data_science2_midterm

Amanda Howarth
3/29/2020

```r
library(tidyverse)
```
```
## ── Attaching packages ─────────────────────────────────────────────
```
```
## ──────────────────────────── tidyverse 1.2.1 ──
## ✔ ggplot2 3.2.1     ✔ purrr   0.3.2
## ✔ tibble  2.1.3     ✔ dplyr   0.8.3
## ✔ tidyr   1.0.0     ✔ stringr 1.4.0
## ✔ readr   1.3.1     ✔ forcats 0.4.0
## ── Conflicts ──────────────────────────────────────────────────────
```
```
## ────────────────────────────────── tidyverse_conflicts() ──
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()    masks stats::lag()
```
```r
library(dplyr)
library(sqldf)
```
```
## Loading required package: gsubfn
## Loading required package: proto
## Warning in doTryCatch(return(expr), name, parentenv, handler): unable to load shared object
'/Library/Frameworks/R.framework/Resources/modules//R_X11.so':
##   dlopen(/Library/Frameworks/R.framework/Resources/modules//R_X11.so, 6): Library not
loaded: /opt/X11/lib/libSM.6.dylib
##   Referenced from: /Library/Frameworks/R.framework/Resources/modules//R_X11.so
##   Reason: image not found
## Could not load tcltk.  Will use slower R code instead.
## Loading required package: RSQLite
```
```r
library(caret)
```
```
## Loading required package: lattice
##
## Attaching package: 'caret'
## The following object is masked from 'package:purrr':
##
##     lift
```
```r
library(ModelMetrics)
```
```
##
## Attaching package: 'ModelMetrics'
## The following objects are masked from 'package:caret':
##
##     confusionMatrix, precision, recall, sensitivity, specificity
## The following object is masked from 'package:base':
##
##     kappa
```
```r
library(ISLR)
library(pls)
```
```
##
## Attaching package: 'pls'
## The following object is masked from 'package:caret':
##
##     R2
## The following object is masked from 'package:stats':
##
##     loadings
```
```r
library(mgcv)
```
```
## Loading required package: nlme
##
## Attaching package: 'nlme'
## The following object is masked from 'package:dplyr':
##
##     collapse
## This is mgcv 1.8-28. For overview type 'help("mgcv-package")'.
```
```r
library(microbenchmark)
library(stargazer)
```
```
##
## Please cite as:
##  Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables.
##  R package version 5.2.2. https://CRAN.R-project.org/package=stargazer
```

```
library(viridis)
## Loading required package: viridisLite
library(knitr)
```

Background / Motivation

Total hospital charges vary greatly for patients across the United States. In 2012, it was estimated that the mean hospital cost per stay was $10,400 (Moore et al., 2014). However, the cost per stay varies by different factors, including a patient's demographic information, the severity of their health condition, and type of admission. The costs of having a baby and the costs of infant hospitalizations also differ based on many different factors. In 2004, March of Dimes reported that the average cost of having a baby was $8,802. This cost varied by factors such as type of birth, whether it be a Cesarean-section of vaginal birth ($10,958 vs $7,737) (March of Dimes, 2007). This cost was also affected by the birthweight of the newborn, with the average cost per stay increasing to $15,100 for pre-term/low birthweight babies (Russell et al, 2007). For babies born at a weight less than 1000 grams, the average cost of hospital stay was reported to be $65,600 (Russell et al, 2007).

The ability to predict the total cost of a patient's stay at a hospital based on known patient characteristics, hospital information, and diagnosis would provide significant benefits for health insurance companies, patients, and hospital systems. If a soon-to-be mother was knowledgeable of the predicted charges of her upcoming birth at different hospitals, she would be better informed in choosing which hospital she would like to be admitted to. Additionally, a newborn/infant's parent can choose a hospital that is best for their family economically if their child is having health complications.

The goal of this analysis is to determine the best model to predict the total healthcare charges of newborn and infant patients who were admitted to hospitals in New York City. We used the Hospital Inpatient Discharges (SPARCS De-Identified) 2013 data set. This data was provided by the New York State Department of Health's Office of Quality and Patient Safety and includes 2.43 million observations and 34 variables, such as features for demographic information, hospital stay, payment typology, cost information.

In order to load the dataset to my computer, this dataset was limited (through the NY State's website filter) to the hospital service area of New York City and includes information from hospitals in all five boroughs. The dataset was limited to include only patients who had birthweight information available, recorded during their hospital stay. Over 150+ CCS diagnosis codes were included in the original dataset. The CCS diagnosis codes were categorized into 17 diagnosis types, such as "infectious diseases" and" pregnancy and childbirth complications." Individuals with missing values (n = 119) were dropped from the dataset, totaling 121,380 patients in the final dataset.

Nineteen variables were dropped from the dataset. Variables were dropped if they were redundant of other variables or if they were not deemed to be clinically meaningful in predicting healthcare hospitalization charges. All categorical variables were turned into dummy variables with referent groups. The final dataset used for models in this analysis (with dummy variables) included 92 predictors and 1 response variable (total charges).

Our research questions were the following: • Which approach (linear regression, lasso regression, ridge regression, principle component regression, or generalized additive model) best predicts a patient's total healthcare charges per hospital stay in New York? • What is the root mean square error (RMSE) of each model? • What percent of the variance in total healthcare charges is explained by the predictors available in SPARCS?

Import and clean data

```
discharge_data = read_csv("./data/Hospital_Inpatient_Discharges__SPARCS_De-
Identified___2013-4.csv") %>%
  janitor::clean_names() %>%
  mutate(birth_weight = as.numeric(birth_weight)) %>%
  mutate(length_of_stay = as.numeric(length_of_stay)) %>%
  janitor::clean_names() %>%
  select(-ccs_diagnosis_description, -ccs_procedure_code, -ccs_procedure_description, -
apr_drg_description, -apr_mdc_description, -apr_severity_of_illness_description, -facility_id, -
payment_typology_2, -payment_typology_3, -zip_code_3_digits, -discharge_year, -
health_service_area, -operating_certificate_number, -abortion_edit_indicator, -patient_disposition, -
age_group, -apr_drg_code, -apr_mdc_code) %>%
  filter(type_of_admission != "Not Available", payment_typology_1 != "Unknown",
payment_typology_1 != "Miscellaneous/Other", apr_medical_surgical_description != "Not
Applicable") %>%
    mutate(ccs = ifelse(ccs_diagnosis_code %in% 1:10, "infectious_disease",
```

```r
              ifelse(ccs_diagnosis_code %in% 11:47, "cancer",
              ifelse(ccs_diagnosis_code %in% 48:58, "endocrine_metabolic_disease",
              ifelse(ccs_diagnosis_code %in% 59:64, "blood_diseases",
              ifelse(ccs_diagnosis_code %in% 76:95, "nervous_system_disease",
              ifelse(ccs_diagnosis_code %in% 96:121, "circulatory_sysytem_disease",
              ifelse(ccs_diagnosis_code %in% 122:134, "respiratory_disease",
              ifelse(ccs_diagnosis_code %in% 135:155, "digestive_disease",
              ifelse(ccs_diagnosis_code %in% 156:166, "genitourinary_disease",
              ifelse(ccs_diagnosis_code %in% 167:196, "pregnancy_childbirth_complication",
              ifelse(ccs_diagnosis_code %in% 197:200, "skin_disease",
              ifelse(ccs_diagnosis_code %in% 201:212, "musculoskeletal_disease",
              ifelse(ccs_diagnosis_code %in% 213:217, "congenital_anomalies",
              ifelse(ccs_diagnosis_code %in% 218:224, "perinatal_condition",
              ifelse(ccs_diagnosis_code %in% 225:244, "injury_poisoning",
              ifelse(ccs_diagnosis_code %in% 650:663, "mental_disorder", "other")))))))))))))))))
  %>%
  select(-ccs_diagnosis_code) %>%
  na.omit()
```

```
## Parsed with column specification:
## cols(
##   .default = col_character(),
##   `Operating Certificate Number` = col_double(),
##   `Facility ID` = col_double(),
##   `Zip Code - 3 digits` = col_double(),
##   `Discharge Year` = col_double(),
##   `CCS Diagnosis Code` = col_double(),
##   `CCS Procedure Code` = col_double(),
##   `APR DRG Code` = col_double(),
##   `APR MDC Code` = col_double(),
##   `APR Severity of Illness Code` = col_double(),
##   `Birth Weight` = col_double(),
##   `Total Charges` = col_double(),
##   `Total Costs` = col_double()
## )
## See spec(...) for full column specifications.
## Warning: 3301 parsing failures.
## row           col expected actual                                          file
## 2649 Zip Code - 3 digits a double   OOS './data/Hospital_Inpatient_Discharges__SPARCS_De-
Identified___2013-4.csv'
## 3543 Zip Code - 3 digits a double   OOS './data/Hospital_Inpatient_Discharges__SPARCS_De-
Identified___2013-4.csv'
## 3670 Zip Code - 3 digits a double   OOS './data/Hospital_Inpatient_Discharges__SPARCS_De-
Identified___2013-4.csv'
## 3838 Zip Code - 3 digits a double   OOS './data/Hospital_Inpatient_Discharges__SPARCS_De-
Identified___2013-4.csv'
## 3937 Zip Code - 3 digits a double   OOS './data/Hospital_Inpatient_Discharges__SPARCS_De-
Identified___2013-4.csv'
## .... ................... ........ ...... ..........................................................
## See problems(...) for more details.
## Warning: NAs introduced by coercion
```

Exploratory Analysis Findings / Visualization

This dataset includes 121,380 patients who had their birthweight recorded at the time of their hospital visit. The mean total charges for a patient at discharge across the 49 hospital facilities was $19,787.95. The median total charges for a patient was $6,590.02. For exploratory analysis, we compared the median total charges because there were extreme outliers with very high charges. The median is a better measure of central tendency than the mean. The median total charges varied widely across the 49 facilities included in this analysis. The median total charges for a patient at discharge were highest at Montefiore Medical Center - Henry & Lucy Moses Div ($25,160.36) and lowest at North Central Bronx Hospital ($2,407.01) (Table 1).

In Figure 1, there is a positive correlation between length of stay and the total charges at discharge. The relationship between length of stay and total charges demonstrates linearity. Thus, as the length of stay increases, the total charges increased. The charges appear to be relatively lower at hospitals in Richmond County (Staten Island), even as the number of days spent in the hospital increases. Additionally, it appears that the charges at hospitals in Manhattan are typically higher compared to other counties across the lengths of stay.

Figure 2 demonstrates that the total charges generally decrease across increasing birthweight. There is a moderately negative correlation between baby birthweight and total charges. Thus, patients with lower birthweights pay the highest total charges at discharge.

Table 1

```
charges_by_hospital = discharge_data %>%
  select(facility_name, total_charges, hospital_county) %>%
  group_by(facility_name, hospital_county) %>%
  summarize(median_charge = median(total_charges)) %>%
  arrange(desc(median_charge)) %>%
  knitr::kable()
charges_by_hospital
```

facility_name	hospital_county	median_charge
Montefiore Medical Center - Henry & Lucy Moses Div	Bronx	25160.36
Brookdale Hospital Medical Center	Kings	11561.00
Long Island Jewish Schneiders Children's Hospital Division	Queens	11498.00
NYU Hospitals Center	Manhattan	10573.70
New York Presbyterian Hospital - Columbia Presbyterian Center	Manhattan	9383.75
NewYork-Presbyterian/Queens	Queens	9361.96
New York Presbyterian Hospital - Allen Hospital	Manhattan	9335.04
New York Presbyterian Hospital - New York Weill Cornell Center	Manhattan	8879.03
Lenox Hill Hospital	Manhattan	8868.30
Montefiore Medical Center-Wakefield Hospital	Bronx	8520.85
Montefiore Medical Center - North Division	Bronx	8083.35
Forest Hills Hospital	Queens	7946.70
Mount Sinai West	Manhattan	7897.00
New York Hospital Medical Center of Queens	Queens	7592.46
New York Hospital Medical Center of Queens	Queens	7522.46
Montefiore Med Center - Jack D Weiler Hosp of A Einstein College Div	Bronx	7136.95
University Hospital of Brooklyn	Kings	6771.00
New York-Presbyterian/Queens	Queens	6744.78
Coney Island Hospital	Kings	6331.11
Mount Sinai Roosevelt	Manhattan	6314.50
Lutheran Medical Center	Kings	6286.70
St Lukes Roosevelt Hospital Center - Roosevelt Hospital Division	Manhattan	5980.50
New York Methodist Hospital	Kings	5719.94
Beth Israel Medical Center/Petrie Campus	Manhattan	5676.00
Mount Sinai Beth Israel	Manhattan	5673.40
SUNY Downstate Medical Center at LICH	Kings	5367.00
Maimonides Medical Center	Kings	4993.00
St Johns Episcopal Hospital So Shore	Queens	4910.00
Staten Island University Hosp-North	Richmond	4820.00
Mount Sinai Hospital	Manhattan	4787.20
Woodhull Medical & Mental Health Center	Kings	4547.34
Kings County Hospital Center	Kings	4540.02
Queens Hospital Center	Queens	4527.31
Bellevue Hospital Center	Manhattan	4527.26
Brooklyn Hospital Center - Downtown Campus	Kings	4470.44
Jacobi Medical Center	Bronx	4461.91
Richmond University Medical Center	Richmond	4438.52
St Barnabas Hospital	Bronx	4394.39
SBH Health System	Bronx	4391.21
Lincoln Medical & Mental Health Center	Bronx	4376.42
Harlem Hospital Center	Manhattan	4361.67
Wyckoff Heights Medical Center	Kings	4335.00

