     1
## y[250]     -1.705437e+06 -1.705437e+06 -1.705437e+06 1.000     1
## y[251]     -9.556864e+05 -9.556864e+05 -9.556864e+05 1.000     1
## y[252]     -6.116992e+06 -6.116992e+06 -6.116992e+06 1.000     1
## y[253]     -7.051999e+05 -7.051999e+05 -7.051999e+05 1.000     1
## y[254]     -5.483167e+04 -5.483167e+04 -5.483167e+04 1.000     1
## y[255]     -1.345969e+04 -1.345969e+04 -1.345969e+04 1.000     1
## y[256]     -1.059648e+04 -1.059648e+04 -1.059648e+04 1.000     1
```

```
## y[257]     -2.296140e+04 -2.296140e+04 -2.296140e+04 1.000      1
## y[258]     -5.097080e+06 -5.097080e+06 -5.097080e+06 1.000      1
## y[259]     -2.313273e+05 -2.313273e+05 -2.313273e+05 1.000      1
## y[260]     -4.293973e+05 -4.293973e+05 -4.293973e+05 1.000      1
## y[261]     -6.804024e+04 -6.804024e+04 -6.804024e+04 1.000      1
## y[262]     -1.101925e+06 -1.101925e+06 -1.101925e+06 1.000      1
## y[263]     -1.056357e+07 -1.056357e+07 -1.056357e+07 1.000      1
## y[264]     -2.394519e+06 -2.394519e+06 -2.394519e+06 1.000      1
## y[265]     -2.010702e+06 -2.010702e+06 -2.010702e+06 1.000      1
## y[266]     -9.411138e+05 -9.411138e+05 -9.411138e+05 1.000      1
## y[267]     -1.377702e+04 -1.377702e+04 -1.377702e+04 1.000      1
## y[268]     -2.938798e+05 -2.938798e+05 -2.938798e+05 1.000      1
## y[269]     -1.615221e+05 -1.615221e+05 -1.615221e+05 1.000      1
## y[270]     -3.384066e+06 -3.384066e+06 -3.384066e+06 1.000      1
## y[271]     -1.700039e+06 -1.700039e+06 -1.700039e+06 1.000      1
## y[272]     -6.699069e+05 -6.699069e+05 -6.699069e+05 1.000      1
## y[273]     -9.581904e+04 -9.581904e+04 -9.581904e+04 1.000      1
## y[274]     -3.448815e+05 -3.448815e+05 -3.448815e+05 1.000      1
## y[275]     -4.165421e+05 -4.165421e+05 -4.165421e+05 1.000      1
## y[276]     -8.778186e+06 -8.778186e+06 -8.778186e+06 1.000      1
## y[277]     -2.026691e+06 -2.026691e+06 -2.026691e+06 1.000      1
## y[278]     -1.542258e+06 -1.542258e+06 -1.542258e+06 1.000      1
## y[279]     -3.671140e+06 -3.671140e+06 -3.671140e+06 1.000      1
## y[280]     -3.068323e+06 -3.068323e+06 -3.068323e+06 1.000      1
## y[281]     -6.806389e+06 -6.806389e+06 -6.806389e+06 1.000      1
## y[282]     -1.464856e+06 -1.464856e+06 -1.464856e+06 1.000      1
## y[283]     -9.509787e+05 -9.509787e+05 -9.509787e+05 1.000      1
## y[284]     -8.052220e+03 -8.052220e+03 -8.052220e+03 1.000      1
## y[285]     -4.092208e+05 -4.092208e+05 -4.092208e+05 1.000      1
## y[286]     -1.361730e+02 -1.361730e+02 -1.361730e+02 1.000      1
## y[287]     -4.237186e+05 -4.237186e+05 -4.237186e+05 1.000      1
## y[288]     -8.874384e+05 -8.874384e+05 -8.874384e+05 1.000      1
## y[289]     -1.139716e+05 -1.139716e+05 -1.139716e+05 1.000      1
## y[290]     -2.166308e+06 -2.166308e+06 -2.166308e+06 1.000      1
## y[291]     -2.933149e+04 -2.933149e+04 -2.933149e+04 1.000      1
## y[292]     -4.572742e+06 -4.572742e+06 -4.572742e+06 1.000      1
## y[293]     -3.229358e+05 -3.229358e+05 -3.229358e+05 1.000      1
## y[294]     -2.387175e+05 -2.387175e+05 -2.387175e+05 1.000      1
## y[295]     -1.863993e+06 -1.863993e+06 -1.863993e+06 1.000      1
## y[296]     -2.685827e+05 -2.685827e+05 -2.685827e+05 1.000      1
## y[297]     -6.399803e+04 -6.399803e+04 -6.399803e+04 1.000      1
## y[298]     -1.759169e+05 -1.759169e+05 -1.759169e+05 1.000      1
## y[299]     -2.799479e+06 -2.799479e+06 -2.799479e+06 1.000      1
## y[300]     -2.231411e+04 -2.231411e+04 -2.231411e+04 1.000      1
## y[301]     -1.051160e+06 -1.051160e+06 -1.051160e+06 1.000      1
## y[302]     -5.029649e+04 -5.029649e+04 -5.029649e+04 1.000      1
## y[303]     -3.077037e+05 -3.077037e+05 -3.077037e+05 1.000      1
## y[304]     -1.248760e+04 -1.248760e+04 -1.248760e+04 1.000      1
## y[305]     -6.886033e+03 -6.886033e+03 -6.886033e+03 1.000      1
## y[306]     -4.411284e+05 -4.411284e+05 -4.411284e+05 1.000      1
## y[307]     -5.008034e+06 -5.008034e+06 -5.008034e+06 1.000      1
## y[308]     -6.047816e+04 -6.047816e+04 -6.047816e+04 1.000      1
## y[309]     -2.244098e+05 -2.244098e+05 -2.244098e+05 1.000      1
## y[310]     -2.595962e+06 -2.595962e+06 -2.595962e+06 1.000      1
```

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## y[311]      -2.171201e+06 -2.171201e+06 -2.171201e+06 1.000      1
## y[312]      -3.087501e+06 -3.087501e+06 -3.087501e+06 1.000      1
## y[313]      -5.181485e+06 -5.181485e+06 -5.181485e+06 1.000      1
## y[314]      -4.766226e+06 -4.766226e+06 -4.766226e+06 1.000      1
## y[315]      -1.345282e+06 -1.345282e+06 -1.345282e+06 1.000      1
## y[316]      -2.820551e+06 -2.820551e+06 -2.820551e+06 1.000      1
## y[317]      -7.983658e+05 -7.983658e+05 -7.983658e+05 1.000      1
## y[318]      -4.759059e+05 -4.759059e+05 -4.759059e+05 1.000      1
## y[319]      -2.058256e+04 -2.058256e+04 -2.058256e+04 1.000      1
## y[320]      -9.322060e+05 -9.322060e+05 -9.322060e+05 1.000      1
## y[321]      -3.489625e+05 -3.489625e+05 -3.489625e+05 1.000      1
## y[322]      -2.472921e+04 -2.472921e+04 -2.472921e+04 1.000      1
## y[323]      -7.633843e+06 -7.633843e+06 -7.633843e+06 1.000      1
## y[324]      -3.453780e+05 -3.453780e+05 -3.453780e+05 1.000      1
## y[325]      -1.606616e+06 -1.606616e+06 -1.606616e+06 1.000      1
## y[326]      -1.280395e+04 -1.280395e+04 -1.280395e+04 1.000      1
## y[327]      -4.257613e+05 -4.257613e+05 -4.257613e+05 1.000      1
## y[328]      -8.411462e+03 -8.411462e+03 -8.411462e+03 1.000      1
## y[329]      -2.122491e+05 -2.122491e+05 -2.122491e+05 1.000      1
## y[330]      -7.218678e+03 -7.218678e+03 -7.218678e+03 1.000      1
## y[331]      -1.337893e+06 -1.337893e+06 -1.337893e+06 1.000      1
## y[332]      -4.399631e+04 -4.399631e+04 -4.399631e+04 1.000      1
## y[333]      -1.971491e+06 -1.971491e+06 -1.971491e+06 1.000      1
## y[334]      -4.886294e+05 -4.886294e+05 -4.886294e+05 1.000      1
## y[335]      -2.010869e+05 -2.010869e+05 -2.010869e+05 1.000      1
## y[336]      -1.666297e+05 -1.666297e+05 -1.666297e+05 1.000      1
## y[337]      -4.127797e+05 -4.127797e+05 -4.127797e+05 1.000      1
## y[338]      -2.221067e+06 -2.221067e+06 -2.221067e+06 1.000      1
## y[339]      -3.748783e+05 -3.748783e+05 -3.748783e+05 1.000      1
## y[340]      -2.721283e+06 -2.721283e+06 -2.721283e+06 1.000      1
## y[341]      -1.685077e+05 -1.685077e+05 -1.685077e+05 1.000      1
## y[342]      -3.645979e+05 -3.645979e+05 -3.645979e+05 1.000      1
## y[343]      -1.287923e+06 -1.287923e+06 -1.287923e+06 1.000      1
## y[344]      -1.246310e+06 -1.246310e+06 -1.246310e+06 1.000      1
## y[345]      -1.133901e+05 -1.133901e+05 -1.133901e+05 1.000      1
## y[346]      -2.537647e+06 -2.537647e+06 -2.537647e+06 1.000      1
## y[347]      -3.010566e+06 -3.010566e+06 -3.010566e+06 1.000      1
## y[348]      -4.516737e+05 -4.516737e+05 -4.516737e+05 1.000      1
## y[349]      -3.850127e+05 -3.850127e+05 -3.850127e+05 1.000      1
## y[350]      -1.118376e+06 -1.118376e+06 -1.118376e+06 1.000      1
## y[351]      -9.828405e+05 -9.828405e+05 -9.828405e+05 1.000      1
## y[352]      -1.857512e+05 -1.857512e+05 -1.857512e+05 1.000      1
## y[353]      -7.238549e+05 -7.238549e+05 -7.238549e+05 1.000      1
## y[354]      -1.688331e+06 -1.688331e+06 -1.688331e+06 1.000      1
## y[355]      -3.236656e+04 -3.236656e+04 -3.236656e+04 1.000      1
## y[356]      -2.046257e+04 -2.046257e+04 -2.046257e+04 1.000      1
## y[357]      -1.177680e+02 -1.177680e+02 -1.177680e+02 1.000      1
## y[358]      -1.901310e+06 -1.901310e+06 -1.901310e+06 1.000      1
## y[359]      -2.041636e+05 -2.041636e+05 -2.041636e+05 1.000      1
## y[360]      -7.690398e+06 -7.690398e+06 -7.690398e+06 1.000      1
## y[361]      -4.937706e+05 -4.937706e+05 -4.937706e+05 1.000      1
## y[362]      -3.270871e+06 -3.270871e+06 -3.270871e+06 1.000      1
## y[363]      -1.965727e+05 -1.965727e+05 -1.965727e+05 1.000      1
## y[364]      -3.167931e+05 -3.167931e+05 -3.167931e+05 1.000      1
```

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## y[365]      -1.464652e+06 -1.464652e+06 -1.464652e+06 1.000      1
## y[366]      -8.520710e+03 -8.520710e+03 -8.520710e+03 1.000      1
## y[367]      -6.376413e+05 -6.376413e+05 -6.376413e+05 1.000      1
## y[368]      -1.305388e+06 -1.305388e+06 -1.305388e+06 1.000      1
## y[369]      -6.826696e+06 -6.826696e+06 -6.826696e+06 1.000      1
## y[370]      -2.010098e+06 -2.010098e+06 -2.010098e+06 1.000      1
## y[371]      -1.151017e+06 -1.151017e+06 -1.151017e+06 1.000      1
## y[372]      -2.227979e+06 -2.227979e+06 -2.227979e+06 1.000      1
## y[373]      -9.594619e+05 -9.594619e+05 -9.594619e+05 1.000      1
## y[374]      -4.137963e+04 -4.137963e+04 -4.137963e+04 1.000      1
## y[375]      -1.731436e+06 -1.731436e+06 -1.731436e+06 1.000      1
## y[376]      -2.497727e+05 -2.497727e+05 -2.497727e+05 1.000      1
## y[377]      -1.100841e+06 -1.100841e+06 -1.100841e+06 1.000      1
## y[378]      -6.080409e+05 -6.080409e+05 -6.080409e+05 1.000      1
## y[379]      -2.006856e+06 -2.006856e+06 -2.006856e+06 1.000      1
## y[380]      -1.515995e+06 -1.515995e+06 -1.515995e+06 1.000      1
## y[381]      -9.595783e+05 -9.595783e+05 -9.595783e+05 1.000      1
## y[382]      -7.451870e+06 -7.451870e+06 -7.451870e+06 1.000      1
## y[383]      -7.858804e+05 -7.858804e+05 -7.858804e+05 1.000      1
## y[384]      -1.346215e+06 -1.346215e+06 -1.346215e+06 1.000      1
## y[385]      -5.006979e+04 -5.006979e+04 -5.006979e+04 1.000      1
## y[386]      -6.020736e+05 -6.020736e+05 -6.020736e+05 1.000      1
## y[387]      -3.147895e+06 -3.147895e+06 -3.147895e+06 1.000      1
## y[388]      -1.982705e+06 -1.982705e+06 -1.982705e+06 1.000      1
## y[389]      -3.436921e+05 -3.436921e+05 -3.436921e+05 1.000      1
## y[390]      -8.092499e+04 -8.092499e+04 -8.092499e+04 1.000      1
## y[391]      -5.448918e+04 -5.448918e+04 -5.448918e+04 1.000      1
## y[392]      -5.071139e+05 -5.071139e+05 -5.071139e+05 1.000      1
## y[393]      -1.928449e+05 -1.928449e+05 -1.928449e+05 1.000      1
## y[394]      -1.420706e+04 -1.420706e+04 -1.420706e+04 1.000      1
## y[395]      -5.535532e+05 -5.535532e+05 -5.535532e+05 1.000      1
## y[396]      -7.599384e+05 -7.599384e+05 -7.599384e+05 1.000      1
## y[397]      -1.270597e+06 -1.270597e+06 -1.270597e+06 1.000      1
## y[398]      -3.284586e+05 -3.284586e+05 -3.284586e+05 1.000      1
## y[399]      -4.355086e+04 -4.355086e+04 -4.355086e+04 1.000      1
## y[400]      -1.980019e+06 -1.980019e+06 -1.980019e+06 1.000      1
## y[401]      -3.250514e+04 -3.250514e+04 -3.250514e+04 1.000      1
## y[402]      -2.772444e+06 -2.772444e+06 -2.772444e+06 1.000      1
## y[403]      -1.481230e+04 -1.481230e+04 -1.481230e+04 1.000      1
## y[404]      -3.056248e+06 -3.056248e+06 -3.056248e+06 1.000      1
## y[405]      -3.765159e+06 -3.765159e+06 -3.765159e+06 1.000      1
## y[406]      -1.592627e+06 -1.592627e+06 -1.592627e+06 1.000      1
## y[407]      -1.122269e+06 -1.122269e+06 -1.122269e+06 1.000      1
## y[408]      -4.406910e+06 -4.406910e+06 -4.406910e+06 1.000      1
## y[409]      -1.612374e+05 -1.612374e+05 -1.612374e+05 1.000      1
## y[410]      -9.016545e+05 -9.016545e+05 -9.016545e+05 1.000      1
## y[411]      -5.872739e+04 -5.872739e+04 -5.872739e+04 1.000      1
## y[412]      -2.350307e+06 -2.350307e+06 -2.350307e+06 1.000      1
## y[413]      -1.181491e+06 -1.181491e+06 -1.181491e+06 1.000      1
## y[414]      -4.363729e+05 -4.363729e+05 -4.363729e+05 1.000      1
## y[415]      -3.759548e+05 -3.759548e+05 -3.759548e+05 1.000      1
## y[416]      -1.148519e+06 -1.148519e+06 -1.148519e+06 1.000      1
## y[417]      -2.167196e+05 -2.167196e+05 -2.167196e+05 1.000      1
## y[418]      -6.691269e+05 -6.691269e+05 -6.691269e+05 1.000      1
```

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## y[419]     -1.065980e+05 -1.065980e+05 -1.065980e+05 1.000        1
## y[420]     -1.702488e+05 -1.702488e+05 -1.702488e+05 1.000        1
## y[421]     -1.814125e+06 -1.814125e+06 -1.814125e+06 1.000        1
## y[422]     -1.367772e+06 -1.367772e+06 -1.367772e+06 1.000        1
## y[423]     -1.530483e+05 -1.530483e+05 -1.530483e+05 1.000        1
## y[424]     -4.270734e+06 -4.270734e+06 -4.270734e+06 1.000        1
## y[425]     -1.189179e+05 -1.189179e+05 -1.189179e+05 1.000        1
## y[426]     -2.552484e+06 -2.552484e+06 -2.552484e+06 1.000        1
## y[427]     -6.414081e+05 -6.414081e+05 -6.414081e+05 1.000        1
## y[428]     -7.670906e+04 -7.670906e+04 -7.670906e+04 1.000        1
## y[429]     -2.130420e+05 -2.130420e+05 -2.130420e+05 1.000        1
## y[430]     -2.590457e+06 -2.590457e+06 -2.590457e+06 1.000        1
## y[431]     -1.073970e+06 -1.073970e+06 -1.073970e+06 1.000        1
## y[432]     -1.867281e+04 -1.867281e+04 -1.867281e+04 1.000        1
## y[433]     -1.556294e+05 -1.556294e+05 -1.556294e+05 1.000        1
## y[434]     -6.953482e+05 -6.953482e+05 -6.953482e+05 1.000        1
## y[435]     -1.716703e+06 -1.716703e+06 -1.716703e+06 1.000        1
## y[436]     -1.401136e+06 -1.401136e+06 -1.401136e+06 1.000        1
## y[437]     -1.358922e+06 -1.358922e+06 -1.358922e+06 1.000        1
## y[438]     -8.549107e+04 -8.549107e+04 -8.549107e+04 1.000        1
## y[439]     -4.111661e+06 -4.111661e+06 -4.111661e+06 1.000        1
## y[440]     -9.735616e+05 -9.735616e+05 -9.735616e+05 1.000        1
## y[441]     -2.929288e+04 -2.929288e+04 -2.929288e+04 1.000        1
## y[442]     -4.731396e+06 -4.731396e+06 -4.731396e+06 1.000        1
## y[443]     -1.236392e+06 -1.236392e+06 -1.236392e+06 1.000        1
## y[444]     -7.171357e+04 -7.171357e+04 -7.171357e+04 1.000        1
## y[445]     -1.221674e+06 -1.221674e+06 -1.221674e+06 1.000        1
## y[446]     -4.344196e+05 -4.344196e+05 -4.344196e+05 1.000        1
## y[447]     -4.414660e+05 -4.414660e+05 -4.414660e+05 1.000        1
## y[448]     -1.368461e+05 -1.368461e+05 -1.368461e+05 1.000        1
## y[449]     -5.707080e+04 -5.707080e+04 -5.707080e+04 1.000        1
## y[450]     -3.376100e+01 -3.376100e+01 -3.376100e+01 1.000        1
## y[451]     -6.493511e+05 -6.493511e+05 -6.493511e+05 1.000        1
## y[452]     -6.367612e+06 -6.367612e+06 -6.367612e+06 1.000        1
## y[453]     -6.535665e+04 -6.535665e+04 -6.535665e+04 1.000        1
## y[454]     -6.677502e+04 -6.677502e+04 -6.677502e+04 1.000        1
## y[455]     -2.550918e+06 -2.550918e+06 -2.550918e+06 1.000        1
## y[456]     -1.994619e+05 -1.994619e+05 -1.994619e+05 1.000        1
## y[457]     -4.019054e+05 -4.019054e+05 -4.019054e+05 1.000        1
## y[458]     -1.469820e+05 -1.469820e+05 -1.469820e+05 1.000        1
## y[459]     -1.033096e+06 -1.033096e+06 -1.033096e+06 1.000        1
## y[460]     -2.625683e+04 -2.625683e+04 -2.625683e+04 1.000        1
## y[461]     -2.280520e+05 -2.280520e+05 -2.280520e+05 1.000        1
## y[462]     -1.583641e+05 -1.583641e+05 -1.583641e+05 1.000        1
## y[463]     -6.406549e+05 -6.406549e+05 -6.406549e+05 1.000        1
## y[464]     -1.707258e+06 -1.707258e+06 -1.707258e+06 1.000        1
## y[465]     -2.141793e+05 -2.141793e+05 -2.141793e+05 1.000        1
## y[466]     -9.148474e+05 -9.148474e+05 -9.148474e+05 1.000        1
## y[467]     -1.535003e+04 -1.535003e+04 -1.535003e+04 1.000        1
## y[468]     -1.091649e+05 -1.091649e+05 -1.091649e+05 1.000        1
## y[469]     -3.154613e+06 -3.154613e+06 -3.154613e+06 1.000        1
## y[470]     -5.957793e+04 -5.957793e+04 -5.957793e+04 1.000        1
## y[471]     -1.119785e+05 -1.119785e+05 -1.119785e+05 1.000        1
## y[472]     -5.279435e+03 -5.279435e+03 -5.279435e+03 1.000        1
```

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## y[473]      -1.963612e+05 -1.963612e+05 -1.963612e+05 1.000      1
## y[474]      -8.937521e+05 -8.937521e+05 -8.937521e+05 1.000      1
## y[475]      -5.677768e+06 -5.677768e+06 -5.677768e+06 1.000      1
## y[476]      -3.805541e+05 -3.805541e+05 -3.805541e+05 1.000      1
## y[477]      -8.484842e+05 -8.484842e+05 -8.484842e+05 1.000      1
## y[478]      -4.315607e+06 -4.315607e+06 -4.315607e+06 1.000      1
## y[479]      -6.180757e+04 -6.180757e+04 -6.180757e+04 1.000      1
## y[480]      -1.974719e+05 -1.974719e+05 -1.974719e+05 1.000      1
## y[481]      -2.279772e+05 -2.279772e+05 -2.279772e+05 1.000      1
## y[482]      -8.014341e+06 -8.014341e+06 -8.014341e+06 1.000      1
## y[483]      -1.609367e+05 -1.609367e+05 -1.609367e+05 1.000      1
## y[484]      -4.441305e+05 -4.441305e+05 -4.441305e+05 1.000      1
## y[485]      -5.306947e+04 -5.306947e+04 -5.306947e+04 1.000      1
## y[486]      -1.807609e+06 -1.807609e+06 -1.807609e+06 1.000      1
## y[487]      -3.643394e+06 -3.643394e+06 -3.643394e+06 1.000      1
## y[488]      -1.136858e+06 -1.136858e+06 -1.136858e+06 1.000      1
## y[489]      -4.476116e+05 -4.476116e+05 -4.476116e+05 1.000      1
## y[490]      -1.011391e+06 -1.011391e+06 -1.011391e+06 1.000      1
## y[491]      -2.234824e+06 -2.234824e+06 -2.234824e+06 1.000      1
## y[492]      -3.041217e+06 -3.041217e+06 -3.041217e+06 1.000      1
## y[493]      -2.150584e+05 -2.150584e+05 -2.150584e+05 1.000      1
## y[494]      -7.875769e+03 -7.875769e+03 -7.875769e+03 1.000      1
## y[495]      -3.183187e+06 -3.183187e+06 -3.183187e+06 1.000      1
## y[496]      -3.816847e+05 -3.816847e+05 -3.816847e+05 1.000      1
## y[497]      -1.122731e+05 -1.122731e+05 -1.122731e+05 1.000      1
## y[498]      -4.003246e+06 -4.003246e+06 -4.003246e+06 1.000      1
## y[499]      -1.957623e+06 -1.957623e+06 -1.957623e+06 1.000      1
## y[500]      -1.899436e+03 -1.899436e+03 -1.899436e+03 1.000      1
## y[501]      -8.642749e+04 -8.642749e+04 -8.642749e+04 1.000      1
## y[502]      -7.716705e+03 -7.716705e+03 -7.716705e+03 1.000      1
## y[503]      -3.439300e+04 -3.439300e+04 -3.439300e+04 1.000      1
## y[504]      -2.264497e+06 -2.264497e+06 -2.264497e+06 1.000      1
## y[505]      -7.433707e+04 -7.433707e+04 -7.433707e+04 1.000      1
## y[506]      -2.231244e+06 -2.231244e+06 -2.231244e+06 1.000      1
## y[507]      -1.674905e+05 -1.674905e+05 -1.674905e+05 1.000      1
## y[508]      -3.987655e+03 -3.987655e+03 -3.987655e+03 1.000      1
## y[509]      -5.153180e+05 -5.153180e+05 -5.153180e+05 1.000      1
## y[510]      -1.743239e+06 -1.743239e+06 -1.743239e+06 1.000      1
## y[511]      -1.007301e+04 -1.007301e+04 -1.007301e+04 1.000      1
## y[512]      -6.855853e+06 -6.855853e+06 -6.855853e+06 1.000      1
## y[513]      -3.667830e+06 -3.667830e+06 -3.667830e+06 1.000      1
## y[514]      -1.133725e+06 -1.133725e+06 -1.133725e+06 1.000      1
## y[515]      -3.379048e+05 -3.379048e+05 -3.379048e+05 1.000      1
## y[516]      -1.953415e+05 -1.953415e+05 -1.953415e+05 1.000      1
## y[517]      -6.543972e+04 -6.543972e+04 -6.543972e+04 1.000      1
## y[518]      -2.513775e+06 -2.513775e+06 -2.513775e+06 1.000      1
## y[519]      -1.120091e+06 -1.120091e+06 -1.120091e+06 1.000      1
## y[520]      -2.809742e+06 -2.809742e+06 -2.809742e+06 1.000      1
## y[521]      -1.896961e+06 -1.896961e+06 -1.896961e+06 1.000      1
## y[522]      -1.802401e+06 -1.802401e+06 -1.802401e+06 1.000      1
## y[523]      -2.010773e+05 -2.010773e+05 -2.010773e+05 1.000      1
## y[524]      -3.614412e+04 -3.614412e+04 -3.614412e+04 1.000      1
## y[525]      -1.792875e+06 -1.792875e+06 -1.792875e+06 1.000      1
## y[526]      -6.131478e+05 -6.131478e+05 -6.131478e+05 1.000      1
```

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## y[527]    -3.071571e+06 -3.071571e+06 -3.071571e+06 1.000    1
## y[528]    -1.523621e+06 -1.523621e+06 -1.523621e+06 1.000    1
## y[529]    -4.170658e+05 -4.170658e+05 -4.170658e+05 1.000    1
## y[530]    -2.232787e+04 -2.232787e+04 -2.232787e+04 1.000    1
## y[531]    -3.748222e+03 -3.748222e+03 -3.748222e+03 1.000    1
## y[532]    -6.968757e+05 -6.968757e+05 -6.968757e+05 1.000    1
## y[533]    -2.830437e+05 -2.830437e+05 -2.830437e+05 1.000    1
## y[534]    -3.016880e+06 -3.016880e+06 -3.016880e+06 1.000    1
## y[535]    -3.095955e+05 -3.095955e+05 -3.095955e+05 1.000    1
## y[536]    -1.257185e+05 -1.257185e+05 -1.257185e+05 1.000    1
## y[537]    -8.528239e+03 -8.528239e+03 -8.528239e+03 1.000    1
## y[538]    -5.786838e+05 -5.786838e+05 -5.786838e+05 1.000    1
## y[539]    -3.371119e+04 -3.371119e+04 -3.371119e+04 1.000    1
## y[540]    -1.132742e+05 -1.132742e+05 -1.132742e+05 1.000    1
## y[541]    -3.784994e+03 -3.784994e+03 -3.784994e+03 1.000    1
## y[542]    -6.194668e+03 -6.194668e+03 -6.194668e+03 1.000    1
## y[543]    -4.330938e+06 -4.330938e+06 -4.330938e+06 1.000    1
## y[544]    -4.164298e+06 -4.164298e+06 -4.164298e+06 1.000    1
## y[545]    -1.447164e+06 -1.447164e+06 -1.447164e+06 1.000    1
## y[546]    -1.903145e+05 -1.903145e+05 -1.903145e+05 1.000    1
## y[547]    -5.790098e+04 -5.790098e+04 -5.790098e+04 1.000    1
## y[548]    -2.850988e+05 -2.850988e+05 -2.850988e+05 1.000    1
## y[549]    -4.158985e+04 -4.158985e+04 -4.158985e+04 1.000    1
## y[550]    -8.891546e+05 -8.891546e+05 -8.891546e+05 1.000    1
## y[551]    -2.235487e+05 -2.235487e+05 -2.235487e+05 1.000    1
## y[552]    -4.249341e+06 -4.249341e+06 -4.249341e+06 1.000    1
## y[553]    -2.411577e+05 -2.411577e+05 -2.411577e+05 1.000    1
## y[554]    -2.542133e+05 -2.542133e+05 -2.542133e+05 1.000    1
## y[555]    -2.072037e+05 -2.072037e+05 -2.072037e+05 1.000    1
## y[556]    -3.559030e+04 -3.559030e+04 -3.559030e+04 1.000    1
## y[557]    -1.367116e+05 -1.367116e+05 -1.367116e+05 1.000    1
## y[558]    -4.291448e+05 -4.291448e+05 -4.291448e+05 1.000    1
## y[559]    -3.158945e+06 -3.158945e+06 -3.158945e+06 1.000    1
## y[560]    -2.413512e+06 -2.413512e+06 -2.413512e+06 1.000    1
## y[561]    -1.645532e+04 -1.645532e+04 -1.645532e+04 1.000    1
## y[562]    -1.575047e+05 -1.575047e+05 -1.575047e+05 1.000    1
## y[563]    -8.988445e+06 -8.988445e+06 -8.988445e+06 1.000    1
## y[564]    -7.687364e+04 -7.687364e+04 -7.687364e+04 1.000    1
## y[565]    -1.581016e+06 -1.581016e+06 -1.581016e+06 1.000    1
## y[566]    -2.730528e+05 -2.730528e+05 -2.730528e+05 1.000    1
## y[567]    -1.322572e+06 -1.322572e+06 -1.322572e+06 1.000    1
## y[568]    -1.514100e+05 -1.514100e+05 -1.514100e+05 1.000    1
## y[569]    -1.174304e+04 -1.174304e+04 -1.174304e+04 1.000    1
## y[570]    -8.233206e+04 -8.233206e+04 -8.233206e+04 1.000    1
## y[571]    -3.885674e+06 -3.885674e+06 -3.885674e+06 1.000    1
## y[572]    -9.339069e+05 -9.339069e+05 -9.339069e+05 1.000    1
## y[573]    -5.374787e+06 -5.374787e+06 -5.374787e+06 1.000    1
## y[574]    -5.872850e+06 -5.872850e+06 -5.872850e+06 1.000    1
## y[575]    -1.523043e+03 -1.523043e+03 -1.523043e+03 1.000    1
## y[576]    -1.293364e+04 -1.293364e+04 -1.293364e+04 1.000    1
## y[577]    -1.309064e+05 -1.309064e+05 -1.309064e+05 1.000    1
## y[578]    -9.603285e+03 -9.603285e+03 -9.603285e+03 1.000    1
## y[579]    -1.207719e+06 -1.207719e+06 -1.207719e+06 1.000    1
## y[580]    -3.385343e+05 -3.385343e+05 -3.385343e+05 1.000    1
```