Metropolitan Hospital Center	Manhattan	4299.00
Elmhurst Hospital Center	Queens	4285.44
Jamaica Hospital Medical Center	Queens	3692.00
New York-Presbyterian/Lower Manhattan Hospital	Manhattan	3498.26
Flushing Hospital Medical Center	Queens	3397.00
Bronx-Lebanon Hospital Center - Concourse Division	Bronx	3370.57
North Central Bronx Hospital	Bronx	2407.01

```
#mean total charges = $19,787.95
mean(discharge_data$total_charges)
## [1] 19787.95
#median total charges =$6590.02
median(discharge_data$total_charges)
## [1] 6590.015
```

Figures 1 and 2

```
ggplot(discharge_data, aes(x = length_of_stay, y = total_charges, group = hospital_county, color =
hospital_county)) +
geom_point(na.rm = TRUE) +
labs(title = "Figure 1. Total Charges by Length of Stay in NYC Hospitals",
    x = "Length of Stay",
    y = "Total Charges")
```


Figure 1. Total Charges by Length of Stay in NYC Ho:
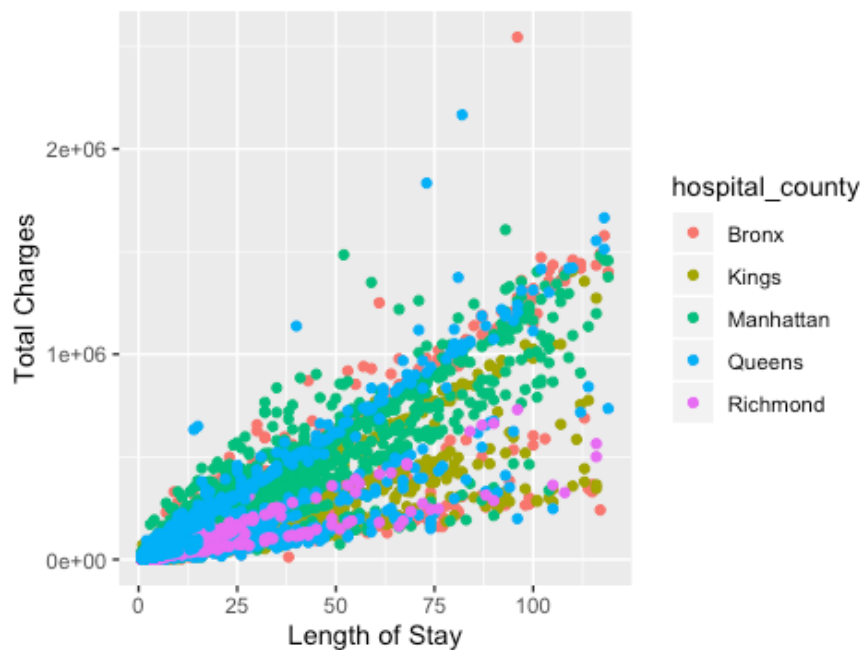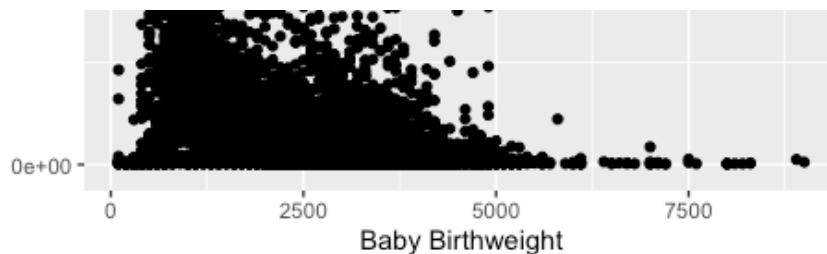
```
ggplot(discharge_data, aes(x = birth_weight, y = total_charges, group =
emergency_department_indicator)) +
geom_point(na.rm = TRUE) +
labs(title = "Figure 2. Total Charges Across Values of Baby Birthweight in NYC Hospitals",
    x = "Baby Birthweight",
    y = "Total Charges")
```


Figure 2. Total Charges Across Values of Baby Birthw

Baby Birthweight
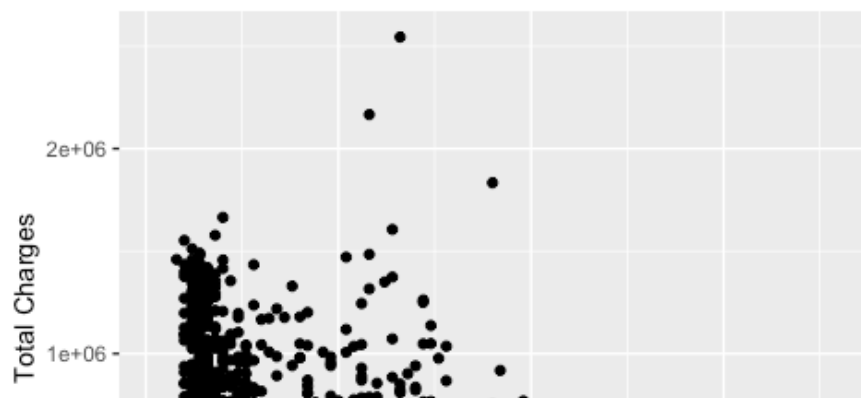
Making categorical varaibles into dummy variables

```
cat_dummies = dummyVars(" ~ .", data = discharge_data, fullRank = T)
discharge_data2 = data.frame(predict(cat_dummies, newdata = discharge_data))
```

Partitioning data into test and training data

```
set.seed(100)
trRows <- createDataPartition(discharge_data2$total_charges,
                   p = .75,
                   list = FALSE)
## p = 0.75 means u are taking 75% of the data and thus, 25% is the test set and 75% is ur training
set

# matrix of predictors & vector of response (training data)
x <- model.matrix(total_charges~.,discharge_data2)[trRows,-1]
y <- discharge_data2$total_charges[trRows]

# matrix of predictors & vector of response (test data)
x2 <- model.matrix(total_charges~., discharge_data2)[-trRows,-1]
y2 <- discharge_data2$total_charges[-trRows]
```

MODELS

Models We fit 5 different models using cross validation to determine which model would fit the data best: • One linear model, • Three regularized linear models (Lasso regression, Ridge regression, PCR), and • One non-linear model (Generalized Additive Model).

Predictor variables included: 1) hospital county (Manhattan, Bronx, King's County, Richmond County, and Queens), 2) hospital facility, 3)gender, 4) race, 5) ethnicity, 6) length of stay, 7) type of admission, 8) APR severity of illness code, 9) APR medical-surgical description (medical or surgical), 10) type of payment, 11) birth weight, 12) emergency department indicator, 13) APR risk of mortality, 14) total costs, and 15) type of CCS diagnosis. All categorical variables were made into dummy variables. Three predictors were continuous (length of stay, birthweight, and total costs) as well as the outcome variable (total charges).

Our dataset (92 predictors total, with dummy variables) was partitioned into a training and test data set. Five models were fitted using the training data and the mean squared error (MSE) was calculated for each model using the test data. We measured the mean squared error to quantify the extent to which the predicted response value for a given observation is close to the true response value for that observation.

First, we fit a linear model using least squares on all the predictors in the training data. We found that the MSE calculated on the test data was 937604771. By looking at the coefficient values for the linear model, some of the dummy variables were not significant at an alpha value of 0.05 in predicting total charges, including ethnicity, emergency department indicator, and certain CCS diagnosis types.

Next, we fit two models on all the predictor variables using two different techniques that "shrink" the coefficient estimates towards zero, which reduces variance. We fit a ridge regression model on the training data. Alpha was held at a value of 0 and our final lambda value chosen by cross-validation was 5355.389. Using our test data, we found that test error (MSE) was 9790669585. Next, we fit a lasso model on the training data. Alpha was held at a value of 1 and our final lambda value chosen by cross-validation was 28.03162. Our test error was 937116653.

We also fit a principle component regression (PCR) model on the training data with M chosen by cross validation. The PCR method constructs the first M principal components. Our M-value was 87 and our test error was 937635353. A benefit of using PCR is that this method avoids multicollinearity between variables in the dataset. A limitation of PCR is that there is no guarantee that Z¬m¬ are the best linear combinations of the variables in

predicting the response.

Lastly, we fit a GAM model to our training dataset. The benefit of using a GAM model is that it will automatically model non-linear relationships that standard linear regression would miss. S functions were applied to the three continuous variables in the model (total costs, length of stay, and birthweight).

The best model for predicting total charges was PCR. This model was chosen because it has the smallest cross validation RMSE, a value of 28173.68 (Figure 3). For the PCR model, 85.69% of the variance in total charges is explained by the predictors in the model. The mean RMSE value of the lasso regression model (28174.24) and linear regression model (28180.84) were very close to the PCR model (depicted in Figure 4). Overall, GAM had the lowest RMSE (29076.52), which was unexpected because it was the only model to account for non-linear relationships that a standard linear regression model would miss.

For the PCR model, the top 10 variables that played important roles in predicting a patient's total charges are displayed in Figure 4. These variables were chosen using the varImp() function, which automatically chooses a measure of variable importance that is appropriate for given algorithms. The top five variables included length of stay, total costs, APR risk of mortality (major), APR risk of mortality (minor), and the APR severity of illness code. The greatest importance in predicting total healthcare charges was length of stay in the hospital, which aligns with the linear relationship depicted in Figure 1.

Limitations of this analysis included that non-significant variables were included in models and not dropped to improve the model. This was done in an effort to compare models, by first including all predictors in the model building phase. Thus, if we were to drop variables that are neither clinically meaningful nor significant, this may have created more parsimonious and efficient models. Additionally, the highest R^2 value was 85.69%. The remaining variance of total charges are thus unexplained and may be due to variables that were dropped (such as patient's zip code) or by features not collected in this dataset.

LINEAR MODEL

Fitting a linear model using least squares on the training data and calculating the mean square error using the test data.

```
set.seed(100)
ctrl1 <- trainControl(method = "cv", number = 10)

fit_lm <- train(total_charges~.,
          data = discharge_data2[trRows,-1],
          method = "lm",
          trControl = ctrl1)
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading
fit_lm
```

```
## Linear Regression
##
## 91036 samples
##    91 predictor
##
## No pre-processing
## Resampling: Cross-Validated (10 fold)
## Summary of sample sizes: 81932, 81933, 81933, 81933, 81932, 81933, ...
## Resampling results:
##
##   RMSE      Rsquared   MAE
##   28174.24  0.8568802  9541.894
##
## Tuning parameter 'intercept' was held constant at a value of TRUE
```