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## y[581]    -6.906035e+05 -6.906035e+05 -6.906035e+05 1.000      1
## y[582]    -1.503703e+03 -1.503703e+03 -1.503703e+03 1.000      1
## y[583]    -7.379490e+05 -7.379490e+05 -7.379490e+05 1.000      1
## y[584]    -2.498150e+02 -2.498150e+02 -2.498150e+02 1.000      1
## y[585]    -1.182170e+06 -1.182170e+06 -1.182170e+06 1.000      1
## y[586]    -4.492751e+06 -4.492751e+06 -4.492751e+06 1.000      1
## y[587]    -8.934635e+05 -8.934635e+05 -8.934635e+05 1.000      1
## y[588]    -3.080942e+06 -3.080942e+06 -3.080942e+06 1.000      1
## y[589]    -5.611136e+03 -5.611136e+03 -5.611136e+03 1.000      1
## y[590]    -6.660032e+05 -6.660032e+05 -6.660032e+05 1.000      1
## y[591]    -2.848907e+06 -2.848907e+06 -2.848907e+06 1.000      1
## y[592]    -8.248966e+06 -8.248966e+06 -8.248966e+06 1.000      1
## y[593]    -2.180287e+06 -2.180287e+06 -2.180287e+06 1.000      1
## y[594]    -1.242002e+06 -1.242002e+06 -1.242002e+06 1.000      1
## y[595]    -3.412602e+04 -3.412602e+04 -3.412602e+04 1.000      1
## y[596]    -5.344142e+05 -5.344142e+05 -5.344142e+05 1.000      1
## y[597]    -6.633097e+06 -6.633097e+06 -6.633097e+06 1.000      1
## y[598]    -1.328685e+06 -1.328685e+06 -1.328685e+06 1.000      1
## y[599]    -2.140021e+05 -2.140021e+05 -2.140021e+05 1.000      1
## y[600]    -4.259791e+04 -4.259791e+04 -4.259791e+04 1.000      1
## y[601]    -5.297372e+05 -5.297372e+05 -5.297372e+05 1.000      1
## y[602]    -4.021582e+05 -4.021582e+05 -4.021582e+05 1.000      1
## y[603]    -1.607166e+04 -1.607166e+04 -1.607166e+04 1.000      1
## y[604]    -2.905860e+05 -2.905860e+05 -2.905860e+05 1.000      1
## y[605]    -4.136082e+05 -4.136082e+05 -4.136082e+05 1.000      1
## y[606]    -3.659611e+05 -3.659611e+05 -3.659611e+05 1.000      1
## y[607]    -1.214834e+06 -1.214834e+06 -1.214834e+06 1.000      1
## y[608]    -1.456233e+05 -1.456233e+05 -1.456233e+05 1.000      1
## y[609]    -1.121840e+06 -1.121840e+06 -1.121840e+06 1.000      1
## y[610]    -2.936138e+05 -2.936138e+05 -2.936138e+05 1.000      1
## y[611]    -3.176678e+05 -3.176678e+05 -3.176678e+05 1.000      1
## y[612]    -3.865958e+06 -3.865958e+06 -3.865958e+06 1.000      1
## y[613]    -7.480770e+02 -7.480770e+02 -7.480770e+02 1.000      1
## y[614]    -4.401977e+05 -4.401977e+05 -4.401977e+05 1.000      1
## y[615]    -6.502002e+05 -6.502002e+05 -6.502002e+05 1.000      1
## y[616]    -1.670754e+06 -1.670754e+06 -1.670754e+06 1.000      1
## y[617]    -2.016689e+05 -2.016689e+05 -2.016689e+05 1.000      1
## y[618]    -1.973425e+06 -1.973425e+06 -1.973425e+06 1.000      1
## y[619]    -2.556371e+04 -2.556371e+04 -2.556371e+04 1.000      1
## y[620]    -4.124991e+06 -4.124991e+06 -4.124991e+06 1.000      1
## y[621]    -7.910389e+05 -7.910389e+05 -7.910389e+05 1.000      1
## y[622]    -9.919799e+05 -9.919799e+05 -9.919799e+05 1.000      1
## y[623]    -1.310701e+06 -1.310701e+06 -1.310701e+06 1.000      1
## y[624]    -2.081500e+05 -2.081500e+05 -2.081500e+05 1.000      1
## y[625]    -7.342257e+05 -7.342257e+05 -7.342257e+05 1.000      1
## y[626]    -1.191239e+06 -1.191239e+06 -1.191239e+06 1.000      1
## y[627]    -2.215030e+06 -2.215030e+06 -2.215030e+06 1.000      1
## y[628]    -2.012459e+06 -2.012459e+06 -2.012459e+06 1.000      1
## y[629]    -5.234139e+04 -5.234139e+04 -5.234139e+04 1.000      1
## y[630]    -7.805918e+04 -7.805918e+04 -7.805918e+04 1.000      1
## y[631]    -6.469845e+05 -6.469845e+05 -6.469845e+05 1.000      1
## y[632]    -2.228011e+06 -2.228011e+06 -2.228011e+06 1.000      1
## y[633]    -1.820986e+05 -1.820986e+05 -1.820986e+05 1.000      1
## y[634]    -2.383926e+05 -2.383926e+05 -2.383926e+05 1.000      1
```

```
## y[635]      -2.264641e+06 -2.264641e+06 -2.264641e+06 1.000      1
## y[636]      -5.675252e+05 -5.675252e+05 -5.675252e+05 1.000      1
## y[637]      -2.486052e+05 -2.486052e+05 -2.486052e+05 1.000      1
## y[638]      -9.084674e+04 -9.084674e+04 -9.084674e+04 1.000      1
## y[639]      -2.825274e+06 -2.825274e+06 -2.825274e+06 1.000      1
## y[640]      -1.750101e+06 -1.750101e+06 -1.750101e+06 1.000      1
## y[641]      -2.099280e+06 -2.099280e+06 -2.099280e+06 1.000      1
## y[642]      -5.657999e+05 -5.657999e+05 -5.657999e+05 1.000      1
## y[643]      -1.181513e+06 -1.181513e+06 -1.181513e+06 1.000      1
## y[644]      -2.288889e+05 -2.288889e+05 -2.288889e+05 1.000      1
## y[645]      -4.454254e+05 -4.454254e+05 -4.454254e+05 1.000      1
## y[646]      -2.339192e+03 -2.339192e+03 -2.339192e+03 1.000      1
## y[647]      -2.928111e+05 -2.928111e+05 -2.928111e+05 1.000      1
## y[648]      -2.650091e+05 -2.650091e+05 -2.650091e+05 1.000      1
## y[649]      -1.186790e+06 -1.186790e+06 -1.186790e+06 1.000      1
## y[650]      -4.584846e+05 -4.584846e+05 -4.584846e+05 1.000      1
## y[651]      -1.653894e+06 -1.653894e+06 -1.653894e+06 1.000      1
## y[652]      -5.750474e+06 -5.750474e+06 -5.750474e+06 1.000      1
## y[653]      -7.430015e+03 -7.430015e+03 -7.430015e+03 1.000      1
## y[654]      -1.386897e+06 -1.386897e+06 -1.386897e+06 1.000      1
## y[655]      -1.276227e+05 -1.276227e+05 -1.276227e+05 1.000      1
## y[656]      -1.435959e+05 -1.435959e+05 -1.435959e+05 1.000      1
## y[657]      -4.716144e+04 -4.716144e+04 -4.716144e+04 1.000      1
## y[658]      -1.541235e+03 -1.541235e+03 -1.541235e+03 1.000      1
## y[659]      -1.988885e+05 -1.988885e+05 -1.988885e+05 1.000      1
## y[660]      -5.514108e+06 -5.514108e+06 -5.514108e+06 1.000      1
## y[661]      -1.166345e+06 -1.166345e+06 -1.166345e+06 1.000      1
## y[662]      -3.471118e+05 -3.471118e+05 -3.471118e+05 1.000      1
## y[663]      -2.158687e+06 -2.158687e+06 -2.158687e+06 1.000      1
## y[664]      -2.368296e+06 -2.368296e+06 -2.368296e+06 1.000      1
## y[665]      -1.562521e+04 -1.562521e+04 -1.562521e+04 1.000      1
## y[666]      -1.956382e+05 -1.956382e+05 -1.956382e+05 1.000      1
## y[667]      -1.183098e+05 -1.183098e+05 -1.183098e+05 1.000      1
## y[668]      -4.727292e+05 -4.727292e+05 -4.727292e+05 1.000      1
## y[669]      -4.653226e+03 -4.653226e+03 -4.653226e+03 1.000      1
## y[670]      -1.705106e+06 -1.705106e+06 -1.705106e+06 1.000      1
## y[671]      -1.077947e+05 -1.077947e+05 -1.077947e+05 1.000      1
## y[672]      -5.640310e+04 -5.640310e+04 -5.640310e+04 1.000      1
## y[673]      -2.465503e+05 -2.465503e+05 -2.465503e+05 1.000      1
## y[674]      -1.769259e+05 -1.769259e+05 -1.769259e+05 1.000      1
## y[675]      -9.245891e+04 -9.245891e+04 -9.245891e+04 1.000      1
## y[676]      -1.370007e+06 -1.370007e+06 -1.370007e+06 1.000      1
## y[677]      -1.850280e+05 -1.850280e+05 -1.850280e+05 1.000      1
## y[678]      -6.413915e+04 -6.413915e+04 -6.413915e+04 1.000      1
## y[679]      -1.507716e+05 -1.507716e+05 -1.507716e+05 1.000      1
## y[680]      -8.588520e+02 -8.588520e+02 -8.588520e+02 1.000      1
## y[681]      -1.339020e+05 -1.339020e+05 -1.339020e+05 1.000      1
## y[682]      -1.147563e+06 -1.147563e+06 -1.147563e+06 1.000      1
## y[683]      -1.063102e+06 -1.063102e+06 -1.063102e+06 1.000      1
## y[684]      -1.298033e+04 -1.298033e+04 -1.298033e+04 1.000      1
## y[685]      -8.904743e+05 -8.904743e+05 -8.904743e+05 1.000      1
## y[686]      -2.495385e+06 -2.495385e+06 -2.495385e+06 1.000      1
## y[687]      -7.667396e+05 -7.667396e+05 -7.667396e+05 1.000      1
## y[688]      -2.429204e+05 -2.429204e+05 -2.429204e+05 1.000      1
```

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## y[689]      -2.554255e+06 -2.554255e+06 -2.554255e+06 1.000      1
## y[690]      -2.185853e+04 -2.185853e+04 -2.185853e+04 1.000      1
## y[691]      -2.448365e+05 -2.448365e+05 -2.448365e+05 1.000      1
## y[692]      -1.328579e+05 -1.328579e+05 -1.328579e+05 1.000      1
## y[693]      -3.237511e+06 -3.237511e+06 -3.237511e+06 1.000      1
## y[694]      -1.964360e+06 -1.964360e+06 -1.964360e+06 1.000      1
## y[695]      -2.930665e+06 -2.930665e+06 -2.930665e+06 1.000      1
## y[696]      -8.442886e+03 -8.442886e+03 -8.442886e+03 1.000      1
## y[697]      -7.022688e+05 -7.022688e+05 -7.022688e+05 1.000      1
## y[698]      -3.750495e+06 -3.750495e+06 -3.750495e+06 1.000      1
## y[699]      -8.160060e+05 -8.160060e+05 -8.160060e+05 1.000      1
## y[700]      -6.075747e+04 -6.075747e+04 -6.075747e+04 1.000      1
## y[701]      -3.397104e+06 -3.397104e+06 -3.397104e+06 1.000      1
## y[702]      -9.897568e+04 -9.897568e+04 -9.897568e+04 1.000      1
## y[703]      -2.168555e+06 -2.168555e+06 -2.168555e+06 1.000      1
## y[704]      -2.019706e+06 -2.019706e+06 -2.019706e+06 1.000      1
## y[705]      -2.004974e+05 -2.004974e+05 -2.004974e+05 1.000      1
## y[706]      -8.742587e+05 -8.742587e+05 -8.742587e+05 1.000      1
## y[707]      -2.405764e+06 -2.405764e+06 -2.405764e+06 1.000      1
## y[708]      -7.510861e+06 -7.510861e+06 -7.510861e+06 1.000      1
## y[709]      -1.440921e+06 -1.440921e+06 -1.440921e+06 1.000      1
## y[710]      -4.530354e+05 -4.530354e+05 -4.530354e+05 1.000      1
## y[711]      -2.383900e+01 -2.383900e+01 -2.383900e+01 1.000      1
## y[712]      -6.063371e+05 -6.063371e+05 -6.063371e+05 1.000      1
## y[713]      -1.477959e+06 -1.477959e+06 -1.477959e+06 1.000      1
## y[714]      -2.766545e+06 -2.766545e+06 -2.766545e+06 1.000      1
## y[715]      -2.304725e+03 -2.304725e+03 -2.304725e+03 1.000      1
## y[716]      -2.259001e+05 -2.259001e+05 -2.259001e+05 1.000      1
## y[717]      -1.347502e+03 -1.347502e+03 -1.347502e+03 1.000      1
## y[718]      -6.534898e+05 -6.534898e+05 -6.534898e+05 1.000      1
## y[719]      -8.497045e+05 -8.497045e+05 -8.497045e+05 1.000      1
## y[720]      -8.810861e+05 -8.810861e+05 -8.810861e+05 1.000      1
## y[721]      -2.365796e+05 -2.365796e+05 -2.365796e+05 1.000      1
## y[722]      -2.772826e+04 -2.772826e+04 -2.772826e+04 1.000      1
## y[723]      -5.689514e+05 -5.689514e+05 -5.689514e+05 1.000      1
## y[724]      -9.306678e+04 -9.306678e+04 -9.306678e+04 1.000      1
## y[725]      -7.446840e+05 -7.446840e+05 -7.446840e+05 1.000      1
## y[726]      -1.567264e+06 -1.567264e+06 -1.567264e+06 1.000      1
## y[727]      -1.926851e+05 -1.926851e+05 -1.926851e+05 1.000      1
## y[728]      -3.527196e+04 -3.527196e+04 -3.527196e+04 1.000      1
## y[729]      -1.754114e+05 -1.754114e+05 -1.754114e+05 1.000      1
## y[730]      -1.256728e+06 -1.256728e+06 -1.256728e+06 1.000      1
## y[731]      -7.632449e+05 -7.632449e+05 -7.632449e+05 1.000      1
## y[732]      -5.816024e+03 -5.816024e+03 -5.816024e+03 1.000      1
## y[733]      -4.446997e+04 -4.446997e+04 -4.446997e+04 1.000      1
## y[734]      -1.369712e+04 -1.369712e+04 -1.369712e+04 1.000      1
## y[735]      -2.012743e+06 -2.012743e+06 -2.012743e+06 1.000      1
## y[736]      -2.301437e+06 -2.301437e+06 -2.301437e+06 1.000      1
## y[737]      -1.391248e+06 -1.391248e+06 -1.391248e+06 1.000      1
## y[738]      -3.465173e+06 -3.465173e+06 -3.465173e+06 1.000      1
## y[739]      -7.628296e+04 -7.628296e+04 -7.628296e+04 1.000      1
## y[740]      -1.213183e+06 -1.213183e+06 -1.213183e+06 1.000      1
## y[741]      -1.281096e+05 -1.281096e+05 -1.281096e+05 1.000      1
## y[742]      -1.240776e+06 -1.240776e+06 -1.240776e+06 1.000      1
```

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## y[743]     -2.424288e+06 -2.424288e+06 -2.424288e+06 1.000      1
## y[744]     -1.198193e+07 -1.198193e+07 -1.198193e+07 1.000      1
## y[745]     -1.313175e+06 -1.313175e+06 -1.313175e+06 1.000      1
## y[746]     -7.194898e+05 -7.194898e+05 -7.194898e+05 1.000      1
## y[747]     -3.045504e+05 -3.045504e+05 -3.045504e+05 1.000      1
## y[748]     -9.998786e+05 -9.998786e+05 -9.998786e+05 1.000      1
## y[749]     -1.336977e+05 -1.336977e+05 -1.336977e+05 1.000      1
## y[750]     -5.160048e+05 -5.160048e+05 -5.160048e+05 1.000      1
## y[751]     -6.169275e+06 -6.169275e+06 -6.169275e+06 1.000      1
## y[752]     -1.547767e+06 -1.547767e+06 -1.547767e+06 1.000      1
## y[753]     -6.757483e+05 -6.757483e+05 -6.757483e+05 1.000      1
## y[754]     -2.188471e+06 -2.188471e+06 -2.188471e+06 1.000      1
## y[755]     -1.500944e+06 -1.500944e+06 -1.500944e+06 1.000      1
## y[756]     -1.341490e+04 -1.341490e+04 -1.341490e+04 1.000      1
## y[757]     -1.928220e+05 -1.928220e+05 -1.928220e+05 1.000      1
## y[758]     -9.092959e+05 -9.092959e+05 -9.092959e+05 1.000      1
## y[759]     -3.708767e+05 -3.708767e+05 -3.708767e+05 1.000      1
## y[760]     -1.284298e+05 -1.284298e+05 -1.284298e+05 1.000      1
## y[761]     -4.392958e+06 -4.392958e+06 -4.392958e+06 1.000      1
## y[762]     -3.821996e+06 -3.821996e+06 -3.821996e+06 1.000      1
## y[763]     -1.862080e+05 -1.862080e+05 -1.862080e+05 1.000      1
## y[764]     -3.198812e+04 -3.198812e+04 -3.198812e+04 1.000      1
## y[765]     -2.317459e+05 -2.317459e+05 -2.317459e+05 1.000      1
## y[766]     -6.751868e+05 -6.751868e+05 -6.751868e+05 1.000      1
## y[767]     -5.866149e+04 -5.866149e+04 -5.866149e+04 1.000      1
## y[768]     -9.468272e+05 -9.468272e+05 -9.468272e+05 1.000      1
## y[769]     -2.022588e+06 -2.022588e+06 -2.022588e+06 1.000      1
## y[770]     -1.252187e+05 -1.252187e+05 -1.252187e+05 1.000      1
## y[771]     -2.031408e+06 -2.031408e+06 -2.031408e+06 1.000      1
## y[772]     -4.250048e+06 -4.250048e+06 -4.250048e+06 1.000      1
## y[773]     -2.550763e+05 -2.550763e+05 -2.550763e+05 1.000      1
## y[774]     -3.502241e+03 -3.502241e+03 -3.502241e+03 1.000      1
## y[775]     -2.717131e+06 -2.717131e+06 -2.717131e+06 1.000      1
## y[776]     -3.006166e+05 -3.006166e+05 -3.006166e+05 1.000      1
## y[777]     -7.778863e+04 -7.778863e+04 -7.778863e+04 1.000      1
## y[778]     -3.003708e+04 -3.003708e+04 -3.003708e+04 1.000      1
## y[779]     -8.103795e+05 -8.103795e+05 -8.103795e+05 1.000      1
## y[780]     -2.840197e+05 -2.840197e+05 -2.840197e+05 1.000      1
## y[781]     -1.073598e+06 -1.073598e+06 -1.073598e+06 1.000      1
## y[782]     -4.415289e+06 -4.415289e+06 -4.415289e+06 1.000      1
## y[783]     -7.872288e+05 -7.872288e+05 -7.872288e+05 1.000      1
## y[784]     -1.946373e+06 -1.946373e+06 -1.946373e+06 1.000      1
## y[785]     -9.985416e+05 -9.985416e+05 -9.985416e+05 1.000      1
## y[786]     -5.109277e+03 -5.109277e+03 -5.109277e+03 1.000      1
## y[787]     -2.574748e+04 -2.574748e+04 -2.574748e+04 1.000      1
## y[788]     -6.192421e+04 -6.192421e+04 -6.192421e+04 1.000      1
## y[789]     -5.661651e+05 -5.661651e+05 -5.661651e+05 1.000      1
## y[790]     -5.294843e+05 -5.294843e+05 -5.294843e+05 1.000      1
## y[791]     -5.988666e+05 -5.988666e+05 -5.988666e+05 1.000      1
## y[792]     -2.468277e+06 -2.468277e+06 -2.468277e+06 1.000      1
## y[793]     -4.745289e+04 -4.745289e+04 -4.745289e+04 1.000      1
## y[794]     -3.536240e+06 -3.536240e+06 -3.536240e+06 1.000      1
## y[795]     -1.199617e+06 -1.199617e+06 -1.199617e+06 1.000      1
## y[796]     -2.096657e+05 -2.096657e+05 -2.096657e+05 1.000      1
```