summary(fit_lm)

```
##
## Call:
## lm(formula = .outcome ~ ., data = dat)
##
## Residuals:
##    Min     1Q  Median     3Q     Max
## -726284  -4513    436   5124  851654
##
## Coefficients: (3 not defined because of singularities)
##                                                               Estimate
## (Intercept)                                                  -7.858e+03
## hospital_countyManhattan                                     -1.095e+03
## hospital_countyQueens                                         3.870e+03
## hospital_countyRichmond                                       2.663e+03
## facility_nameBeth.Israel.Medical.Center.Petrie.Campus         1.445e+04
## facility_nameBronx.Lebanon.Hospital.Center...Concourse.Division  -9.793e+03
## facility_nameBrookdale.Hospital.Medical.Center                1.176e+03
## facility_nameBrooklyn.Hospital.Center...Downtown.Campus       1.497e+03
## facility_nameConey.Island.Hospital                            5.707e+03
## facility_nameElmhurst.Hospital.Center                        -3.334e+02
## facility_nameFlushing.Hospital.Medical.Center                 2.240e+03
## facility_nameForest.Hills.Hospital                            7.721e+03
## facility_nameHarlem.Hospital.Center                          -2.544e+03
## facility_nameJacobi.Medical.Center                           -1.627e+03
## facility_nameJamaica.Hospital.Medical.Center                 -2.184e+03
## facility_nameKings.County.Hospital.Center                     8.359e+02
## facility_nameLenox.Hill.Hospital                              2.030e+04
## facility_nameLincoln.Medical...Mental.Health.Center          -5.839e+02
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division  1.920e+04
## facility_nameLutheran.Medical.Center                          1.169e+04
## facility_nameMaimonides.Medical.Center                        1.436e+04
## facility_nameMetropolitan.Hospital.Center                     1.854e+03
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div
##  2.304e+04
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div  3.752e+04
## facility_nameMontefiore.Medical.Center...North.Division       2.113e+04
## facility_nameMontefiore.Medical.Center.Wakefield.Hospital     2.002e+04
## facility_nameMount.Sinai.Beth.Israel                          1.403e+04
## facility_nameMount.Sinai.Hospital                             9.239e+03
## facility_nameMount.Sinai.Roosevelt                            4.829e+03
## facility_nameMount.Sinai.West                                -1.559e+04
## facility_nameNew.York.Hospital.Medical.Center...of.Queens     9.083e+03
## facility_nameNew.York.Hospital.Medical.Center.of.Queens       9.644e+03
## facility_nameNew.York.Methodist.Hospital                      9.626e+03
## facility_nameNew.York.Presbyterian.Hospital...Allen.Hospital  1.488e+04
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center  2.382e+04
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center  1.835e+04
## facility_nameNew.York.Presbyterian.Lower.Manhattan.Hospital   1.119e+04
## facility_nameNew.York.Presbyterian.Queens                     9.595e+03
## facility_nameNewYork.Presbyterian.Queens                      7.077e+03
## facility_nameNorth.Central.Bronx.Hospital                     1.853e+03
## facility_nameNYU.Hospitals.Center                             1.479e+04
## facility_nameQueens.Hospital.Center                          -1.758e+03
## facility_nameRichmond.University.Medical.Center               5.886e+03
## facility_nameSBH.Health.System                               -3.406e+03
## facility_nameSt.Barnabas.Hospital                            -9.094e+02
## facility_nameSt.Johns.Episcopal.Hospital.So.Shore                    NA
## facility_nameSt.Lukes.Roosevelt.Hospital.Center...Roosevelt.Hospital.Division  8.133e+03
## facility_nameStaten.Island.University.Hosp.North                     NA
## facility_nameSUNY.Downstate.Medical.Center.at.LICH           -4.371e+03
## facility_nameUniversity.Hospital.of.Brooklyn                 -1.109e+04
```

```
## facility_nameUniversity.Hospital.of.Brooklyn                           -1.109e+04
## facility_nameWoodhull.Medical...Mental.Health.Center                     1.790e+02
## facility_nameWyckoff.Heights.Medical.Center                                    NA
## genderM                                                                 -3.604e+02
## raceOther.Race                                                           7.354e+02
## raceUnknown                                                              3.197e+03
## raceWhite                                                                1.541e+02
## ethnicitySpanish.Hispanic                                                2.984e+02
## ethnicityUnknown                                                         1.596e+03
## length_of_stay                                                           5.717e+03
## type_of_admissionEmergency                                               4.938e+03
## type_of_admissionNewborn                                                 5.850e+03
## type_of_admissionUrgent                                                  3.143e+04
## apr_severity_of_illness_code                                            -1.800e+02
## apr_risk_of_mortalityMajor                                              -3.026e+04
## apr_risk_of_mortalityMinor                                              -5.904e+04
## apr_risk_of_mortalityModerate                                           -6.198e+04
## apr_medical_surgical_descriptionSurgical                                 7.096e+04
## payment_typology_1Federal.State.Local.VA                                -6.991e+02
## payment_typology_1Managed.Care..Unspecified                             -1.078e+04
## payment_typology_1Medicaid                                               6.376e+02
## payment_typology_1Medicare                                              -1.497e+03
## payment_typology_1Private.Health.Insurance                              -1.245e+02
## payment_typology_1Self.Pay                                               2.530e+03
## birth_weight                                                             2.079e+00
## emergency_department_indicatorY                                          6.417e+02
## total_costs                                                              1.192e+00
## ccscancer                                                                4.014e+04
## ccscirculatory_sysytem_disease                                           1.262e+04
## ccscongenital_anomalies                                                  1.412e+04
## ccsdigestive_disease                                                     1.787e+04
## ccsendocrine_metabolic_disease                                           2.766e+04
## ccsgenitourinary_disease                                                 3.006e+04
## ccsinfectious_disease                                                    1.066e+04
## ccsinjury_poisoning                                                      2.328e+04
## ccsmental_disorder                                                      -2.339e+04
## ccsmusculoskeletal_disease                                               5.193e+04
## ccsnervous_system_disease                                                2.234e+04
## ccsother                                                                 3.757e+04
## ccsperinatal_condition                                                   3.470e+04
## ccspregnancy_childbirth_complication                                     2.386e+04
## ccsrespiratory_disease                                                   3.314e+04
## ccsskin_disease                                                          3.678e+04
##                                                                         Std. Error
## (Intercept)                                                              1.643e+04
## hospital_countyManhattan                                                 1.259e+03
## hospital_countyQueens                                                    1.575e+03
## hospital_countyRichmond                                                  1.074e+03
## facility_nameBeth.Israel.Medical.Center.Petrie.Campus                    1.055e+03
## facility_nameBronx.Lebanon.Hospital.Center...Concourse.Division          1.306e+03
## facility_nameBrookdale.Hospital.Medical.Center                           1.313e+03
## facility_nameBrooklyn.Hospital.Center...Downtown.Campus                  1.121e+03
## facility_nameConey.Island.Hospital                                       1.677e+03
## facility_nameElmhurst.Hospital.Center                                    1.418e+03
## facility_nameFlushing.Hospital.Medical.Center                            1.434e+03
## facility_nameForest.Hills.Hospital                                       1.479e+03
## facility_nameHarlem.Hospital.Center                                      1.438e+03
## facility_nameJacobi.Medical.Center                                       1.103e+03
## facility_nameJamaica.Hospital.Medical.Center                             1.433e+03
## facility_nameKings.County.Hospital.Center                                1.128e+03
## facility_nameLenox.Hill.Hospital                                         1.052e+03
## facility_nameLincoln.Medical...Mental.Health.Center                      1.120e+03
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division  1.361e+03
## facility_nameLutheran.Medical.Center                                     1.028e+03
## facility_nameMaimonides.Medical.Center                                   9.667e+02
## facility_nameMetropolitan.Hospital.Center                                1.285e+03
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div
##   1.025e+03
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div          2.171e+03
## facility_nameMontefiore.Medical.Center...North.Division                  1.169e+03
## facility_nameMontefiore.Medical.Center.Wakefield.Hospital                1.487e+03
## facility_nameMount.Sinai.Beth.Israel                                     2.501e+03
## facility_nameMount.Sinai.Hospital                                        9.982e+02
## facility_nameMount.Sinai.Roosevelt                                       2.183e+03
## facility_nameMount.Sinai.West                                            9.975e+03
## facility_nameNew.York.Hospital.Medical.Center...of.Queens                1.401e+03
```

```
## facility_nameNew.York.Hospital.Medical.Center.of.Queens          2.124e+03
## facility_nameNew.York.Methodist.Hospital                  1.005e+03
## facility_nameNew.York.Presbyterian.Hospital...Allen.Hospital        1.150e+03
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center   1.023e+03
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center   1.012e+03
## facility_nameNew.York.Presbyterian.Lower.Manhattan.Hospital           1.139e+03
## facility_nameNew.York.Presbyterian.Queens              2.812e+04
## facility_nameNewYork.Presbyterian.Queens               1.154e+04
## facility_nameNorth.Central.Bronx.Hospital                  1.410e+03
## facility_nameNYU.Hospitals.Center                     1.039e+03
## facility_nameQueens.Hospital.Center                    1.504e+03
## facility_nameRichmond.University.Medical.Center            8.584e+02
## facility_nameSBH.Health.System                      3.505e+03
## facility_nameSt.Barnabas.Hospital                     1.439e+03
## facility_nameSt.Johns.Episcopal.Hospital.So.Shore              NA
## facility_nameSt.Lukes.Roosevelt.Hospital.Center...Roosevelt.Hospital.Division   1.017e+03
## facility_nameStaten.Island.University.Hosp.North               NA
## facility_nameSUNY.Downstate.Medical.Center.at.LICH           1.588e+03
## facility_nameUniversity.Hospital.of.Brooklyn            1.233e+03
## facility_nameWoodhull.Medical...Mental.Health.Center          1.146e+03
## facility_nameWyckoff.Heights.Medical.Center                NA
## genderM                               1.877e+02
## raceOther.Race                          2.845e+02
## raceUnknown                            8.501e+03
## raceWhite                           3.074e+02
## ethnicitySpanish.Hispanic                    2.789e+02
## ethnicityUnknown                         8.511e+02
## length_of_stay                          3.188e+01
## type_of_admissionEmergency                    2.317e+03
## type_of_admissionNewborn                     2.093e+03
## type_of_admissionUrgent                     2.456e+03
## apr_severity_of_illness_code                   1.736e+02
## apr_risk_of_mortalityMajor                    1.867e+03
## apr_risk_of_mortalityMinor                    1.685e+03
## apr_risk_of_mortalityModerate                  1.761e+03
## apr_medical_surgical_descriptionSurgical            1.528e+03
## payment_typology_1Federal.State.Local.VA             2.162e+03
## payment_typology_1Managed.Care..Unspecified            3.745e+03
## payment_typology_1Medicaid                 3.233e+02
## payment_typology_1Medicare                 2.153e+03
## payment_typology_1Private.Health.Insurance           3.221e+02
## payment_typology_1Self.Pay                 7.215e+02
## birth_weight                       1.823e-01
## emergency_department_indicatorY                1.208e+03
## total_costs                       1.117e-02
## ccscancer                        1.905e+04
## ccscirculatory_sysytem_disease               2.297e+04
## ccscongenital_anomalies                   1.636e+04
## ccsdigestive_disease                    1.675e+04
## ccsendocrine_metabolic_disease               1.779e+04
## ccsgenitourinary_disease                  1.749e+04
## ccsinfectious_disease                    1.649e+04
## ccsinjury_poisoning                     1.703e+04
## ccsmental_disorder                     2.055e+04
## ccsmusculoskeletal_disease                 3.248e+04
## ccsnervous_system_disease                  1.702e+04
## ccsother                        1.644e+04
## ccsperinatal_condition                   1.626e+04
## ccspregnancy_childbirth_complication            2.149e+04
## ccsrespiratory_disease                   1.639e+04
## ccsskin_disease                       1.781e+04
##                              t value
## (Intercept)                       -0.478
## hospital_countyManhattan                 -0.870
## hospital_countyQueens                   2.458
## hospital_countyRichmond                  2.481
## facility_nameBeth.Israel.Medical.Center.Petrie.Campus        13.700
## facility_nameBronx.Lebanon.Hospital.Center...Concourse.Division    -7.499
## facility_nameBrookdale.Hospital.Medical.Center            0.896
## facility_nameBrooklyn.Hospital.Center...Downtown.Campus        1.336
## facility_nameConey.Island.Hospital               3.403
## facility_nameElmhurst.Hospital.Center             -0.235
## facility_nameFlushing.Hospital.Medical.Center          1.562
## facility_nameForest.Hills.Hospital               5.221
## facility_nameHarlem.Hospital.Center              -1.769
## facility_nameJacobi.Medical.Center               1.475
```

```
## facility_nameJacobi.Medical.Center                                           -1.475
## facility_nameJamaica.Hospital.Medical.Center                                  -1.525
## facility_nameKings.County.Hospital.Center                                      0.741
## facility_nameLenox.Hill.Hospital                                              19.304
## facility_nameLincoln.Medical...Mental.Health.Center                           -0.521
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division       14.114
## facility_nameLutheran.Medical.Center                                          11.376
## facility_nameMaimonides.Medical.Center                                        14.854
## facility_nameMetropolitan.Hospital.Center                                      1.443
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div 22.477
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div               17.280
## facility_nameMontefiore.Medical.Center...North.Division                        18.070
## facility_nameMontefiore.Medical.Center.Wakefield.Hospital                     13.465
## facility_nameMount.Sinai.Beth.Israel                                           5.609
## facility_nameMount.Sinai.Hospital                                              9.256
## facility_nameMount.Sinai.Roosevelt                                             2.212
## facility_nameMount.Sinai.West                                                 -1.563
## facility_nameNew.York.Hospital.Medical.Center...of.Queens                      6.483
## facility_nameNew.York.Hospital.Medical.Center.of.Queens                        4.541
## facility_nameNew.York.Methodist.Hospital                                       9.578
## facility_nameNew.York.Presbyterian.Hospital...Allen.Hospital                  12.946
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center    23.281
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center   18.138
## facility_nameNew.York.Presbyterian.Lower.Manhattan.Hospital                    9.828
## facility_nameNew.York.Presbyterian.Queens                                      0.341
## facility_nameNewYork.Presbyterian.Queens                                       0.613
## facility_nameNorth.Central.Bronx.Hospital                                      1.314
## facility_nameNYU.Hospitals.Center                                             14.236
## facility_nameQueens.Hospital.Center                                           -1.169
## facility_nameRichmond.University.Medical.Center                                6.857
## facility_nameSBH.Health.System                                                -0.972
## facility_nameSt.Barnabas.Hospital                                             -0.632
## facility_nameSt.Johns.Episcopal.Hospital.So.Shore                                 NA
## facility_nameSt.Lukes.Roosevelt.Hospital.Center...Roosevelt.Hospital.Division  7.994
## facility_nameStaten.Island.University.Hosp.North                                  NA
## facility_nameSUNY.Downstate.Medical.Center.at.LICH                            -2.753
## facility_nameUniversity.Hospital.of.Brooklyn                                  -8.996
## facility_nameWoodhull.Medical...Mental.Health.Center                           0.156
## facility_nameWyckoff.Heights.Medical.Center                                       NA
## genderM                                                             -1.920
## raceOther.Race                                                       2.585
## raceUnknown                                                          0.376
## raceWhite                                                            0.501
## ethnicitySpanish.Hispanic                                            1.070
## ethnicityUnknown                                                     1.875
## length_of_stay                                                     179.336
## type_of_admissionEmergency                                           2.131
## type_of_admissionNewborn                                             2.795
## type_of_admissionUrgent                                             12.799
## apr_severity_of_illness_code                                        -1.037
## apr_risk_of_mortalityMajor                                         -16.208
## apr_risk_of_mortalityMinor                                         -35.036
## apr_risk_of_mortalityModerate                                      -35.204
## apr_medical_surgical_descriptionSurgical                            46.433
## payment_typology_1Federal.State.Local.VA                            -0.323
## payment_typology_1Managed.Care..Unspecified                         -2.879
## payment_typology_1Medicaid                                           1.972
## payment_typology_1Medicare                                          -0.695
## payment_typology_1Private.Health.Insurance                          -0.386
## payment_typology_1Self.Pay                                           3.506
## birth_weight                                                        11.405
## emergency_department_indicatorY                                      0.531
## total_costs                                                        106.676
## ccscancer                                                            2.107
## ccscirculatory_sysytem_disease                                       0.549
## ccscongenital_anomalies                                              0.863
## ccsdigestive_disease                                                 1.067
## ccsendocrine_metabolic_disease                                       1.555
## ccsgenitourinary_disease                                             1.719
## ccsinfectious_disease                                                0.647
## ccsinjury_poisoning                                                  1.368
## ccsmental_disorder                                                  -1.138
## ccsmusculoskeletal_disease                                           1.599
## ccsnervous_system_disease                                            1.313
## ccsother                                                             2.285
## ccsperinatal_condition                                               2.134
```

```
## ...                                                               ....
## ccspregnancy_childbirth_complication                             1.111
## ccsrespiratory_disease                                           2.022
## ccsskin_disease                                                  2.065
##                                                      Pr(>|t|)
## (Intercept)                                          0.632492
## hospital_countyManhattan                                      0.384211
## hospital_countyQueens                                         0.013983
## hospital_countyRichmond                                       0.013119
## facility_nameBeth.Israel.Medical.Center.Petrie.Campus                    < 2e-16
## facility_nameBronx.Lebanon.Hospital.Center...Concourse.Division           6.49e-14
## facility_nameBrookdale.Hospital.Medical.Center                  0.370195
## facility_nameBrooklyn.Hospital.Center...Downtown.Campus              0.181646
## facility_nameConey.Island.Hospital                     0.000666
## facility_nameElmhurst.Hospital.Center                         0.814054
## facility_nameFlushing.Hospital.Medical.Center                  0.118235
## facility_nameForest.Hills.Hospital                   1.78e-07
## facility_nameHarlem.Hospital.Center                           0.076853
## facility_nameJacobi.Medical.Center                            0.140213
## facility_nameJamaica.Hospital.Medical.Center                  0.127350
## facility_nameKings.County.Hospital.Center                     0.458735
## facility_nameLenox.Hill.Hospital                              < 2e-16
## facility_nameLincoln.Medical...Mental.Health.Center               0.602027
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division    < 2e-16
## facility_nameLutheran.Medical.Center                          < 2e-16
## facility_nameMaimonides.Medical.Center                        < 2e-16
## facility_nameMetropolitan.Hospital.Center                     0.148982
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div  < 2e-16
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div            < 2e-16
## facility_nameMontefiore.Medical.Center...North.Division               < 2e-16
## facility_nameMontefiore.Medical.Center.Wakefield.Hospital             < 2e-16
## facility_nameMount.Sinai.Beth.Israel                 2.04e-08
## facility_nameMount.Sinai.Hospital                             < 2e-16
## facility_nameMount.Sinai.Roosevelt                            0.026938
## facility_nameMount.Sinai.West                                 0.118057
## facility_nameNew.York.Hospital.Medical.Center...of.Queens            9.02e-11
## facility_nameNew.York.Hospital.Medical.Center.of.Queens              5.60e-06
## facility_nameNew.York.Methodist.Hospital                      < 2e-16
## facility_nameNew.York.Presbyterian.Hospital...Allen.Hospital          < 2e-16
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center    < 2e-16
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center    < 2e-16
## facility_nameNew.York.Presbyterian.Lower.Manhattan.Hospital           < 2e-16
## facility_nameNew.York.Presbyterian.Queens                     0.732917
## facility_nameNewYork.Presbyterian.Queens                      0.539760
## facility_nameNorth.Central.Bronx.Hospital                     0.188796
## facility_nameNYU.Hospitals.Center                             < 2e-16
## facility_nameQueens.Hospital.Center                           0.242399
## facility_nameRichmond.University.Medical.Center               7.09e-12
## facility_nameSBH.Health.System                                0.331274
## facility_nameSt.Barnabas.Hospital                             0.527379
## facility_nameSt.Johns.Episcopal.Hospital.So.Shore                  NA
## facility_nameSt.Lukes.Roosevelt.Hospital.Center...Roosevelt.Hospital.Division    1.33e-15
## facility_nameStaten.Island.University.Hosp.North                   NA
## facility_nameSUNY.Downstate.Medical.Center.at.LICH              0.005909
## facility_nameUniversity.Hospital.of.Brooklyn                  < 2e-16
## facility_nameWoodhull.Medical...Mental.Health.Center             0.875880
## facility_nameWyckoff.Heights.Medical.Center                        NA
## genderM                                              0.054875
## raceOther.Race                                       0.009734
## raceUnknown                                          0.706867
## raceWhite                                            0.616094
## ethnicitySpanish.Hispanic                                     0.284585
## ethnicityUnknown                                              0.060789
## length_of_stay                                       < 2e-16
## type_of_admissionEmergency                                    0.033067
## type_of_admissionNewborn                                      0.005198
## type_of_admissionUrgent                              < 2e-16
## apr_severity_of_illness_code                                  0.299915
## apr_risk_of_mortalityMajor                           < 2e-16
## apr_risk_of_mortalityMinor                           < 2e-16
## apr_risk_of_mortalityModerate                        < 2e-16
## apr_medical_surgical_descriptionSurgical             < 2e-16
## payment_typology_1Federal.State.Local.VA                      0.746475
## payment_typology_1Managed.Care..Unspecified                   0.003986
## payment_typology_1Medicaid                           0.048613
## payment_typology_1Medicare                           0.486763
```

```
## payment_typology_1Private.Health.Insurance                              0.699206
## payment_typology_1Self.Pay                                    0.000455
## birth_weight                                          < 2e-16
## emergency_department_indicatorY                              0.595184
## total_costs                                           < 2e-16
## ccscancer                                         0.035127
## ccscirculatory_sysytem_disease                          0.582876
## ccscongenital_anomalies                               0.388113
## ccsdigestive_disease                                0.285902
## ccsendocrine_metabolic_disease                          0.120001
## ccsgenitourinary_disease                             0.085683
## ccsinfectious_disease                                0.517909
## ccsinjury_poisoning                                  0.171438
## ccsmental_disorder                                   0.255210
## ccsmusculoskeletal_disease                            0.109852
## ccsnervous_system_disease                             0.189247
## ccsother                                      0.022342
## ccsperinatal_condition                               0.032846
## ccspregnancy_childbirth_complication                         0.266780
## ccsrespiratory_disease                               0.043211
## ccsskin_disease                                 0.038921
##
## (Intercept)
## hospital_countyManhattan
## hospital_countyQueens                                            *
## hospital_countyRichmond                                          *
## facility_nameBeth.Israel.Medical.Center.Petrie.Campus                     ***
## facility_nameBronx.Lebanon.Hospital.Center...Concourse.Division               ***
## facility_nameBrookdale.Hospital.Medical.Center
## facility_nameBrooklyn.Hospital.Center...Downtown.Campus
## facility_nameConey.Island.Hospital                              ***
## facility_nameElmhurst.Hospital.Center
## facility_nameFlushing.Hospital.Medical.Center
## facility_nameForest.Hills.Hospital                             ***
## facility_nameHarlem.Hospital.Center                             .
## facility_nameJacobi.Medical.Center
## facility_nameJamaica.Hospital.Medical.Center
## facility_nameKings.County.Hospital.Center
## facility_nameLenox.Hill.Hospital                              ***
## facility_nameLincoln.Medical...Mental.Health.Center
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division           ***
## facility_nameLutheran.Medical.Center                           ***
## facility_nameMaimonides.Medical.Center                          ***
## facility_nameMetropolitan.Hospital.Center
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div ***
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div             ***
## facility_nameMontefiore.Medical.Center...North.Division                  ***
## facility_nameMontefiore.Medical.Center.Wakefield.Hospital                 ***
## facility_nameMount.Sinai.Beth.Israel                            ***
## facility_nameMount.Sinai.Hospital                             ***
## facility_nameMount.Sinai.Roosevelt                              *
## facility_nameMount.Sinai.West
## facility_nameNew.York.Hospital.Medical.Center...of.Queens                 ***
## facility_nameNew.York.Hospital.Medical.Center.of.Queens                  ***
## facility_nameNew.York.Methodist.Hospital                         ***
## facility_nameNew.York.Presbyterian.Hospital...Allen.Hospital               ***
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center         ***
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center        ***
## facility_nameNew.York.Presbyterian.Lower.Manhattan.Hospital                ***
## facility_nameNew.York.Presbyterian.Queens
## facility_nameNewYork.Presbyterian.Queens
## facility_nameNorth.Central.Bronx.Hospital
## facility_nameNYU.Hospitals.Center                             ***
## facility_nameQueens.Hospital.Center
## facility_nameRichmond.University.Medical.Center                      ***
## facility_nameSBH.Health.System
## facility_nameSt.Barnabas.Hospital
## facility_nameSt.Johns.Episcopal.Hospital.So.Shore
## facility_nameSt.Lukes.Roosevelt.Hospital.Center...Roosevelt.Hospital.Division       ***
## facility_nameStaten.Island.University.Hosp.North
## facility_nameSUNY.Downstate.Medical.Center.at.LICH                    **
## facility_nameUniversity.Hospital.of.Brooklyn                       ***
## facility_nameWoodhull.Medical...Mental.Health.Center
## facility_nameWyckoff.Heights.Medical.Center
## genderM                                          .
## raceOther.Race                                        **
```

```
## raceOther.Race
## raceUnknown
## raceWhite
## ethnicitySpanish.Hispanic
## ethnicityUnknown                                              .
## length_of_stay                                    ***
## type_of_admissionEmergency                              *
## type_of_admissionNewborn                               **
## type_of_admissionUrgent                               ***
## apr_severity_of_illness_code
## apr_risk_of_mortalityMajor                        ***
## apr_risk_of_mortalityMinor                        ***
## apr_risk_of_mortalityModerate                       ***
## apr_medical_surgical_descriptionSurgical                ***
## payment_typology_1Federal.State.Local.VA
## payment_typology_1Managed.Care..Unspecified                **
## payment_typology_1Medicaid                        *
## payment_typology_1Medicare
## payment_typology_1Private.Health.Insurance
## payment_typology_1Self.Pay                     ***
## birth_weight                           ***
## emergency_department_indicatorY
## total_costs                        ***
## ccscancer                          *
## ccscirculatory_sysytem_disease
## ccscongenital_anomalies
## ccsdigestive_disease
## ccsendocrine_metabolic_disease
## ccsgenitourinary_disease                          .
## ccsinfectious_disease
## ccsinjury_poisoning
## ccsmental_disorder
## ccsmusculoskeletal_disease
## ccsnervous_system_disease
## ccsother                           *
## ccsperinatal_condition                  *
## ccspregnancy_childbirth_complication
## ccsrespiratory_disease                   *
## ccsskin_disease                   *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 28080 on 90947 degrees of freedom
## Multiple R-squared:  0.8573, Adjusted R-squared:  0.8572
## F-statistic:  6210 on 88 and 90947 DF,  p-value: < 2.2e-16
#test error
pred_lm <- predict(fit_lm, discharge_data2[-trRows, -1])
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient
## fit may be misleading
mse(y2, pred_lm)
## [1] 937604771
rmse(y2, pred_lm)
## [1] 30620.33
```

We found the test erorr (MSE) to be 937604771 with a lambda value of 28.03162.

RIDGE REGRESSION

Fiting a ridge regression model on the training data, with λ chosen by cross-validation. Report the test error.

```
set.seed(100)
ridge.fit <- train(x, y,
          method = "glmnet",
          tuneGrid = expand.grid(alpha = 0,
                    lambda = exp(seq(-50, 50, length=100))),
          preProc = c("center", "scale"),
          trControl = ctrl1)
## Warning in preProcess.default(thresh = 0.95, k = 5, freqCut = 19, uniqueCut
## = 10, : These variables have zero variances: ccsmusculoskeletal_disease
## Warning in preProcess.default(thresh = 0.95, k = 5, freqCut
## = 19, uniqueCut = 10, : These variables have zero variances:
## facility_nameNew.York.Presbyterian.Queens
## Warning in nominalTrainWorkflow(x = x, y = y, wts = weights, info =
## trainInfo, : There were missing values in resampled performance measures.
```

ridge.fit
glmnet
##
91036 samples
92 predictor
##
Pre-processing: centered (92), scaled (92)
Resampling: Cross-Validated (10 fold)
Summary of sample sizes: 81932, 81933, 81933, 81933, 81932, 81933, ...
Resampling results across tuning parameters:
##