```
## y[797]     -1.282196e+06 -1.282196e+06 -1.282196e+06 1.000     1
## y[798]     -2.705903e+06 -2.705903e+06 -2.705903e+06 1.000     1
## y[799]     -3.383220e+05 -3.383220e+05 -3.383220e+05 1.000     1
## y[800]     -2.728503e+05 -2.728503e+05 -2.728503e+05 1.000     1
## y[801]     -3.952594e+05 -3.952594e+05 -3.952594e+05 1.000     1
## y[802]     -2.487086e+03 -2.487086e+03 -2.487086e+03 1.000     1
## y[803]     -7.850719e+05 -7.850719e+05 -7.850719e+05 1.000     1
## y[804]     -1.284290e+05 -1.284290e+05 -1.284290e+05 1.000     1
## y[805]     -2.138684e+05 -2.138684e+05 -2.138684e+05 1.000     1
## y[806]     -1.701999e+06 -1.701999e+06 -1.701999e+06 1.000     1
## y[807]     -5.792093e+05 -5.792093e+05 -5.792093e+05 1.000     1
## y[808]     -4.569047e+03 -4.569047e+03 -4.569047e+03 1.000     1
## y[809]     -8.666178e+03 -8.666178e+03 -8.666178e+03 1.000     1
## y[810]     -1.731017e+04 -1.731017e+04 -1.731017e+04 1.000     1
## y[811]     -2.176735e+06 -2.176735e+06 -2.176735e+06 1.000     1
## y[812]     -1.495836e+06 -1.495836e+06 -1.495836e+06 1.000     1
## y[813]     -1.509717e+06 -1.509717e+06 -1.509717e+06 1.000     1
## y[814]     -4.621755e+06 -4.621755e+06 -4.621755e+06 1.000     1
## y[815]     -1.239987e+06 -1.239987e+06 -1.239987e+06 1.000     1
## y[816]     -2.470300e+06 -2.470300e+06 -2.470300e+06 1.000     1
## y[817]     -2.019053e+06 -2.019053e+06 -2.019053e+06 1.000     1
## y[818]     -3.770842e+04 -3.770842e+04 -3.770842e+04 1.000     1
## y[819]     -2.215253e+05 -2.215253e+05 -2.215253e+05 1.000     1
## y[820]     -1.734232e+05 -1.734232e+05 -1.734232e+05 1.000     1
## y[821]     -1.579518e+05 -1.579518e+05 -1.579518e+05 1.000     1
## y[822]     -3.345371e+05 -3.345371e+05 -3.345371e+05 1.000     1
## y[823]     -2.235545e+06 -2.235545e+06 -2.235545e+06 1.000     1
## y[824]     -1.854908e+06 -1.854908e+06 -1.854908e+06 1.000     1
## y[825]     -3.068329e+04 -3.068329e+04 -3.068329e+04 1.000     1
## y[826]     -3.584636e+04 -3.584636e+04 -3.584636e+04 1.000     1
## y[827]     -1.010385e+04 -1.010385e+04 -1.010385e+04 1.000     1
## y[828]     -2.882850e+05 -2.882850e+05 -2.882850e+05 1.000     1
## y[829]     -2.581378e+06 -2.581378e+06 -2.581378e+06 1.000     1
## y[830]     -4.655538e+05 -4.655538e+05 -4.655538e+05 1.000     1
## y[831]     -2.805979e+05 -2.805979e+05 -2.805979e+05 1.000     1
## y[832]     -9.292727e+05 -9.292727e+05 -9.292727e+05 1.000     1
## y[833]     -6.998302e+04 -6.998302e+04 -6.998302e+04 1.000     1
## y[834]     -1.740094e+03 -1.740094e+03 -1.740094e+03 1.000     1
## y[835]     -8.168741e+05 -8.168741e+05 -8.168741e+05 1.000     1
## y[836]     -3.005552e+05 -3.005552e+05 -3.005552e+05 1.000     1
## y[837]     -2.824200e+01 -2.824200e+01 -2.824200e+01 1.000     1
## y[838]     -4.250332e+05 -4.250332e+05 -4.250332e+05 1.000     1
## y[839]     -8.526148e+04 -8.526148e+04 -8.526148e+04 1.000     1
## y[840]     -2.979657e+05 -2.979657e+05 -2.979657e+05 1.000     1
## y[841]     -5.993328e+06 -5.993328e+06 -5.993328e+06 1.000     1
## y[842]     -1.510551e+05 -1.510551e+05 -1.510551e+05 1.000     1
## y[843]     -2.105469e+05 -2.105469e+05 -2.105469e+05 1.000     1
## y[844]     -7.659228e+04 -7.659228e+04 -7.659228e+04 1.000     1
## y[845]     -3.351514e+05 -3.351514e+05 -3.351514e+05 1.000     1
## y[846]     -9.428350e+05 -9.428350e+05 -9.428350e+05 1.000     1
## y[847]     -1.870091e+04 -1.870091e+04 -1.870091e+04 1.000     1
## y[848]     -2.500952e+05 -2.500952e+05 -2.500952e+05 1.000     1
## y[849]     -1.111053e+06 -1.111053e+06 -1.111053e+06 1.000     1
## y[850]     -5.950518e+06 -5.950518e+06 -5.950518e+06 1.000     1
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```
## y[851]    -2.906338e+03 -2.906338e+03 -2.906338e+03 1.000      1
## y[852]    -1.279987e+06 -1.279987e+06 -1.279987e+06 1.000      1
## y[853]    -4.500568e+06 -4.500568e+06 -4.500568e+06 1.000      1
## y[854]    -6.253872e+05 -6.253872e+05 -6.253872e+05 1.000      1
## y[855]    -3.038455e+05 -3.038455e+05 -3.038455e+05 1.000      1
## y[856]    -2.330951e+06 -2.330951e+06 -2.330951e+06 1.000      1
## y[857]    -4.263692e+03 -4.263692e+03 -4.263692e+03 1.000      1
## y[858]    -3.256245e+05 -3.256245e+05 -3.256245e+05 1.000      1
## y[859]    -4.071024e+05 -4.071024e+05 -4.071024e+05 1.000      1
## y[860]    -1.559431e+05 -1.559431e+05 -1.559431e+05 1.000      1
## y[861]    -7.060918e+03 -7.060918e+03 -7.060918e+03 1.000      1
## y[862]    -7.415560e+04 -7.415560e+04 -7.415560e+04 1.000      1
## y[863]    -5.181987e+05 -5.181987e+05 -5.181987e+05 1.000      1
## y[864]    -3.227010e+06 -3.227010e+06 -3.227010e+06 1.000      1
## y[865]    -2.594167e+06 -2.594167e+06 -2.594167e+06 1.000      1
## y[866]    -1.620406e+04 -1.620406e+04 -1.620406e+04 1.000      1
## y[867]    -4.483849e+06 -4.483849e+06 -4.483849e+06 1.000      1
## y[868]    -1.496187e+06 -1.496187e+06 -1.496187e+06 1.000      1
## y[869]    -8.015509e+05 -8.015509e+05 -8.015509e+05 1.000      1
## y[870]    -3.553666e+05 -3.553666e+05 -3.553666e+05 1.000      1
## y[871]    -2.203091e+06 -2.203091e+06 -2.203091e+06 1.000      1
## y[872]    -1.375429e+05 -1.375429e+05 -1.375429e+05 1.000      1
## y[873]    -3.021502e+06 -3.021502e+06 -3.021502e+06 1.000      1
## y[874]    -2.022283e+06 -2.022283e+06 -2.022283e+06 1.000      1
## y[875]    -6.204704e+04 -6.204704e+04 -6.204704e+04 1.000      1
## y[876]    -1.405452e+06 -1.405452e+06 -1.405452e+06 1.000      1
## y[877]    -6.536051e+06 -6.536051e+06 -6.536051e+06 1.000      1
## y[878]    -3.564148e+05 -3.564148e+05 -3.564148e+05 1.000      1
## y[879]    -9.465780e+02 -9.465780e+02 -9.465780e+02 1.000      1
## y[880]    -4.689765e+05 -4.689765e+05 -4.689765e+05 1.000      1
## y[881]    -8.089840e+05 -8.089840e+05 -8.089840e+05 1.000      1
## y[882]    -2.841553e+05 -2.841553e+05 -2.841553e+05 1.000      1
## y[883]    -2.805626e+05 -2.805626e+05 -2.805626e+05 1.000      1
## y[884]    -1.095136e+05 -1.095136e+05 -1.095136e+05 1.000      1
## y[885]    -2.674308e+05 -2.674308e+05 -2.674308e+05 1.000      1
## y[886]    -1.188098e+04 -1.188098e+04 -1.188098e+04 1.000      1
## y[887]    -1.119028e+06 -1.119028e+06 -1.119028e+06 1.000      1
## y[888]    -1.136762e+05 -1.136762e+05 -1.136762e+05 1.000      1
## y[889]    -6.424974e+04 -6.424974e+04 -6.424974e+04 1.000      1
## y[890]    -1.258548e+05 -1.258548e+05 -1.258548e+05 1.000      1
## y[891]    -1.159033e+06 -1.159033e+06 -1.159033e+06 1.000      1
## y[892]    -3.726846e+06 -3.726846e+06 -3.726846e+06 1.000      1
## y[893]    -1.709846e+06 -1.709846e+06 -1.709846e+06 1.000      1
## y[894]    -5.912688e+04 -5.912688e+04 -5.912688e+04 1.000      1
## y[895]    -1.467388e+05 -1.467388e+05 -1.467388e+05 1.000      1
## y[896]    -2.811864e+05 -2.811864e+05 -2.811864e+05 1.000      1
## y[897]    -1.162904e+06 -1.162904e+06 -1.162904e+06 1.000      1
## y[898]    -2.104396e+05 -2.104396e+05 -2.104396e+05 1.000      1
## y[899]    -4.286381e+06 -4.286381e+06 -4.286381e+06 1.000      1
## y[900]    -1.679282e+06 -1.679282e+06 -1.679282e+06 1.000      1
## y[901]    -2.562429e+05 -2.562429e+05 -2.562429e+05 1.000      1
## y[902]    -1.779898e+05 -1.779898e+05 -1.779898e+05 1.000      1
## y[903]    -8.965532e+05 -8.965532e+05 -8.965532e+05 1.000      1
## y[904]    -3.787292e+05 -3.787292e+05 -3.787292e+05 1.000      1
```

```
## y[905]      -4.989321e+05 -4.989321e+05 -4.989321e+05 1.000      1
## y[906]      -5.863545e+06 -5.863545e+06 -5.863545e+06 1.000      1
## y[907]      -1.559696e+05 -1.559696e+05 -1.559696e+05 1.000      1
## y[908]      -1.474480e+02 -1.474480e+02 -1.474480e+02 1.000      1
## y[909]      -6.021978e+05 -6.021978e+05 -6.021978e+05 1.000      1
## y[910]      -6.194229e+05 -6.194229e+05 -6.194229e+05 1.000      1
## y[911]      -7.075179e+05 -7.075179e+05 -7.075179e+05 1.000      1
## y[912]      -8.037799e+05 -8.037799e+05 -8.037799e+05 1.000      1
## y[913]      -1.062632e+06 -1.062632e+06 -1.062632e+06 1.000      1
## y[914]      -1.551741e+05 -1.551741e+05 -1.551741e+05 1.000      1
## y[915]      -2.445544e+06 -2.445544e+06 -2.445544e+06 1.000      1
## y[916]      -1.839375e+05 -1.839375e+05 -1.839375e+05 1.000      1
## y[917]      -2.168288e+06 -2.168288e+06 -2.168288e+06 1.000      1
## y[918]      -1.750316e+06 -1.750316e+06 -1.750316e+06 1.000      1
## y[919]      -2.015327e+05 -2.015327e+05 -2.015327e+05 1.000      1
## y[920]      -4.453630e+06 -4.453630e+06 -4.453630e+06 1.000      1
## y[921]      -1.291516e+05 -1.291516e+05 -1.291516e+05 1.000      1
## y[922]      -1.005501e+06 -1.005501e+06 -1.005501e+06 1.000      1
## y[923]      -2.660636e+04 -2.660636e+04 -2.660636e+04 1.000      1
## y[924]      -1.976770e+06 -1.976770e+06 -1.976770e+06 1.000      1
## y[925]      -6.556195e+05 -6.556195e+05 -6.556195e+05 1.000      1
## y[926]      -2.154932e+05 -2.154932e+05 -2.154932e+05 1.000      1
## y[927]      -2.589131e+06 -2.589131e+06 -2.589131e+06 1.000      1
## y[928]      -8.017760e+05 -8.017760e+05 -8.017760e+05 1.000      1
## y[929]      -1.156347e+05 -1.156347e+05 -1.156347e+05 1.000      1
## y[930]      -2.834160e+06 -2.834160e+06 -2.834160e+06 1.000      1
## y[931]      -4.256973e+05 -4.256973e+05 -4.256973e+05 1.000      1
## y[932]      -4.160543e+06 -4.160543e+06 -4.160543e+06 1.000      1
## y[933]      -1.018968e+06 -1.018968e+06 -1.018968e+06 1.000      1
## y[934]      -3.139913e+05 -3.139913e+05 -3.139913e+05 1.000      1
## y[935]      -4.342868e+04 -4.342868e+04 -4.342868e+04 1.000      1
## y[936]      -3.264367e+06 -3.264367e+06 -3.264367e+06 1.000      1
## y[937]      -2.687717e+05 -2.687717e+05 -2.687717e+05 1.000      1
## y[938]      -2.752589e+03 -2.752589e+03 -2.752589e+03 1.000      1
## y[939]      -6.313312e+04 -6.313312e+04 -6.313312e+04 1.000      1
## y[940]      -1.093400e+06 -1.093400e+06 -1.093400e+06 1.000      1
## y[941]      -5.812011e+05 -5.812011e+05 -5.812011e+05 1.000      1
## y[942]      -4.851758e+05 -4.851758e+05 -4.851758e+05 1.000      1
## y[943]      -3.670578e+06 -3.670578e+06 -3.670578e+06 1.000      1
## y[944]      -2.820042e+03 -2.820042e+03 -2.820042e+03 1.000      1
## y[945]      -9.299183e+05 -9.299183e+05 -9.299183e+05 1.000      1
## y[946]      -1.720900e+01 -1.720900e+01 -1.720900e+01 1.000      1
## y[947]      -6.295450e+05 -6.295450e+05 -6.295450e+05 1.000      1
## y[948]      -7.049785e+04 -7.049785e+04 -7.049785e+04 1.000      1
## y[949]      -1.201952e+07 -1.201952e+07 -1.201952e+07 1.000      1
## y[950]      -2.926821e+03 -2.926821e+03 -2.926821e+03 1.000      1
## y[951]      -1.204016e+04 -1.204016e+04 -1.204016e+04 1.000      1
## y[952]      -9.650140e+04 -9.650140e+04 -9.650140e+04 1.000      1
## y[953]      -2.044268e+06 -2.044268e+06 -2.044268e+06 1.000      1
## y[954]      -9.959219e+05 -9.959219e+05 -9.959219e+05 1.000      1
## y[955]      -6.873922e+04 -6.873922e+04 -6.873922e+04 1.000      1
## y[956]      -7.022128e+05 -7.022128e+05 -7.022128e+05 1.000      1
## y[957]      -2.989206e+05 -2.989206e+05 -2.989206e+05 1.000      1
## y[958]      -1.178650e+06 -1.178650e+06 -1.178650e+06 1.000      1
```