##	lambda	RMSE	Rsquared	MAE
##	1.928750e-22	28517.52	0.8548152	8931.058
##	5.296112e-22	28517.52	0.8548152	8931.058
##	1.454248e-21	28517.52	0.8548152	8931.058
##	3.993188e-21	28517.52	0.8548152	8931.058
##	1.096481e-20	28517.52	0.8548152	8931.058
##	3.010803e-20	28517.52	0.8548152	8931.058
##	8.267300e-20	28517.52	0.8548152	8931.058
##	2.270100e-19	28517.52	0.8548152	8931.058
##	6.233418e-19	28517.52	0.8548152	8931.058
##	1.711621e-18	28517.52	0.8548152	8931.058
##	4.699903e-18	28517.52	0.8548152	8931.058
##	1.290536e-17	28517.52	0.8548152	8931.058
##	3.543655e-17	28517.52	0.8548152	8931.058
##	9.730446e-17	28517.52	0.8548152	8931.058
##	2.671862e-16	28517.52	0.8548152	8931.058
##	7.336608e-16	28517.52	0.8548152	8931.058
##	2.014543e-15	28517.52	0.8548152	8931.058
##	5.531691e-15	28517.52	0.8548152	8931.058
##	1.518935e-14	28517.52	0.8548152	8931.058
##	4.170811e-14	28517.52	0.8548152	8931.058
##	1.145254e-13	28517.52	0.8548152	8931.058
##	3.144728e-13	28517.52	0.8548152	8931.058
##	8.635041e-13	28517.52	0.8548152	8931.058
##	2.371077e-12	28517.52	0.8548152	8931.058
##	6.510689e-12	28517.52	0.8548152	8931.058
##	1.787756e-11	28517.52	0.8548152	8931.058
##	4.908961e-11	28517.52	0.8548152	8931.058
##	1.347941e-10	28517.52	0.8548152	8931.058
##	3.701282e-10	28517.52	0.8548152	8931.058
##	1.016327e-09	28517.52	0.8548152	8931.058
##	2.790710e-09	28517.52	0.8548152	8931.058
##	7.662951e-09	28517.52	0.8548152	8931.058
##	2.104153e-08	28517.52	0.8548152	8931.058
##	5.777749e-08	28517.52	0.8548152	8931.058
##	1.586499e-07	28517.52	0.8548152	8931.058
##	4.356335e-07	28517.52	0.8548152	8931.058
##	1.196196e-06	28517.52	0.8548152	8931.058
##	3.284610e-06	28517.52	0.8548152	8931.058
##	9.019140e-06	28517.52	0.8548152	8931.058
##	2.476546e-05	28517.52	0.8548152	8931.058
##	6.800294e-05	28517.52	0.8548152	8931.058
##	1.867278e-04	28517.52	0.8548152	8931.058
##	5.127318e-04	28517.52	0.8548152	8931.058
##	1.407899e-03	28517.52	0.8548152	8931.058
##	3.865920e-03	28517.52	0.8548152	8931.058
##	1.061535e-02	28517.52	0.8548152	8931.058
##	2.914845e-02	28517.52	0.8548152	8931.058
##	8.003810e-02	28517.52	0.8548152	8931.058
##	2.197749e-01	28517.52	0.8548152	8931.058
##	6.034751e-01	28517.52	0.8548152	8931.058
##	1.657069e+00	28517.52	0.8548152	8931.058
##	4.550110e+00	28517.52	0.8548152	8931.058
##	1.249405e+01	28517.52	0.8548152	8931.058
##	3.430714e+01	28517.52	0.8548152	8931.058
##	9.420324e+01	28517.52	0.8548152	8931.058
##	2.586706e+02	28517.52	0.8548152	8931.058
##	7.102781e+02	28517.52	0.8548152	8931.058
##	1.950337e+03	28517.52	0.8548152	8931.058
##	5.355389e+03	28517.52	0.8548152	8931.058
##	1.470525e+04	29261.90	0.8510164	8774.302
##	4.037882e+04	32270.89	0.8368981	9083.627
##	1.108753e+05	39473.04	0.8066683	10351.515
##	3.044501e+05	50558.71	0.7706085	13473.051
##	8.359831e+05	61540.03	0.7442838	17638.888

```
##  2.295508e+06 68605.90 0.7303976 20520.063
##  6.303185e+06 71961.77 0.7243796 21935.011
##  1.730778e+07 73324.29 0.7220232 22518.938
##  4.752506e+07 73841.55 0.7211408 22742.225
##  1.304980e+08 74142.98       NaN 22872.730
##  3.583317e+08 74142.98       NaN 22872.730
##  9.839353e+08 74142.98       NaN 22872.730
##  2.701767e+09 74142.98       NaN 22872.730
##  7.418723e+09 74142.98       NaN 22872.730
##  2.037091e+10 74142.98       NaN 22872.730
##  5.593604e+10 74142.98       NaN 22872.730
##  1.535936e+11 74142.98       NaN 22872.730
##  4.217492e+11 74142.98       NaN 22872.730
##  1.158072e+12 74142.98       NaN 22872.730
##  3.179925e+12 74142.98       NaN 22872.730
##  8.731688e+12 74142.98       NaN 22872.730
##  2.397615e+13 74142.98       NaN 22872.730
##  6.583560e+13 74142.98       NaN 22872.730
##  1.807765e+14 74142.98       NaN 22872.730
##  4.963904e+14 74142.98       NaN 22872.730
##  1.363028e+15 74142.98       NaN 22872.730
##  3.742708e+15 74142.98       NaN 22872.730
##  1.027702e+16 74142.98       NaN 22872.730
##  2.821945e+16 74142.98       NaN 22872.730
##  7.748718e+16 74142.98       NaN 22872.730
##  2.127704e+17 74142.98       NaN 22872.730
##  5.842416e+17 74142.98       NaN 22872.730
##  1.604256e+18 74142.98       NaN 22872.730
##  4.405092e+18 74142.98       NaN 22872.730
##  1.209585e+19 74142.98       NaN 22872.730
##  3.321373e+19 74142.98       NaN 22872.730
##  9.120086e+19 74142.98       NaN 22872.730
##  2.504265e+20 74142.98       NaN 22872.730
##  6.876406e+20 74142.98       NaN 22872.730
##  1.888177e+21 74142.98       NaN 22872.730
##  5.184706e+21 74142.98       NaN 22872.730
##
## Tuning parameter 'alpha' was held constant at a value of 0
## RMSE was used to select the optimal model using the smallest value.
## The final values used for the model were alpha = 0 and lambda = 5355.389.
```

#lambda value
```
ridge.fit$bestTune
##    alpha  lambda
## 59     0 5355.389
```

#model coefficients
```
coef(ridge.fit$finalModel,ridge.fit$bestTune$lambda)
## 93 x 1 sparse Matrix of class "dgCMatrix"
##                                                                            1
## (Intercept)                                                      19730.125339
## hospital_countyKings                                              -401.124965
## hospital_countyManhattan                                            14.316032
## hospital_countyQueens                                              581.278826
## hospital_countyRichmond                                           -372.020868
## facility_nameBeth.Israel.Medical.Center.Petrie.Campus              733.725487
## facility_nameBronx.Lebanon.Hospital.Center...Concourse.Division  -2080.176381
## facility_nameBrookdale.Hospital.Medical.Center                    -654.546375
## facility_nameBrooklyn.Hospital.Center...Downtown.Campus           -735.433220
## facility_nameConey.Island.Hospital                                -140.546209
## facility_nameElmhurst.Hospital.Center                             -996.484138
## facility_nameFlushing.Hospital.Medical.Center                     -545.512933
## facility_nameForest.Hills.Hospital                                 143.690693
## facility_nameHarlem.Hospital.Center                               -948.864755
## facility_nameJacobi.Medical.Center                               -1362.565113
## facility_nameJamaica.Hospital.Medical.Center                      -984.549466
## facility_nameKings.County.Hospital.Center                         -867.973533
## facility_nameLenox.Hill.Hospital                                  1639.869532
## facility_nameLincoln.Medical...Mental.Health.Center              -1059.966460
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division  2754.386266
## facility_nameLutheran.Medical.Center                               589.615420
## facility_nameMaimonides.Medical.Center                            1579.636701
## facility_nameMetropolitan.Hospital.Center                         -729.943336
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div
##  2468.095667
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div   1376.594982
## facility_nameMontefiore.Medical.Center...North.Division           1404.718677
```

```
## facility_nameMontefiore.Medical.Center.Wakefield.Hospital             800.201974
## facility_nameMount.Sinai.Beth.Israel                           154.559294
## facility_nameMount.Sinai.Hospital                             -344.117085
## facility_nameMount.Sinai.Roosevelt                            -250.730767
## facility_nameMount.Sinai.West                                 -193.883334
## facility_nameNew.York.Hospital.Medical.Center...of.Queens       460.632957
## facility_nameNew.York.Hospital.Medical.Center.of.Queens         152.760090
## facility_nameNew.York.Methodist.Hospital                       272.018795
## facility_nameNew.York.Presbyterian.Hospital...Allen.Hospital    665.075833
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center
2510.947143
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center
 1586.670338
## facility_nameNew.York.Presbyterian.Lower.Manhattan.Hospital           150.320525
## facility_nameNew.York.Presbyterian.Queens                      9.411302
## facility_nameNewYork.Presbyterian.Queens                       56.917918
## facility_nameNorth.Central.Bronx.Hospital                     -559.019941
## facility_nameNYU.Hospitals.Center                              630.786746
## facility_nameQueens.Hospital.Center                           -885.154739
## facility_nameRichmond.University.Medical.Center                191.577118
## facility_nameSBH.Health.System                                -235.823892
## facility_nameSt.Barnabas.Hospital                             -639.418840
## facility_nameSt.Johns.Episcopal.Hospital.So.Shore             -366.435397
## facility_nameSt.Lukes.Roosevelt.Hospital.Center...Roosevelt.Hospital.Division     -545.254261
## facility_nameStaten.Island.University.Hosp.North              -662.537196
## facility_nameSUNY.Downstate.Medical.Center.at.LICH            -797.180318
## facility_nameUniversity.Hospital.of.Brooklyn                 -1982.245196
## facility_nameWoodhull.Medical...Mental.Health.Center          -870.397360
## facility_nameWyckoff.Heights.Medical.Center                   -632.406044
## genderM                                         -1.718848
## raceOther.Race                                 329.219469
## raceUnknown                                     20.114862
## raceWhite                                      223.887375
## ethnicitySpanish.Hispanic                       30.870556
## ethnicityUnknown                               -99.484525
## length_of_stay                               34912.197953
## type_of_admissionEmergency                    -253.098642
## type_of_admissionNewborn                       231.600854
## type_of_admissionUrgent                       1813.481118
## apr_severity_of_illness_code                  1073.877856
## apr_risk_of_mortalityMajor                    1027.961143
## apr_risk_of_mortalityMinor                   -5236.365124
## apr_risk_of_mortalityModerate                -3152.331587
## apr_medical_surgical_descriptionSurgical      5343.062880
## payment_typology_1Federal.State.Local.VA       -49.638935
## payment_typology_1Managed.Care..Unspecified   -226.020868
## payment_typology_1Medicaid                     -48.988506
## payment_typology_1Medicare                     -73.974618
## payment_typology_1Private.Health.Insurance     -73.161229
## payment_typology_1Self.Pay                      62.420121
## birth_weight                                  -509.087805
## emergency_department_indicatorY                 83.994292
## total_costs                                  27082.687743
## ccscancer                                       76.265313
## ccscirculatory_sysytem_disease                -107.139854
## ccscongenital_anomalies                       -724.251919
## ccsdigestive_disease                          -228.653419
## ccsendocrine_metabolic_disease                 -17.115423
## ccsgenitourinary_disease                         6.234718
## ccsinfectious_disease                         -407.916662
## ccsinjury_poisoning                           -124.041390
## ccsmental_disorder                            -277.830011
## ccsmusculoskeletal_disease                      68.442824
## ccsnervous_system_disease                     -110.213547
## ccsother                                       286.026870
## ccsperinatal_condition                         583.960114
## ccspregnancy_childbirth_complication           -12.658190
## ccsrespiratory_disease                         182.569953
## ccsskin_disease                                107.487776
#test error
pred_ridge <- predict(ridge.fit, x)
mse(y2, pred_ridge)
## [1] 9790669585
rmse(y2, pred_ridge)
## [1] 98947.81
```

We found the test erorr (MSE) to be 9790669585 with a lambda value of 5355.389.

LASSO MODEL

Fiting a lasso model on the training data, with λ chosen by cross-validation. Report the test error, along with the number of non-zero coefficient estimates.

```
set.seed(100)
lasso.fit <- train(x, y,
          method = "glmnet",
          tuneGrid = expand.grid(alpha = 1,
                        lambda = exp(seq(-10, 10, length=100))),
          preProc = c("center", "scale"),
          trControl = ctrl1)
## Warning in preProcess.default(thresh = 0.95, k = 5, freqCut = 19, uniqueCut
## = 10, : These variables have zero variances: ccsmusculoskeletal_disease
## Warning in preProcess.default(thresh = 0.95, k = 5, freqCut
## = 19, uniqueCut = 10, : These variables have zero variances:
## facility_nameNew.York.Presbyterian.Queens
lasso.fit
## glmnet
##
## 91036 samples
##    92 predictor
##
## Pre-processing: centered (92), scaled (92)
## Resampling: Cross-Validated (10 fold)
## Summary of sample sizes: 81932, 81933, 81933, 81933, 81932, 81933, ...
## Resampling results across tuning parameters:
##
## lambda       RMSE     Rsquared  MAE
## 4.539993e-05  28180.84  0.8568294  9399.915
## 5.556374e-05  28180.84  0.8568294  9399.915
## 6.800294e-05  28180.84  0.8568294  9399.915
## 8.322695e-05  28180.84  0.8568294  9399.915
## 1.018592e-04  28180.84  0.8568294  9399.915
## 1.246627e-04  28180.84  0.8568294  9399.915
## 1.525713e-04  28180.84  0.8568294  9399.915
## 1.867278e-04  28180.84  0.8568294  9399.915
## 2.285311e-04  28180.84  0.8568294  9399.915
## 2.796929e-04  28180.84  0.8568294  9399.915
## 3.423086e-04  28180.84  0.8568294  9399.915
## 4.189421e-04  28180.84  0.8568294  9399.915
## 5.127318e-04  28180.84  0.8568294  9399.915
## 6.275185e-04  28180.84  0.8568294  9399.915
## 7.680028e-04  28180.84  0.8568294  9399.915
## 9.399377e-04  28180.84  0.8568294  9399.915
## 1.150364e-03  28180.84  0.8568294  9399.915
## 1.407899e-03  28180.84  0.8568294  9399.915
## 1.723090e-03  28180.84  0.8568294  9399.915
## 2.108842e-03  28180.84  0.8568294  9399.915
## 2.580955e-03  28180.84  0.8568294  9399.915
## 3.158760e-03  28180.84  0.8568294  9399.915
## 3.865920e-03  28180.84  0.8568294  9399.915
## 4.731394e-03  28180.84  0.8568294  9399.915
## 5.790624e-03  28180.84  0.8568294  9399.915
## 7.086987e-03  28180.84  0.8568294  9399.915
## 8.673571e-03  28180.84  0.8568294  9399.915
## 1.061535e-02  28180.84  0.8568294  9399.915
## 1.299183e-02  28180.84  0.8568294  9399.915
## 1.590035e-02  28180.84  0.8568294  9399.915
## 1.946001e-02  28180.84  0.8568294  9399.915
## 2.381657e-02  28180.84  0.8568294  9399.915
## 2.914845e-02  28180.84  0.8568294  9399.915
## 3.567399e-02  28180.84  0.8568294  9399.915
## 4.366043e-02  28180.84  0.8568294  9399.915
## 5.343481e-02  28180.84  0.8568294  9399.915
## 6.539740e-02  28180.84  0.8568294  9399.915
## 8.003810e-02  28180.84  0.8568294  9399.915
## 9.795645e-02  28180.84  0.8568294  9399.915
## 1.198862e-01  28180.84  0.8568294  9399.915
## 1.467255e-01  28180.84  0.8568294  9399.915
## 1.795733e-01  28180.84  0.8568294  9399.915
## 2.197749e-01  28180.84  0.8568294  9399.915
```

```
## 2.689765e-01 28180.84 0.8568294 9399.915
## 3.291930e-01 28180.84 0.8568294 9399.915
## 4.028903e-01 28180.84 0.8568294 9399.915
## 4.930865e-01 28180.84 0.8568294 9399.915
## 6.034751e-01 28180.84 0.8568294 9399.915
## 7.385767e-01 28180.84 0.8568294 9399.915
## 9.039239e-01 28180.84 0.8568294 9399.915
## 1.106288e+00 28180.84 0.8568294 9399.915
## 1.353955e+00 28180.84 0.8568294 9399.915
## 1.657069e+00 28180.84 0.8568294 9399.915
## 2.028042e+00 28180.84 0.8568294 9399.915
## 2.482065e+00 28180.84 0.8568294 9399.915
## 3.037732e+00 28180.84 0.8568294 9399.915
## 3.717797e+00 28180.84 0.8568294 9399.915
## 4.550110e+00 28180.84 0.8568294 9399.915
## 5.568756e+00 28180.84 0.8568294 9399.915
## 6.815449e+00 28180.84 0.8568294 9399.915
## 8.341242e+00 28180.84 0.8568294 9399.915
## 1.020862e+01 28180.84 0.8568294 9399.915
## 1.249405e+01 28180.84 0.8568294 9399.915
## 1.529113e+01 28180.84 0.8568294 9399.915
## 1.871439e+01 28180.84 0.8568294 9399.915
## 2.290404e+01 28180.84 0.8568294 9399.915
## 2.803162e+01 28180.84 0.8568294 9399.915
## 3.430714e+01 28180.88 0.8568286 9396.599
## 4.198757e+01 28182.54 0.8568143 9377.129
## 5.138745e+01 28184.20 0.8568005 9351.376
## 6.289170e+01 28186.43 0.8567813 9319.573
## 7.697143e+01 28189.93 0.8567500 9280.133
## 9.420324e+01 28195.58 0.8566978 9233.274
## 1.152928e+02 28204.21 0.8566167 9178.637
## 1.411037e+02 28216.10 0.8565049 9115.597
## 1.726929e+02 28233.23 0.8563418 9041.879
## 2.113542e+02 28255.57 0.8561268 8958.110
## 2.586706e+02 28277.52 0.8559215 8863.992
## 3.165799e+02 28307.90 0.8556366 8759.435
## 3.874535e+02 28348.81 0.8552522 8635.987
## 4.741938e+02 28407.55 0.8546913 8507.700
## 5.803529e+02 28499.87 0.8537979 8384.984
## 7.102781e+02 28627.82 0.8525438 8271.624
## 8.692900e+02 28780.48 0.8510418 8163.239
## 1.063900e+03 28918.49 0.8496954 8037.850
## 1.302079e+03 29065.20 0.8482861 7943.197
## 1.593578e+03 29239.59 0.8466256 7899.393
## 1.950337e+03 29408.53 0.8451000 7824.036
## 2.386965e+03 29623.12 0.8431770 7869.759
## 2.921341e+03 29814.85 0.8416657 7999.469
## 3.575349e+03 29994.54 0.8405469 8095.567
## 4.375773e+03 30186.35 0.8396859 8112.916
## 5.355389e+03 30442.71 0.8386834 8120.993
## 6.554314e+03 30815.57 0.8371866 8136.782
## 8.021647e+03 31353.47 0.8349369 8205.437
## 9.817475e+03 31919.18 0.8343169 8295.444
## 1.201534e+04 32688.93 0.8342619 8454.966
## 1.470525e+04 33811.25 0.8341770 8722.504
## 1.799735e+04 35428.69 0.8340378 9242.582
## 2.202647e+04 37725.97 0.8337939 10041.835
##
## Tuning parameter 'alpha' was held constant at a value of 1
## RMSE was used to select the optimal model using the smallest value.
## The final values used for the model were alpha = 1 and lambda = 28.03162.
```

#lamda value

```
lasso.fit$bestTune
##    alpha   lambda
## 67     1 28.03162
```

#model coefficients

```
coef(lasso.fit$finalModel,lasso.fit$bestTune$lambda)
## 93 x 1 sparse Matrix of class "dgCMatrix"
##                                                                  1
## (Intercept)                                           19730.125339
## hospital_countyKings                                             .
## hospital_countyManhattan                                         .
## hospital_countyQueens                                            .
## hospital_countyRichmond                                          .
## facility_nameBeth.Israel.Medical.Center.Petrie.Campus  1253.296728
## facility_nameBronx.Lebanon.Hospital.Center..Concourse.Division  -1927.048841
```

```
## facility_nameBronx.Lebanon.Hospital.Center...Concourse.Division      -1927.848841
## facility_nameBrookdale.Hospital.Medical.Center                         -410.688177
## facility_nameBrooklyn.Hospital.Center...Downtown.Campus                -539.361660
## facility_nameConey.Island.Hospital                                             .
## facility_nameElmhurst.Hospital.Center                                  -297.762345
## facility_nameFlushing.Hospital.Medical.Center                            47.869940
## facility_nameForest.Hills.Hospital                                      734.885566
## facility_nameHarlem.Hospital.Center                                    -740.452319
## facility_nameJacobi.Medical.Center                                     -983.014566
## facility_nameJamaica.Hospital.Medical.Center                           -487.323881
## facility_nameKings.County.Hospital.Center                              -642.017675
## facility_nameLenox.Hill.Hospital                                       2347.193864
## facility_nameLincoln.Medical...Mental.Health.Center                    -774.653451
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division 3959.737628
## facility_nameLutheran.Medical.Center                                   1040.284929
## facility_nameMaimonides.Medical.Center                                  2204.539822
## facility_nameMetropolitan.Hospital.Center                              -439.919462
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div
 3087.361968
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div        1533.327873
## facility_nameMontefiore.Medical.Center...North.Division                1838.022457
## facility_nameMontefiore.Medical.Center.Wakefield.Hospital              1082.467888
## facility_nameMount.Sinai.Beth.Israel                                    250.822670
## facility_nameMount.Sinai.Hospital                                       458.649521
## facility_nameMount.Sinai.Roosevelt                                      -66.561253
## facility_nameMount.Sinai.West                                         -175.963487
## facility_nameNew.York.Hospital.Medical.Center...of.Queens              1236.791038
## facility_nameNew.York.Hospital.Medical.Center.of.Queens                 399.744436
## facility_nameNew.York.Methodist.Hospital                                743.899247
## facility_nameNew.York.Presbyterian.Hospital...Allen.Hospital           1032.453456
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center
3256.294508
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center
 2372.593259
## facility_nameNew.York.Presbyterian.Lower.Manhattan.Hospital             546.092537
## facility_nameNew.York.Presbyterian.Queens                                      .
## facility_nameNewYork.Presbyterian.Queens                                  8.151311
## facility_nameNorth.Central.Bronx.Hospital                              -279.255296
## facility_nameNYU.Hospitals.Center                                      1454.699943
## facility_nameQueens.Hospital.Center                                    -389.396505
## facility_nameRichmond.University.Medical.Center                         371.985616
## facility_nameSBH.Health.System                                         -191.129113
## facility_nameSt.Barnabas.Hospital                                      -502.407235
## facility_nameSt.Johns.Episcopal.Hospital.So.Shore                       -57.691242
## facility_nameSt.Lukes.Roosevelt.Hospital.Center...Roosevelt.Hospital.Division 187.495235
## facility_nameStaten.Island.University.Hosp.North                       -450.805985
## facility_nameSUNY.Downstate.Medical.Center.at.LICH                     -688.120908
## facility_nameUniversity.Hospital.of.Brooklyn                          -1868.694266
## facility_nameWoodhull.Medical...Mental.Health.Center                   -658.778545
## facility_nameWyckoff.Heights.Medical.Center                            -537.034992
## genderM                                            -134.088218
## raceOther.Race                                      294.472697
## raceUnknown                                                  .
## raceWhite                                            61.921620
## ethnicitySpanish.Hispanic                             6.477588
## ethnicityUnknown                                     73.245662
## length_of_stay                                    41874.636145
## type_of_admissionEmergency                                   .
## type_of_admissionNewborn                            179.913215
## type_of_admissionUrgent                            1911.021823
## apr_severity_of_illness_code                         -3.692325
## apr_risk_of_mortalityMajor                        -2373.660323
## apr_risk_of_mortalityMinor                        -9126.047204
## apr_risk_of_mortalityModerate                     -7322.214494
## apr_medical_surgical_descriptionSurgical           5348.276370
## payment_typology_1Federal.State.Local.VA             -7.311927
## payment_typology_1Managed.Care..Unspecified        -233.257406
## payment_typology_1Medicaid                          105.428357
## payment_typology_1Medicare                          -33.747856
## payment_typology_1Private.Health.Insurance          -31.172982
## payment_typology_1Self.Pay                          184.192214
## birth_weight                                       1123.571828
## emergency_department_indicatorY                      52.423955
## total_costs                                       24814.138366
## ccscancer                                            29.995993
## ccscirculatory_sysytem_disease                      -62.229681
```

```
## ccscongenital_anomalies                        -909.892358
## ccsdigestive_disease                            -264.471243
## ccsendocrine_metabolic_disease                    -7.301272
## ccsgenitourinary_disease                              .
## ccsinfectious_disease                            -604.070166
## ccsinjury_poisoning                               -98.040208
## ccsmental_disorder                               -361.338041
## ccsmusculoskeletal_disease                         34.939721
## ccsnervous_system_disease                        -119.708990
## ccsother                                  218.214467
## ccsperinatal_condition                         406.451419
## ccspregnancy_childbirth_complication              -9.067202
## ccsrespiratory_disease                           90.515491
## ccsskin_disease                                  48.524308
#test error
pred_lasso <- predict(lasso.fit, newdata = x2)
mse(y2, pred_lasso)
## [1] 937116653
rmse(y2, pred_lasso)
## [1] 30612.36
```

We found the test erorr (MSE) to be 937116653 with a lambda value of 28.03162.