```
## y[959]     -4.787845e+06 -4.787845e+06 -4.787845e+06 1.000    1
## y[960]     -2.383790e+05 -2.383790e+05 -2.383790e+05 1.000    1
## y[961]     -1.884285e+06 -1.884285e+06 -1.884285e+06 1.000    1
## y[962]     -6.006382e+06 -6.006382e+06 -6.006382e+06 1.000    1
## y[963]     -7.954211e+04 -7.954211e+04 -7.954211e+04 1.000    1
## y[964]     -4.430610e+05 -4.430610e+05 -4.430610e+05 1.000    1
## y[965]     -3.154086e+05 -3.154086e+05 -3.154086e+05 1.000    1
## y[966]     -1.956416e+05 -1.956416e+05 -1.956416e+05 1.000    1
## y[967]     -1.810571e+05 -1.810571e+05 -1.810571e+05 1.000    1
## y[968]     -3.617006e+04 -3.617006e+04 -3.617006e+04 1.000    1
## y[969]     -2.234716e+05 -2.234716e+05 -2.234716e+05 1.000    1
## y[970]     -2.464163e+06 -2.464163e+06 -2.464163e+06 1.000    1
## y[971]     -2.924424e+04 -2.924424e+04 -2.924424e+04 1.000    1
## y[972]     -4.026677e+05 -4.026677e+05 -4.026677e+05 1.000    1
## y[973]     -1.139432e+05 -1.139432e+05 -1.139432e+05 1.000    1
## y[974]     -4.006229e+05 -4.006229e+05 -4.006229e+05 1.000    1
## y[975]     -6.843363e+05 -6.843363e+05 -6.843363e+05 1.000    1
## y[976]     -4.601885e+05 -4.601885e+05 -4.601885e+05 1.000    1
## y[977]     -2.524240e+06 -2.524240e+06 -2.524240e+06 1.000    1
## y[978]     -1.675758e+06 -1.675758e+06 -1.675758e+06 1.000    1
## y[979]     -6.036431e+05 -6.036431e+05 -6.036431e+05 1.000    1
## y[980]     -2.850051e+06 -2.850051e+06 -2.850051e+06 1.000    1
## y[981]     -1.611305e+05 -1.611305e+05 -1.611305e+05 1.000    1
## y[982]     -2.811536e+06 -2.811536e+06 -2.811536e+06 1.000    1
## y[983]     -3.526948e+04 -3.526948e+04 -3.526948e+04 1.000    1
## y[984]     -1.613970e+05 -1.613970e+05 -1.613970e+05 1.000    1
## y[985]     -3.241508e+06 -3.241508e+06 -3.241508e+06 1.000    1
## y[986]     -1.718220e+04 -1.718220e+04 -1.718220e+04 1.000    1
## y[987]     -1.251933e+05 -1.251933e+05 -1.251933e+05 1.000    1
## y[988]     -5.402316e+03 -5.402316e+03 -5.402316e+03 1.000    1
## y[989]     -1.113647e+04 -1.113647e+04 -1.113647e+04 1.000    1
## y[990]     -2.583384e+04 -2.583384e+04 -2.583384e+04 1.000    1
## y[991]     -1.116331e+06 -1.116331e+06 -1.116331e+06 1.000    1
## y[992]     -2.946661e+06 -2.946661e+06 -2.946661e+06 1.000    1
## y[993]     -5.145213e+03 -5.145213e+03 -5.145213e+03 1.000    1
## y[994]     -1.259416e+06 -1.259416e+06 -1.259416e+06 1.000    1
## y[995]     -2.133091e+06 -2.133091e+06 -2.133091e+06 1.000    1
## y[996]     -7.326669e+05 -7.326669e+05 -7.326669e+05 1.000    1
## y[997]     -5.135196e+04 -5.135196e+04 -5.135196e+04 1.000    1
## y[998]     -3.981738e+06 -3.981738e+06 -3.981738e+06 1.000    1
## y[999]     -1.946454e+06 -1.946454e+06 -1.946454e+06 1.000    1
## y[1000]    -3.387527e+06 -3.387527e+06 -3.387527e+06 1.000    1
## deviance   4.002741e+04  4.006737e+04  4.014231e+04 1.001  4000
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 1714.6 and DIC = 41742.3
## DIC is an estimate of expected predictive error (lower deviance is better).
denplot(model01.r2jags, parms = "beta1")
```

beta1
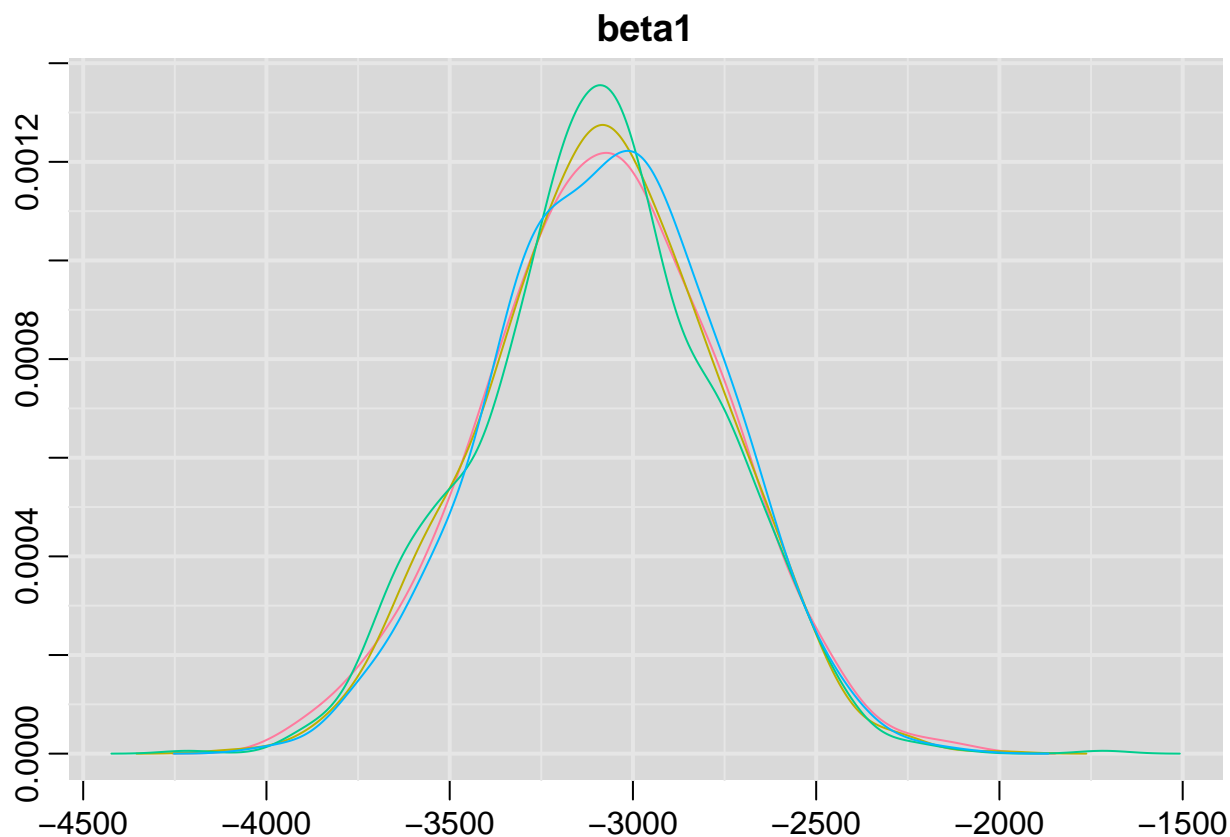
```
model01.r2jags$BUGSoutput$sims.matrix[,6]
```

```
##    [1] 3.927831e+12 3.689941e+12 3.724857e+12 3.645245e+12 3.626205e+12
##    [6] 3.406134e+12 3.689935e+12 3.409288e+12 3.932458e+12 3.634167e+12
##   [11] 3.650720e+12 3.805011e+12 3.513248e+12 3.833491e+12 3.838295e+12
##   [16] 3.388939e+12 3.435306e+12 3.629805e+12 3.619793e+12 3.575884e+12
##   [21] 3.539323e+12 3.495913e+12 3.535336e+12 3.515147e+12 3.642669e+12
##   [26] 3.701988e+12 3.577738e+12 3.613125e+12 3.308620e+12 3.283040e+12
##   [31] 3.395088e+12 3.776156e+12 3.781406e+12 3.259068e+12 3.506828e+12
##   [36] 3.662321e+12 3.605493e+12 3.430730e+12 3.693221e+12 3.517810e+12
##   [41] 3.369840e+12 3.718177e+12 3.230589e+12 3.465192e+12 3.518654e+12
##   [46] 3.636487e+12 3.488715e+12 3.391344e+12 4.006832e+12 3.214882e+12
##   [51] 3.390232e+12 3.655522e+12 3.644893e+12 3.810327e+12 3.360804e+12
##   [56] 3.343102e+12 3.465465e+12 3.249110e+12 3.884102e+12 3.553248e+12
##   [61] 3.687373e+12 4.038716e+12 3.710629e+12 3.428156e+12 3.629285e+12
##   [66] 3.619649e+12 3.479240e+12 3.481727e+12 3.383637e+12 3.431458e+12
##   [71] 3.491013e+12 3.652397e+12 3.397997e+12 3.463666e+12 3.620487e+12
##   [76] 3.539711e+12 3.485713e+12 3.362981e+12 3.638129e+12 3.699675e+12
##   [81] 3.687031e+12 3.492394e+12 3.622060e+12 3.404851e+12 3.626703e+12
##   [86] 3.362943e+12 3.701387e+12 3.523546e+12 3.430744e+12 3.470692e+12
##   [91] 3.687325e+12 3.632725e+12 3.649861e+12 3.531071e+12 3.221137e+12
##   [96] 3.461215e+12 3.571832e+12 3.661059e+12 3.135976e+12 3.525762e+12
##  [101] 3.442343e+12 3.552484e+12 3.300385e+12 3.338320e+12 3.407507e+12
##  [106] 3.203736e+12 3.510712e+12 3.509347e+12 3.814953e+12 3.734609e+12
##  [111] 3.367924e+12 3.286627e+12 3.395399e+12 3.714448e+12 3.412299e+12
##  [116] 3.515208e+12 3.888573e+12 3.373814e+12 3.448383e+12 3.321031e+12
##  [121] 3.578295e+12 3.468271e+12 3.528515e+12 3.469393e+12 3.500304e+12
##  [126] 3.352139e+12 3.157364e+12 3.740280e+12 3.655917e+12 3.342510e+12
```