PCR MODEL

Fitting a principle component regression model on the training data, with M chosen by cross-validation.

```
set.seed(100)
pcr.fit <-train(x, y,
          method = "pcr",
          tuneGrid =data.frame(ncomp = 1:92),
          trControl = ctrl1,
          preProc =c("center", "scale"))
## Warning in preProcess.default(thresh = 0.95, k = 5, freqCut = 19, uniqueCut
## = 10, : These variables have zero variances: ccsmusculoskeletal_disease
## Warning in preProcess.default(thresh = 0.95, k = 5, freqCut
## = 19, uniqueCut = 10, : These variables have zero variances:
## facility_nameNew.York.Presbyterian.Queens
pcr.fit
## Principal Component Analysis
##
## 91036 samples
##    92 predictor
##
## Pre-processing: centered (92), scaled (92)
## Resampling: Cross-Validated (10 fold)
## Summary of sample sizes: 81932, 81933, 81933, 81933, 81932, 81933, ...
## Resampling results across tuning parameters:
##
##   ncomp  RMSE        Rsquared   MAE
##    1     6.095158e+04  0.3260462  1.718126e+04
##    2     5.431094e+04  0.4647305  2.556397e+04
##    3     4.427509e+04  0.6447749  1.650835e+04
##    4     4.422823e+04  0.6455109  1.655123e+04
##    5     4.421291e+04  0.6457462  1.640458e+04
##    6     4.415976e+04  0.6465798  1.619183e+04
##    7     4.413171e+04  0.6470296  1.616590e+04
##    8     4.330294e+04  0.6604009  1.660777e+04
##    9     4.309022e+04  0.6637221  1.672886e+04
##   10     4.305787e+04  0.6642161  1.685328e+04
##   11     4.293798e+04  0.6660658  1.748823e+04
##   12     4.271250e+04  0.6695164  1.800796e+04
##   13     3.975373e+04  0.7132381  1.806576e+04
##   14     3.970237e+04  0.7139577  1.800994e+04
##   15     3.916038e+04  0.7215704  1.716327e+04
##   16     3.915452e+04  0.7216549  1.716026e+04
##   17     3.915103e+04  0.7217101  1.711614e+04
##   18     3.915333e+04  0.7216863  1.708905e+04
##   19     3.915740e+04  0.7216364  1.708915e+04
##   20     3.906941e+04  0.7228829  1.699409e+04
##   21     3.898997e+04  0.7240505  1.674684e+04
##   22     3.898536e+04  0.7241114  1.670462e+04
##   23     3.897689e+04  0.7242399  1.663296e+04
##   24     3.894187e+04  0.7247529  1.651064e+04
```

```
##   25   3.889678e+04  0.7253547  1.649983e+04
##   26   3.888213e+04  0.7255244  1.646569e+04
##   27   3.882963e+04  0.7262787  1.639411e+04
##   28   3.878487e+04  0.7269397  1.635929e+04
##   29   3.877435e+04  0.7270884  1.633722e+04
##   30   3.871588e+04  0.7278979  1.627342e+04
##   31   3.870614e+04  0.7280348  1.625892e+04
##   32   3.869395e+04  0.7282030  1.625618e+04
##   33   3.867536e+04  0.7284678  1.625494e+04
##   34   3.866840e+04  0.7285718  1.625347e+04
##   35   3.866257e+04  0.7286577  1.625147e+04
##   36   3.865402e+04  0.7287767  1.626248e+04
##   37   3.863901e+04  0.7289944  1.627351e+04
##   38   3.863495e+04  0.7290487  1.626760e+04
##   39   3.863292e+04  0.7291179  1.626990e+04
##   40   3.860390e+04  0.7295206  1.629274e+04
##   41   3.857182e+04  0.7299785  1.631054e+04
##   42   3.856385e+04  0.7300995  1.632346e+04
##   43   3.853652e+04  0.7304639  1.632239e+04
##   44   3.853217e+04  0.7305267  1.632789e+04
##   45   3.853272e+04  0.7305188  1.633049e+04
##   46   3.852815e+04  0.7305847  1.632453e+04
##   47   3.852849e+04  0.7305853  1.631559e+04
##   48   3.852420e+04  0.7306540  1.630240e+04
##   49   3.850975e+04  0.7308541  1.628237e+04
##   50   3.850098e+04  0.7309789  1.626616e+04
##   51   3.850911e+04  0.7308661  1.624474e+04
##   52   3.850913e+04  0.7308654  1.624486e+04
##   53   3.851270e+04  0.7308132  1.624389e+04
##   54   3.851134e+04  0.7308374  1.624317e+04
##   55   3.848917e+04  0.7311835  1.623221e+04
##   56   3.846841e+04  0.7314780  1.623198e+04
##   57   3.845664e+04  0.7316310  1.623700e+04
##   58   3.845131e+04  0.7317078  1.622923e+04
##   59   3.843864e+04  0.7318992  1.622510e+04
##   60   3.843459e+04  0.7319443  1.622391e+04
##   61   3.830779e+04  0.7336342  1.610522e+04
##   62   3.827997e+04  0.7340375  1.607777e+04
##   63   3.825540e+04  0.7343400  1.599482e+04
##   64   3.820822e+04  0.7349760  1.595260e+04
##   65   3.817187e+04  0.7354897  1.591057e+04
##   66   3.814377e+04  0.7358114  1.590084e+04
##   67   3.804295e+04  0.7372287  1.585740e+04
##   68   3.800288e+04  0.7377297  1.581199e+04
##   69   3.797749e+04  0.7380833  1.581913e+04
##   70   3.777078e+04  0.7404980  1.622695e+04
##   71   3.707245e+04  0.7504823  1.753329e+04
##   72   3.671118e+04  0.7549202  1.756730e+04
##   73   3.606853e+04  0.7640209  1.758294e+04
##   74   3.509466e+04  0.7756369  1.717807e+04
##   75   3.284542e+04  0.8026516  1.516267e+04
##   76   2.891091e+04  0.8494121  9.652062e+03
##   77   2.880699e+04  0.8505486  9.390927e+03
##   78   2.874134e+04  0.8511500  9.391043e+03
##   79   2.855866e+04  0.8531654  9.343040e+03
##   80   2.855401e+04  0.8532185  9.340143e+03
##   81   2.855180e+04  0.8532359  9.343469e+03
##   82   2.852913e+04  0.8534676  9.334426e+03
##   83   2.844743e+04  0.8541889  9.349442e+03
##   84   2.833575e+04  0.8552646  9.467717e+03
##   85   2.820369e+04  0.8565860  9.516266e+03
##   86   2.819868e+04  0.8566254  9.523623e+03
##   87   2.817368e+04  0.8568859  9.541537e+03
##   88   1.289959e+12  0.7697503  1.352022e+10
##   89   1.236455e+12  0.6827486  1.295944e+10
##   90   4.330026e+12  0.6827153  4.538354e+10
##   91   4.456623e+12  0.6826888  4.671041e+10
##   92   5.172463e+14  0.6826146  5.421028e+12
##
## RMSE was used to select the optimal model using the smallest value.
## The final value used for the model was ncomp = 87.
```

#M value

```
pcr.fit$bestTune
##    ncomp
## 87    87
```

```
#test error
pred_pcr <- predict(pcr.fit, x2, ncomp = 87)
mse(y2, pred_pcr)
## [1] 937635353
rmse(y2, pred_pcr)
## [1] 30620.83
summary(pcr.fit)
## Data:    X dimension: 91036 92
##  Y dimension: 91036 1
## Fit method: svdpc
## Number of components considered: 87
## TRAINING: % variance explained
##         1 comps  2 comps  3 comps  4 comps  5 comps  6 comps  7 comps
## X         4.665   8.267    11.64    14.34    16.67    18.88    20.83
## .outcome 32.534  46.443    64.47    64.54    64.57    64.65    64.70
##         8 comps  9 comps  10 comps  11 comps  12 comps  13 comps
## X        22.57    23.98     25.35    26.66    27.97    29.24
## .outcome 66.04    66.37     66.42    66.61    66.96    71.44
##         14 comps  15 comps  16 comps  17 comps  18 comps  19 comps
## X         30.47    31.68     32.88    34.05    35.21    36.37
## .outcome  71.51    72.29     72.29    72.30    72.31    72.31
##         20 comps  21 comps  22 comps  23 comps  24 comps  25 comps
## X         37.53    38.67     39.81    40.95    42.09    43.22
## .outcome  72.45    72.59     72.59    72.60    72.64    72.69
##         26 comps  27 comps  28 comps  29 comps  30 comps  31 comps
## X         44.35    45.47     46.60    47.72    48.84    49.95
## .outcome  72.70    72.81     72.85    72.85    72.96    72.97
##         32 comps  33 comps  34 comps  35 comps  36 comps  37 comps
## X         51.07    52.18     53.29    54.40    55.51    56.62
## .outcome  72.98    73.01     73.01    73.02    73.03    73.06
##         38 comps  39 comps  40 comps  41 comps  42 comps  43 comps
## X         57.72    58.83     59.93    61.03    62.13    63.23
## .outcome  73.06    73.06     73.15    73.17    73.18    73.21
##         44 comps  45 comps  46 comps  47 comps  48 comps  49 comps
## X         64.32    65.42     66.51    67.60    68.69    69.79
## .outcome  73.23    73.23     73.23    73.23    73.24    73.26
##         50 comps  51 comps  52 comps  53 comps  54 comps  55 comps
## X         70.87    71.96     73.05    74.14    75.22    76.30
## .outcome  73.28    73.29     73.29    73.29    73.29    73.33
##         56 comps  57 comps  58 comps  59 comps  60 comps  61 comps
## X         77.39    78.47     79.55    80.63    81.7     82.77
## .outcome  73.35    73.35     73.39    73.39    73.4     73.53
##         62 comps  63 comps  64 comps  65 comps  66 comps  67 comps
## X         83.84    84.91     85.96    87.01    88.05    89.08
## .outcome  73.64    73.65     73.70    73.80    73.80    73.97
##         68 comps  69 comps  70 comps  71 comps  72 comps  73 comps
## X         90.1     91.08     92.05    92.97    93.88    94.73
## .outcome  74.0     74.06     74.08    75.34    75.51    76.88
##         74 comps  75 comps  76 comps  77 comps  78 comps  79 comps
## X         95.57    96.29     96.98    97.64    98.29    98.80
## .outcome  77.24    79.75     84.97    85.05    85.05    85.29
##         80 comps  81 comps  82 comps  83 comps  84 comps  85 comps
## X         99.08    99.32     99.56    99.78    99.88    99.94
## .outcome  85.30    85.30     85.33    85.33    85.48    85.70
##         86 comps  87 comps
## X         99.97   100.00
## .outcome  85.70    85.73
var_imp = varImp(pcr.fit, scale=FALSE)
var_imp
## loess r-squared variable importance
##
##   only 20 most important variables shown (out of 92)
##
##                                                        Overall
## length_of_stay                                         0.8076274
## total_costs                                            0.7845670
## apr_risk_of_mortalityMinor                             0.2704475
## apr_risk_of_mortalityMajor                             0.1802378
## apr_severity_of_illness_code                           0.1618311
## birth_weight                                           0.1420151
## apr_medical_surgical_descriptionSurgical               0.1084894
## apr_risk_of_mortalityModerate                          0.0731018
## ccscongenital_anomalies                                0.0193159
## type_of_admissionUrgent                                0.0180686
## ccsperinatal_condition                                 0.0099542
## facility_nameNew York Presbyterian Hospital - Columbia Presbyterian Center   0.0085628
```

```
## facility_nameNew.York.Presbyterian.Hospital...Columbia.Presbyterian.Center     0.0085628
## type_of_admissionNewborn                                             0.0073561
## facility_nameMontefiore.Medical.Center...Henry...Lucy.Moses.Div            0.0034954
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division      0.0032407
## facility_nameMontefiore.Med.Center...Jack.D.Weiler.Hosp.of.A.Einstein.College.Div
0.0029808
## hospital_countyManhattan                                             0.0015741
## hospital_countyKings                                                 0.0014053
## facility_nameNew.York.Presbyterian.Hospital...New.York.Weill.Cornell.Center   0.0009412
## type_of_admissionEmergency                                           0.0008545
```
#Figure 4: Importance of each variable
plot(var_imp, top = 10)
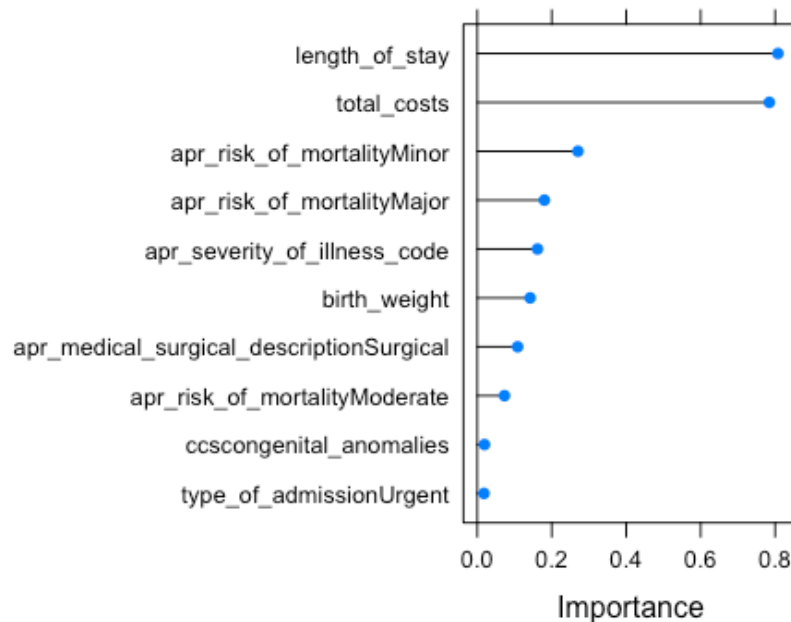
We found the test erorr to be 937635353 with an M value of 87 selected by cross-validation.