```
##   [131] 3.461219e+12 3.362969e+12 3.316851e+12 3.398538e+12 3.447676e+12
##   [136] 3.916977e+12 3.707295e+12 3.512392e+12 3.655023e+12 3.350009e+12
##   [141] 3.021545e+12 3.704112e+12 3.160829e+12 3.715884e+12 3.482929e+12
##   [146] 3.532374e+12 3.585318e+12 3.520401e+12 3.553135e+12 3.657821e+12
##   [151] 3.427296e+12 3.458586e+12 3.475887e+12 3.674188e+12 3.346461e+12
##   [156] 3.538014e+12 3.343069e+12 3.264755e+12 3.208105e+12 3.909517e+12
##   [161] 3.287711e+12 3.390261e+12 3.588734e+12 3.362247e+12 3.321132e+12
##   [166] 3.547342e+12 3.604816e+12 3.396899e+12 3.674421e+12 3.442673e+12
##   [171] 3.334395e+12 3.458464e+12 3.721514e+12 3.549740e+12 3.214992e+12
##   [176] 3.970851e+12 3.689212e+12 3.567171e+12 3.653275e+12 3.546361e+12
##   [181] 3.427385e+12 3.409407e+12 3.899294e+12 3.557495e+12 3.568749e+12
##   [186] 3.479358e+12 3.557692e+12 3.447092e+12 3.685559e+12 3.596518e+12
##   [191] 3.338452e+12 3.689093e+12 3.654015e+12 3.416319e+12 3.480715e+12
##   [196] 3.174884e+12 3.629086e+12 3.904496e+12 3.796406e+12 3.666916e+12
##   [201] 3.675039e+12 3.405345e+12 3.843643e+12 3.758752e+12 3.339841e+12
##   [206] 3.600096e+12 3.625523e+12 3.642861e+12 3.683816e+12 3.735972e+12
##   [211] 3.612633e+12 3.604837e+12 3.315286e+12 3.273482e+12 3.258358e+12
##   [216] 3.659136e+12 3.502231e+12 3.373279e+12 3.044699e+12 3.492823e+12
##   [221] 3.793621e+12 3.741101e+12 3.552463e+12 3.405203e+12 3.442447e+12
##   [226] 3.669580e+12 3.825937e+12 3.810339e+12 3.805578e+12 3.716080e+12
##   [231] 3.359008e+12 3.369071e+12 3.378960e+12 3.294464e+12 3.458406e+12
##   [236] 3.482947e+12 3.714956e+12 3.708138e+12 3.560563e+12 3.724546e+12
##   [241] 3.650739e+12 3.528544e+12 3.468054e+12 3.532562e+12 3.628080e+12
##   [246] 3.580011e+12 3.597687e+12 3.415184e+12 3.477008e+12 3.441814e+12
##   [251] 3.692568e+12 3.729584e+12 3.794693e+12 3.765991e+12 3.462446e+12
##   [256] 3.550584e+12 3.700918e+12 3.341787e+12 3.327864e+12 3.704536e+12
##   [261] 3.469835e+12 3.773926e+12 3.560709e+12 3.412875e+12 3.365397e+12
##   [266] 3.576763e+12 3.533719e+12 3.561044e+12 3.601300e+12 3.242491e+12
##   [271] 3.509143e+12 3.538237e+12 3.754516e+12 3.383235e+12 3.682401e+12
##   [276] 3.845112e+12 4.004200e+12 3.473653e+12 3.405225e+12 3.569633e+12
##   [281] 3.565339e+12 3.603228e+12 3.465698e+12 3.358029e+12 3.292106e+12
##   [286] 3.374657e+12 3.389050e+12 3.635844e+12 3.557021e+12 3.305512e+12
##   [291] 3.439838e+12 3.914849e+12 3.708266e+12 3.577370e+12 3.402866e+12
##   [296] 3.726129e+12 3.519695e+12 3.547248e+12 3.596706e+12 3.491410e+12
##   [301] 3.443753e+12 3.707447e+12 3.454731e+12 3.614380e+12 3.111787e+12
##   [306] 3.740953e+12 3.732016e+12 3.472415e+12 3.482958e+12 3.808057e+12
##   [311] 3.263616e+12 3.055789e+12 3.164450e+12 3.664584e+12 3.557005e+12
##   [316] 3.620536e+12 3.231777e+12 3.496484e+12 3.597666e+12 3.744582e+12
##   [321] 3.566605e+12 3.561847e+12 3.583702e+12 3.737498e+12 3.565550e+12
##   [326] 3.461004e+12 3.718414e+12 3.374752e+12 3.561640e+12 3.621435e+12
##   [331] 3.399070e+12 3.647564e+12 3.617750e+12 3.420346e+12 3.590858e+12
##   [336] 3.295290e+12 3.369055e+12 3.393986e+12 3.385664e+12 3.477021e+12
##   [341] 3.423929e+12 3.810834e+12 3.609036e+12 3.113265e+12 3.617719e+12
##   [346] 3.452021e+12 3.330493e+12 3.319208e+12 3.522980e+12 3.872215e+12
##   [351] 3.799257e+12 3.813981e+12 3.364962e+12 3.611553e+12 3.361477e+12
##   [356] 3.460058e+12 3.850402e+12 3.358078e+12 3.591747e+12 3.446546e+12
##   [361] 3.532290e+12 3.335659e+12 3.681671e+12 3.417125e+12 3.635174e+12
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## [1117] "y[111]"  "y[112]"  "y[113]"  "y[114]"  "y[115]"  "y[116]"
## [1123] "y[117]"  "y[118]"  "y[119]"  "y[120]"  "y[121]"  "y[122]"
## [1129] "y[123]"  "y[124]"  "y[125]"  "y[126]"  "y[127]"  "y[128]"
## [1135] "y[129]"  "y[130]"  "y[131]"  "y[132]"  "y[133]"  "y[134]"
## [1141] "y[135]"  "y[136]"  "y[137]"  "y[138]"  "y[139]"  "y[140]"
## [1147] "y[141]"  "y[142]"  "y[143]"  "y[144]"  "y[145]"  "y[146]"
## [1153] "y[147]"  "y[148]"  "y[149]"  "y[150]"  "y[151]"  "y[152]"
## [1159] "y[153]"  "y[154]"  "y[155]"  "y[156]"  "y[157]"  "y[158]"
## [1165] "y[159]"  "y[160]"  "y[161]"  "y[162]"  "y[163]"  "y[164]"
## [1171] "y[165]"  "y[166]"  "y[167]"  "y[168]"  "y[169]"  "y[170]"
```

```
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## [1183] "y[177]" "y[178]" "y[179]" "y[180]" "y[181]" "y[182]"
## [1189] "y[183]" "y[184]" "y[185]" "y[186]" "y[187]" "y[188]"
## [1195] "y[189]" "y[190]" "y[191]" "y[192]" "y[193]" "y[194]"
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## [1207] "y[201]" "y[202]" "y[203]" "y[204]" "y[205]" "y[206]"
## [1213] "y[207]" "y[208]" "y[209]" "y[210]" "y[211]" "y[212]"
## [1219] "y[213]" "y[214]" "y[215]" "y[216]" "y[217]" "y[218]"
## [1225] "y[219]" "y[220]" "y[221]" "y[222]" "y[223]" "y[224]"
## [1231] "y[225]" "y[226]" "y[227]" "y[228]" "y[229]" "y[230]"
## [1237] "y[231]" "y[232]" "y[233]" "y[234]" "y[235]" "y[236]"
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## [1249] "y[243]" "y[244]" "y[245]" "y[246]" "y[247]" "y[248]"
## [1255] "y[249]" "y[250]" "y[251]" "y[252]" "y[253]" "y[254]"
## [1261] "y[255]" "y[256]" "y[257]" "y[258]" "y[259]" "y[260]"
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## [1303] "y[297]" "y[298]" "y[299]" "y[300]" "y[301]" "y[302]"
## [1309] "y[303]" "y[304]" "y[305]" "y[306]" "y[307]" "y[308]"
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## [1357] "y[351]" "y[352]" "y[353]" "y[354]" "y[355]" "y[356]"
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## [1369] "y[363]" "y[364]" "y[365]" "y[366]" "y[367]" "y[368]"
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## [1381] "y[375]" "y[376]" "y[377]" "y[378]" "y[379]" "y[380]"
## [1387] "y[381]" "y[382]" "y[383]" "y[384]" "y[385]" "y[386]"
## [1393] "y[387]" "y[388]" "y[389]" "y[390]" "y[391]" "y[392]"
## [1399] "y[393]" "y[394]" "y[395]" "y[396]" "y[397]" "y[398]"
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## [1495] "y[489]" "y[490]" "y[491]" "y[492]" "y[493]" "y[494]"
```

```
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## [1507] "y[501]" "y[502]" "y[503]" "y[504]" "y[505]" "y[506]"
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## [1561] "y[555]" "y[556]" "y[557]" "y[558]" "y[559]" "y[560]"
## [1567] "y[561]" "y[562]" "y[563]" "y[564]" "y[565]" "y[566]"
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## [1579] "y[573]" "y[574]" "y[575]" "y[576]" "y[577]" "y[578]"
## [1585] "y[579]" "y[580]" "y[581]" "y[582]" "y[583]" "y[584]"
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## [1597] "y[591]" "y[592]" "y[593]" "y[594]" "y[595]" "y[596]"
## [1603] "y[597]" "y[598]" "y[599]" "y[600]" "y[601]" "y[602]"
## [1609] "y[603]" "y[604]" "y[605]" "y[606]" "y[607]" "y[608]"
## [1615] "y[609]" "y[610]" "y[611]" "y[612]" "y[613]" "y[614]"
## [1621] "y[615]" "y[616]" "y[617]" "y[618]" "y[619]" "y[620]"
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## [1645] "y[639]" "y[640]" "y[641]" "y[642]" "y[643]" "y[644]"
## [1651] "y[645]" "y[646]" "y[647]" "y[648]" "y[649]" "y[650]"
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## [1663] "y[657]" "y[658]" "y[659]" "y[660]" "y[661]" "y[662]"
## [1669] "y[663]" "y[664]" "y[665]" "y[666]" "y[667]" "y[668]"
## [1675] "y[669]" "y[670]" "y[671]" "y[672]" "y[673]" "y[674]"
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## [1711] "y[705]" "y[706]" "y[707]" "y[708]" "y[709]" "y[710]"
## [1717] "y[711]" "y[712]" "y[713]" "y[714]" "y[715]" "y[716]"
## [1723] "y[717]" "y[718]" "y[719]" "y[720]" "y[721]" "y[722]"
## [1729] "y[723]" "y[724]" "y[725]" "y[726]" "y[727]" "y[728]"
## [1735] "y[729]" "y[730]" "y[731]" "y[732]" "y[733]" "y[734]"
## [1741] "y[735]" "y[736]" "y[737]" "y[738]" "y[739]" "y[740]"
## [1747] "y[741]" "y[742]" "y[743]" "y[744]" "y[745]" "y[746]"
## [1753] "y[747]" "y[748]" "y[749]" "y[750]" "y[751]" "y[752]"
## [1759] "y[753]" "y[754]" "y[755]" "y[756]" "y[757]" "y[758]"
## [1765] "y[759]" "y[760]" "y[761]" "y[762]" "y[763]" "y[764]"
## [1771] "y[765]" "y[766]" "y[767]" "y[768]" "y[769]" "y[770]"
## [1777] "y[771]" "y[772]" "y[773]" "y[774]" "y[775]" "y[776]"
## [1783] "y[777]" "y[778]" "y[779]" "y[780]" "y[781]" "y[782]"
## [1789] "y[783]" "y[784]" "y[785]" "y[786]" "y[787]" "y[788]"
## [1795] "y[789]" "y[790]" "y[791]" "y[792]" "y[793]" "y[794]"
## [1801] "y[795]" "y[796]" "y[797]" "y[798]" "y[799]" "y[800]"
## [1807] "y[801]" "y[802]" "y[803]" "y[804]" "y[805]" "y[806]"
## [1813] "y[807]" "y[808]" "y[809]" "y[810]" "y[811]" "y[812]"
## [1819] "y[813]" "y[814]" "y[815]" "y[816]" "y[817]" "y[818]"
```

```
## [1825] "y[819]"    "y[820]"    "y[821]"    "y[822]"    "y[823]"    "y[824]"
## [1831] "y[825]"    "y[826]"    "y[827]"    "y[828]"    "y[829]"    "y[830]"
## [1837] "y[831]"    "y[832]"    "y[833]"    "y[834]"    "y[835]"    "y[836]"
## [1843] "y[837]"    "y[838]"    "y[839]"    "y[840]"    "y[841]"    "y[842]"
## [1849] "y[843]"    "y[844]"    "y[845]"    "y[846]"    "y[847]"    "y[848]"
## [1855] "y[849]"    "y[850]"    "y[851]"    "y[852]"    "y[853]"    "y[854]"
## [1861] "y[855]"    "y[856]"    "y[857]"    "y[858]"    "y[859]"    "y[860]"
## [1867] "y[861]"    "y[862]"    "y[863]"    "y[864]"    "y[865]"    "y[866]"
## [1873] "y[867]"    "y[868]"    "y[869]"    "y[870]"    "y[871]"    "y[872]"
## [1879] "y[873]"    "y[874]"    "y[875]"    "y[876]"    "y[877]"    "y[878]"
## [1885] "y[879]"    "y[880]"    "y[881]"    "y[882]"    "y[883]"    "y[884]"
## [1891] "y[885]"    "y[886]"    "y[887]"    "y[888]"    "y[889]"    "y[890]"
## [1897] "y[891]"    "y[892]"    "y[893]"    "y[894]"    "y[895]"    "y[896]"
## [1903] "y[897]"    "y[898]"    "y[899]"    "y[900]"    "y[901]"    "y[902]"
## [1909] "y[903]"    "y[904]"    "y[905]"    "y[906]"    "y[907]"    "y[908]"
## [1915] "y[909]"    "y[910]"    "y[911]"    "y[912]"    "y[913]"    "y[914]"
## [1921] "y[915]"    "y[916]"    "y[917]"    "y[918]"    "y[919]"    "y[920]"
## [1927] "y[921]"    "y[922]"    "y[923]"    "y[924]"    "y[925]"    "y[926]"
## [1933] "y[927]"    "y[928]"    "y[929]"    "y[930]"    "y[931]"    "y[932]"
## [1939] "y[933]"    "y[934]"    "y[935]"    "y[936]"    "y[937]"    "y[938]"
## [1945] "y[939]"    "y[940]"    "y[941]"    "y[942]"    "y[943]"    "y[944]"
## [1951] "y[945]"    "y[946]"    "y[947]"    "y[948]"    "y[949]"    "y[950]"
## [1957] "y[951]"    "y[952]"    "y[953]"    "y[954]"    "y[955]"    "y[956]"
## [1963] "y[957]"    "y[958]"    "y[959]"    "y[960]"    "y[961]"    "y[962]"
## [1969] "y[963]"    "y[964]"    "y[965]"    "y[966]"    "y[967]"    "y[968]"
## [1975] "y[969]"    "y[970]"    "y[971]"    "y[972]"    "y[973]"    "y[974]"
## [1981] "y[975]"    "y[976]"    "y[977]"    "y[978]"    "y[979]"    "y[980]"
## [1987] "y[981]"    "y[982]"    "y[983]"    "y[984]"    "y[985]"    "y[986]"
## [1993] "y[987]"    "y[988]"    "y[989]"    "y[990]"    "y[991]"    "y[992]"
## [1999] "y[993]"    "y[994]"    "y[995]"    "y[996]"    "y[997]"    "y[998]"
## [2005] "y[999]"    "y[1000]"
```

```r
plot(x = model01.r2jags$BUGSoutput$sims.matrix[501, 7:1006],
     y = model01.r2jags$BUGSoutput$sims.matrix[501, 1007:2006])
```
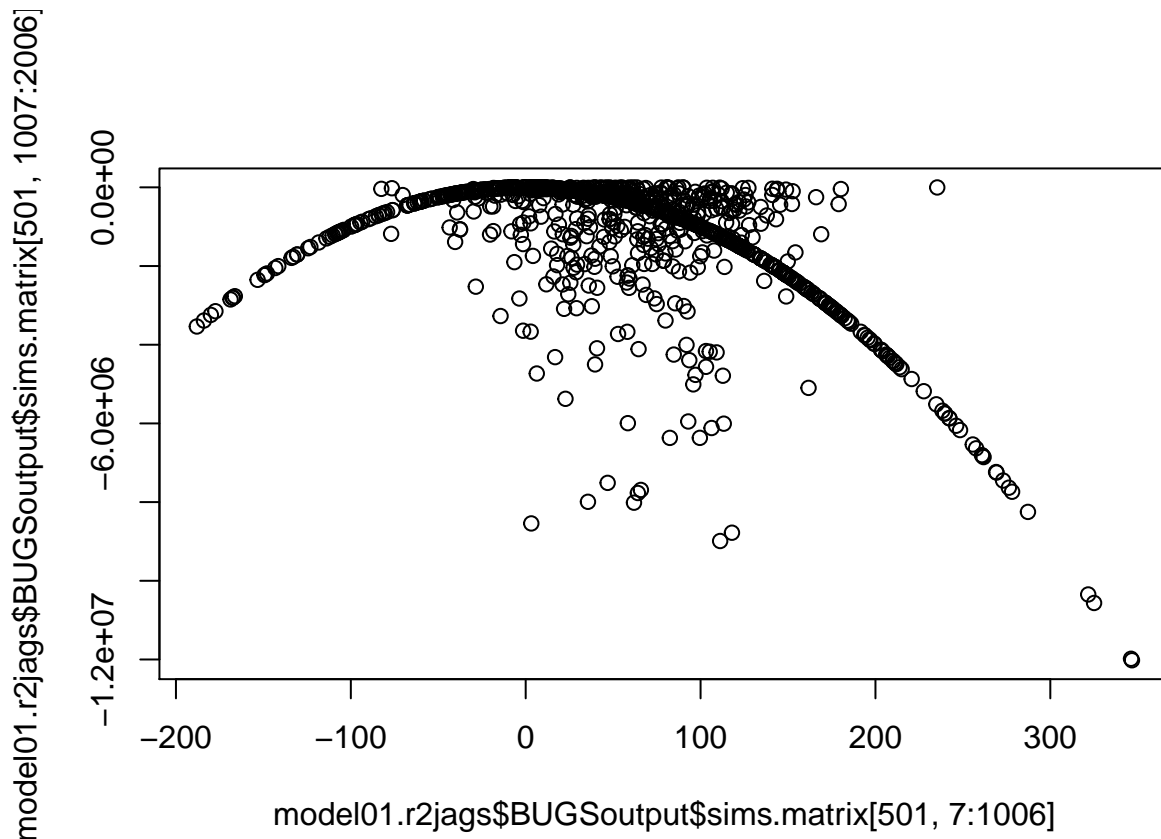
Missing Item Response Example

We can show the same result in an IRT model when we make an observation missing as well. Let's revisit our conspiracy theories example:

```r
# read in data:
conspiracy = read.csv("conspiracies.csv")
```

To demonstrate how this works in a small-scale sense, let's make the first observation missing:

```r
conspiracy[4,1] = NA
```

Here, the frustrating part of JAGS kicks in: A matrix of data cannot have any missing values. So, everything has to be a vector. Note the extra syntax below (and also note there may be an easier way, but not one I could discover while prepping this lecture).

```r
# marker item:
model03.function = function(){

  # measurement model specification
    for (person in 1:N){

      # item 1 ---
      # form cumulative probability item response functions
      CProb1[person, 1] <- 1
      for (cat in 2:5){
        CProb1[person, cat] <- phi(a1*(theta[person]-b1[(cat-1)]))
      }
```

```r
    # form probability response is equal to each category
    for (cat in 1:4){
      Prob1[person, cat] <- CProb1[person, cat] - CProb1[person, cat+1]
    }
    Prob1[person, 5] <- CProb1[person, 5]
    item1[person] ~ dcat(Prob1[person, 1:5])

    # item 2 ---
    # form cumulative probability item response functions
    CProb2[person, 1] <- 1
    for (cat in 2:5){
      CProb2[person, cat] <- phi(a2*(theta[person]-b2[(cat-1)]))
    }

    # form probability response is equal to each category
    for (cat in 1:4){
      Prob2[person, cat] <- CProb2[person, cat] - CProb2[person, cat+1]
    }
    Prob2[person, 5] <- CProb2[person, 5]
    item2[person] ~ dcat(Prob2[person, 1:5])

    # item 3 ---
    # form cumulative probability item response functions
    CProb3[person, 1] <- 1
    for (cat in 2:5){
      CProb3[person, cat] <- phi(a3*(theta[person]-b3[(cat-1)]))
    }

    # form probability response is equal to each category
    for (cat in 1:4){
      Prob3[person, cat] <- CProb3[person, cat] - CProb3[person, cat+1]
    }
    Prob3[person, 5] <- CProb3[person, 5]
    item3[person] ~ dcat(Prob3[person, 1:5])

  }

# prior distributions for the factor:
  for (person in 1:N){
    theta[person] ~ dnorm(0, 1)
  }

# prior distributions for the measurement model mean/precision parameters

  for (cat in 1:4){
    b1.star[cat] ~ dnorm(b.mean.0, b.precision.0)
    b2.star[cat] ~ dnorm(b.mean.0, b.precision.0)
    b3.star[cat] ~ dnorm(b.mean.0, b.precision.0)
  }
  b1[1:4] <- sort(b1.star[1:4])
  b2[1:4] <- sort(b2.star[1:4])
  b3[1:4] <- sort(b3.star[1:4])
```

```
    # loadings are set to be all positive
    a1 ~ dnorm(a.mean.0, a.precision.0);T(0,)
    a2 ~ dnorm(a.mean.0, a.precision.0);T(0,)
    a3 ~ dnorm(a.mean.0, a.precision.0);T(0,)
}


nItems = 10


# specification of prior values for measurement model parameters:
#    item intercepts
b.mean.0 = 0
b.variance.0 = 100
b.precision.0 = 1 / b.variance.0

#    Factor loadings -- these are the discriminations
a.mean.0 = 0
a.variance.0 = 100
a.precision.0 = 1 / a.variance.0

# next, create data for JAGS to use:
model03.data = list(
  N = nrow(conspiracy),
  item1 = conspiracy[,1],
  item2 = conspiracy[,2],
  item3 = conspiracy[,3],
  b.mean.0 = b.mean.0,
  b.precision.0 = b.precision.0,
  a.mean.0 = a.mean.0,
  a.precision.0 = a.precision.0
)

model03.init = function(){
  list("a1" = runif(1, 1, 2),
       "a2" = runif(1, 1, 2),
       "a3" = runif(1, 1, 2),
       "b1.star" = c(1, 0, -1, -2),
       "b2.star" = c(1, 0, -1, -2),
       "b3.star" = c(1, 0, -1, -2))
}

model03.parameters = c("a1", "a2", "a3", "b1", "b2", "b3",  "item1[4]", "theta[4]", "theta[6]")

model03.seed = 23042019+2

model03.r2jags =  jags.parallel(
  data = model03.data,
  inits = model03.init,
  parameters.to.save = model03.parameters,
  model.file = model03.function,
  n.chains = 4,
  n.iter = 5000,
```

```
  n.thin = 1,
  n.burnin = 3000,
  jags.seed = model03.seed
)
```

```
model03.r2jags
```

```
## Inference for Bugs model at "model03.function", fit using jags,
##  4 chains, each with 5000 iterations (first 3000 discarded)
##  n.sims = 8000 iterations saved
##           mu.vect sd.vect    2.5%     25%     50%     75%    97.5%  Rhat
## a1          1.018   0.156   0.743   0.908   1.010   1.118    1.343 1.005
## a2          4.866   1.778   2.124   3.417   4.643   6.198    8.512 1.018
## a3          0.772   0.133   0.519   0.682   0.766   0.858    1.042 1.003
## b1[1]      -0.840   0.168  -1.182  -0.950  -0.834  -0.723   -0.534 1.006
## b1[2]       0.281   0.134   0.025   0.190   0.277   0.369    0.555 1.006
## b1[3]       1.313   0.210   0.945   1.163   1.297   1.446    1.763 1.004
## b1[4]       2.529   0.369   1.902   2.266   2.499   2.761    3.322 1.003
## b2[1]      -0.093   0.099  -0.282  -0.161  -0.095  -0.029    0.112 1.005
## b2[2]       0.644   0.111   0.444   0.567   0.640   0.718    0.868 1.008
## b2[3]       1.280   0.139   1.022   1.186   1.274   1.372    1.561 1.008
## b2[4]       1.821   0.194   1.460   1.688   1.814   1.947    2.223 1.002
## b3[1]       0.131   0.160  -0.183   0.023   0.130   0.236    0.459 1.003
## b3[2]       0.861   0.201   0.507   0.719   0.847   0.983    1.301 1.007
## b3[3]       2.521   0.425   1.846   2.223   2.468   2.759    3.490 1.006
## b3[4]       3.170   0.537   2.318   2.790   3.103   3.477    4.406 1.005
## item1[4]    1.672   0.819   1.000   1.000   1.000   2.000    4.000 1.001
## theta[4]   -0.911   0.635  -2.337  -1.304  -0.806  -0.437    0.057 1.001
## theta[6]   -1.187   0.648  -2.610  -1.599  -1.131  -0.707   -0.127 1.001
## deviance  911.390  44.631 839.913 876.790 906.412 942.504 1006.044 1.018
##            n.eff
## a1           600
## a2           190
## a3          3000
## b1[1]        510
## b1[2]        490
## b1[3]        740
## b1[4]        960
## b2[1]        900
## b2[2]        420
## b2[3]        490
## b2[4]       6600
## b3[1]       1200
## b3[2]       2000
## b3[3]       8000
## b3[4]       8000
## item1[4]    8000
## theta[4]    8000
## theta[6]    8000
## deviance     170
##
## For each parameter, n.eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor (at convergence, Rhat=1).
##
```

```
## DIC info (using the rule, pD = var(deviance)/2)
## pD = 978.1 and DIC = 1889.5
## DIC is an estimate of expected predictive error (lower deviance is better).
```

Here is the plot of the posterior distribution of the data (these are the imputed values). The observed value was 1.

```r
hist(model03.r2jags$BUGSoutput$sims.matrix[,which(colnames(model03.r2jags$BUGSoutput$sims.matrix)=="iter
```

$BUGSoutput$sims.matrix[, which(colnames(model03.r2jags$BUGSou
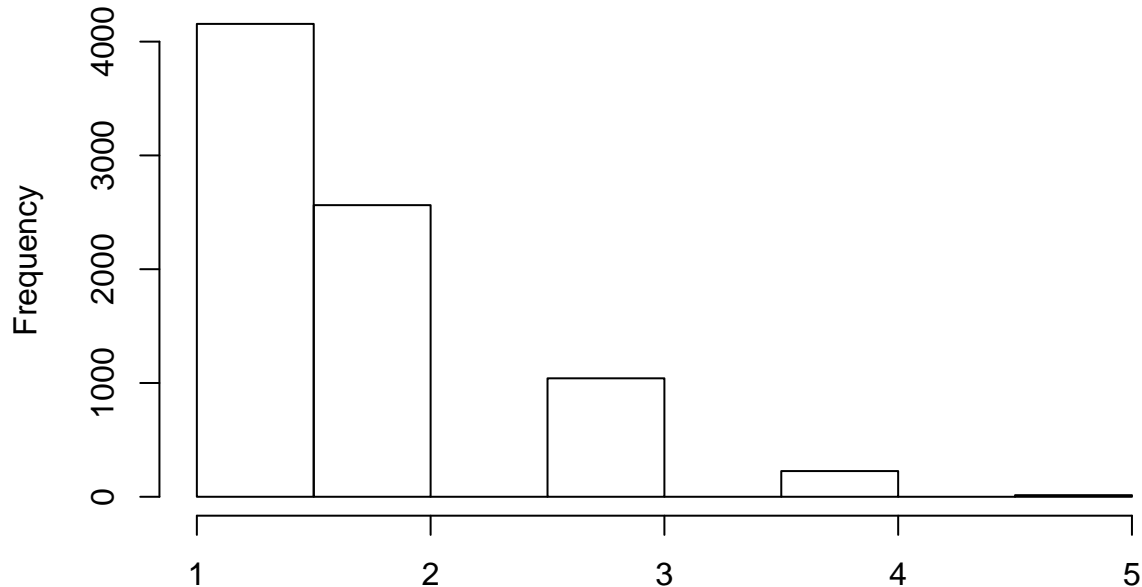
ags$BUGSoutput$sims.matrix[, which(colnames(model03.r2jags$BUGSoutput$sims.mat

```r
conspiracy[1:10,1:3]
```

```
##    PolConsp1 PolConsp2 PolConsp3
## 1          2         1         2
## 2          3         2         4
## 3          4         4         2
## 4         NA         1         1
## 5          2         2         1
## 6          1         1         1
## 7          4         2         1
## 8          2         4         1
## 9          3         2         1
## 10         2         2         1
```

And look at how the posterior distribution of θ_p changes by removing that one observation. The dashed line is the posterior distribution from an observation with the same response pattern but complete data.

```r
par(mfrow = c(1,1))
plot(density(model03.r2jags$BUGSoutput$sims.matrix[,which(colnames(model03.r2jags$BUGSoutput$sims.matri
lines(density(model03.r2jags$BUGSoutput$sims.matrix[,which(colnames(model03.r2jags$BUGSoutput$sims.matri
legend(x = c(-4, -3), y = c(.5, .5), legend = c("Missing", "Complete"), lty=1:2)
```

Theta Posterior

Density

	Missing
- - - -	Complete

0.6
0.4
0.2
0.0

−4   −3   −2   −1   0   1

N = 8000   Bandwidth = 0.09464