GAM MODEL

Fiting a generalized additive model (GAM) using all the predictors.

set.seed(100)

```
gam.fit <- train(x, y,
        method = "gam",
        tuneGrid = data.frame(method = "GCV.Cp", select = c(TRUE,FALSE)),
        trControl = ctrl1)
```

gam.fit**$**bestTune
```
##   select method
## 1  FALSE GCV.Cp
```
gam.fit**$**finalModel
```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## .outcome ~ hospital_countyKings + hospital_countyManhattan +
##    hospital_countyQueens +
facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division +
##    facility_nameMaimonides.Medical.Center + facility_nameMount.Sinai.Hospital +
##    genderM + raceOther.Race + raceWhite + ethnicitySpanish.Hispanic +
##    payment_typology_1Medicaid + payment_typology_1Private.Health.Insurance +
##    apr_severity_of_illness_code + s(birth_weight) + s(length_of_stay) +
##    s(total_costs)
##
## Estimated degrees of freedom:
## 8.90 8.97 8.96  total = 40.82
##
## GCV score: 820127821
```
pred_gam <- **predict**(gam.fit, x2)

```
mse(y2, pred_gam)
## [1] 969194746
rmse(y2, pred_gam)
## [1] 31131.89
summary(gam.fit)
##
## Family: gaussian
## Link function: identity
##
## Formula:
## .outcome ~ hospital_countyKings + hospital_countyManhattan +
##     hospital_countyQueens +
facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division +
##     facility_nameMaimonides.Medical.Center + facility_nameMount.Sinai.Hospital +
##     genderM + raceOther.Race + raceWhite + ethnicitySpanish.Hispanic +
##     payment_typology_1Medicaid + payment_typology_1Private.Health.Insurance +
##     apr_severity_of_illness_code + s(birth_weight) + s(length_of_stay) +
##     s(total_costs)
##
## Parametric coefficients:
##                                                                          Estimate
## (Intercept)                                                              12214.95
## hospital_countyKings                                                     -3179.65
## hospital_countyManhattan                                                  4082.29
## hospital_countyQueens                                                     -425.77
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division 16773.17
## facility_nameMaimonides.Medical.Center                                    9901.53
## facility_nameMount.Sinai.Hospital                                        -5848.08
## genderM                                                                     70.95
## raceOther.Race                                                            3145.21
## raceWhite                                                                 2503.48
## ethnicitySpanish.Hispanic                                                 -812.46
## payment_typology_1Medicaid                                               -1661.56
## payment_typology_1Private.Health.Insurance                                -100.30
## apr_severity_of_illness_code                                              3272.90
##                                                                          Std. Error
## (Intercept)                                                                  458.98
## hospital_countyKings                                                         322.24
## hospital_countyManhattan                                                     297.23
## hospital_countyQueens                                                        338.33
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division      482.32
## facility_nameMaimonides.Medical.Center                                       435.95
## facility_nameMount.Sinai.Hospital                                            432.61
## genderM                                                                      191.74
## raceOther.Race                                                               267.76
## raceWhite                                                                    293.54
## ethnicitySpanish.Hispanic                                                    266.04
## payment_typology_1Medicaid                                                   289.68
## payment_typology_1Private.Health.Insurance                                   308.59
## apr_severity_of_illness_code                                                 176.75
##                                                                          t value
## (Intercept)                                                               26.613
## hospital_countyKings                                                      -9.867
## hospital_countyManhattan                                                  13.734
## hospital_countyQueens                                                     -1.258
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division  34.776
## facility_nameMaimonides.Medical.Center                                    22.712
## facility_nameMount.Sinai.Hospital                                        -13.518
## genderM                                                                    0.370
## raceOther.Race                                                            11.746
## raceWhite                                                                  8.529
## ethnicitySpanish.Hispanic                                                 -3.054
## payment_typology_1Medicaid                                                -5.736
## payment_typology_1Private.Health.Insurance                                -0.325
## apr_severity_of_illness_code                                              18.517
##                                                                          Pr(>|t|)
## (Intercept)                                                               < 2e-16
## hospital_countyKings                                                      < 2e-16
## hospital_countyManhattan                                                  < 2e-16
## hospital_countyQueens                                                     0.20824
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division  < 2e-16
## facility_nameMaimonides.Medical.Center                                    < 2e-16
## facility_nameMount.Sinai.Hospital                                         < 2e-16
## genderM                                                                   0.71138
## raceOther.Race                                                            < 2e-16
## raceWhite                                                                 < 2e-16
```

```
## race White                                        < 2e-16
## ethnicitySpanish.Hispanic                         0.00226
## payment_typology_1Medicaid                         9.73e-09
## payment_typology_1Private.Health.Insurance              0.74517
## apr_severity_of_illness_code                       < 2e-16
##
## (Intercept)                                ***
## hospital_countyKings                          ***
## hospital_countyManhattan                       ***
## hospital_countyQueens
## facility_nameLong.Island.Jewish.Schneiders.Children.s.Hospital.Division ***
## facility_nameMaimonides.Medical.Center                    ***
## facility_nameMount.Sinai.Hospital                     ***
## genderM
## raceOther.Race                            ***
## raceWhite                              ***
## ethnicitySpanish.Hispanic                      **
## payment_typology_1Medicaid                      ***
## payment_typology_1Private.Health.Insurance
## apr_severity_of_illness_code                     ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Approximate significance of smooth terms:
##                 edf Ref.df    F p-value
## s(birth_weight)  8.895  8.993  107.9  <2e-16 ***
## s(length_of_stay) 8.966  8.999 3143.9  <2e-16 ***
## s(total_costs)   8.958  8.999 2110.4  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-sq.(adj) =  0.852   Deviance explained = 85.2%
## GCV = 8.2013e+08  Scale est. = 8.1976e+08  n = 91036
```

Choosing best model to predict total healthcare charges

```r
resamp <- resamples(list(lm = fit_lm,
                lasso = lasso.fit,
                pcr = pcr.fit,
                gam = gam.fit,
                ridge = ridge.fit))
```

#Figure 3: Boxplot of all 3 models
bwplot(resamp, metric = "RMSE")
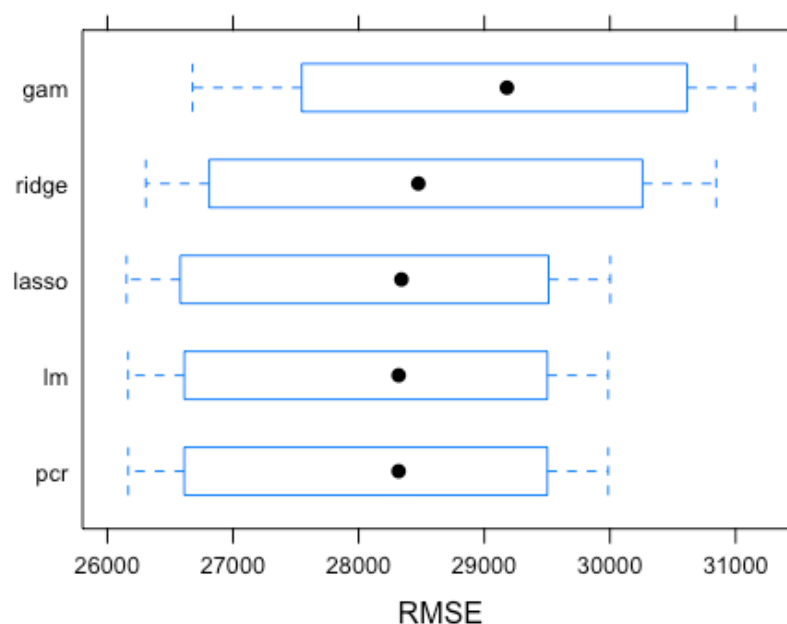

```r
summary(resamp)
##
## Call:
## summary.resamples(object = resamp)
##
```

```
##
## Models: lm, lasso, pcr, gam, ridge
## Number of resamples: 10
##
## MAE
##        Min. 1st Qu.  Median    Mean 3rd Qu.    Max. NA's
## lm    9203.205 9392.192 9569.649 9541.894 9721.208 9814.831    0
## lasso 9042.496 9249.446 9425.081 9399.915 9593.689 9674.869    0
## pcr   9203.646 9392.051 9566.931 9541.537 9721.594 9815.186    0
## gam   8140.379 8344.797 8477.576 8485.779 8696.123 8825.095    0
## ridge 8601.740 8712.862 8985.624 8931.058 9146.153 9224.492    0
##
## RMSE
##        Min. 1st Qu.  Median    Mean 3rd Qu.    Max. NA's
## lm    26165.24 26844.17 28318.51 28174.24 29429.14 29986.34    0
## lasso 26152.81 26816.58 28340.35 28180.84 29441.95 30002.69    0
## pcr   26166.42 26842.52 28318.00 28173.68 29428.94 29986.34    0
## gam   26678.34 27548.32 29180.06 29076.52 30604.48 31150.71    0
## ridge 26305.89 26931.26 28475.02 28517.52 30140.80 30845.07    0
##
## Rsquared
##        Min. 1st Qu.  Median    Mean 3rd Qu.    Max. NA's
## lm    0.8378441 0.8507103 0.8551594 0.8568802 0.8664776 0.8734834    0
## lasso 0.8379075 0.8508073 0.8548708 0.8568294 0.8664416 0.8738037    0
## pcr   0.8379046 0.8507118 0.8551640 0.8568859 0.8664763 0.8734683    0
## gam   0.8280900 0.8378257 0.8409091 0.8475277 0.8575302 0.8755479    0
## ridge 0.8341629 0.8488328 0.8536992 0.8548152 0.8631452 0.8731384    0
```

Using final PCR model to predict test data

#Using PCR model to predict total charges of test dataset
predictions <- pcr.fit **%>% predict**(x2)
predictions

```
##    [1]  4.633127e+05 -7.570316e+03 -2.393732e+03  7.535410e+05
##    [5] -1.770213e+03 -5.561952e+02 -4.833818e+03 -1.714709e+03
##    [9] -8.344037e+03  2.573071e+04  3.439659e+04  1.620086e+04
##   [13]  5.841887e+02 -7.429872e+03 -7.587956e+03 -1.876165e+03
##   [17]  3.313194e+04 -8.781163e+03 -1.023382e+04 -5.019248e+02
##   [21] -6.253822e+03 -3.913070e+03 -1.255189e+03 -7.534125e+03
##   [25] -2.350541e+03 -1.317053e+03 -7.511359e+03 -9.017659e+03
##   [29] -7.832474e+03  3.412954e+04 -1.299241e+03 -6.681375e+03
##   [33] -2.557690e+03  2.103419e+05  2.504750e+04 -5.460242e+03
##   [37] -9.269470e+03 -7.590772e+03 -7.559608e+03 -2.504155e+03
##   [41] -7.831273e+03 -7.994339e+03 -8.982602e+03 -4.035030e+02
##   [45]  1.047228e+04 -7.147794e+03 -3.175738e+03  5.897357e+05
##   [49]  3.797913e+04 -7.097731e+03  4.033418e+02 -5.789967e+02
##   [53]  3.065472e+03  2.350948e+04 -6.691145e+03 -9.215994e+03
##   [57] -7.612463e+03 -8.011695e+03 -8.004706e+03 -1.388087e+03
##   [61]  3.104376e+02 -7.522503e+03 -7.611283e+03 -7.653798e+03
##   [65]  8.232019e+03 -8.953482e+03 -6.942254e+02 -6.781795e+03
##   [69] -9.689679e+03 -5.119079e+03 -2.751402e+03 -8.055535e+03
##   [73]  2.726680e+05 -1.058417e+01 -7.588233e+03  5.310720e+05
##   [77] -2.944712e+03 -7.436572e+03 -7.686808e+03  3.246535e+04
##   [81] -6.907040e+03 -8.948319e+03  3.343754e+04  1.217630e+04
##   [85] -7.956647e+03 -6.167321e+03 -5.853975e+02 -8.642377e+03
##   [89] -7.939350e+03 -5.173218e+02 -8.853791e+03 -8.671671e+03
##   [93] -6.702767e+03 -7.869661e+03 -9.905493e+03  3.456640e+02
##   [97]  4.063647e+04  2.323053e+03 -1.035766e+04 -1.085120e+04
##  [101] -7.839622e+03 -6.420587e+03 -7.387715e+02 -9.336847e+03
##  [105] -7.795388e+03  1.008483e+03  1.613190e+02 -1.306520e+03
##  [109] -1.976685e+04 -7.814593e+03 -2.340187e+03  1.483180e+05
##  [113] -8.069477e+03  1.268531e+02 -2.029448e+03 -8.810511e+03
##  [117] -1.859521e+03 -1.269197e+02  1.052741e+03 -1.234682e+03
##  [121] -3.287074e+03  4.292225e+02 -6.693481e+02 -7.820994e+03
##  [125] -7.764221e+03  6.826962e+03 -7.168126e+03  4.907311e+03
##  [129] -3.989061e+03 -6.371337e+03 -7.825523e+03  1.554933e+03
##  [133] -1.067895e+03 -7.050611e+03 -8.241894e+03 -6.753520e+03
##  [137] -7.698424e+03  1.184203e+05 -6.965508e+03 -5.479087e+03
##  [141] -5.895536e+03 -9.074106e+03 -5.737364e+03 -7.834237e+03
##  [145] -7.304389e+03 -7.488101e+03 -9.306061e+03 -7.916539e+03
##  [149] -7.981661e+03 -8.847588e+03 -1.526014e+04  8.515110e+01
##  [153] -9.282713e+03 -4.312290e+03  2.302001e+05 -7.380584e+03
##  [157] -1.303950e+04  6.570647e+02 -7.743619e+03 -1.257276e+04
##  [161] -3.696292e+03 -2.238736e+03  1.849179e+03  3.226661e+05
##  [165] -4.903228e+03 -6.934734e+03  1.415262e+04 -8.328719e+03
```

```
## [169] -8.089809e+03 -9.063163e+03  9.933689e+03 -9.079614e+03
## [173] -4.781351e+03  2.236786e+04 -5.742597e+03 -7.405314e+03
## [177]  2.185526e+04  2.825379e+03  4.853438e+04 -7.613154e+03
## [181] -1.679151e+02 -9.307727e+03 -6.756874e+03  7.326560e+03
## [185] -2.615403e+03  1.188006e+04 -8.882355e+03 -7.736744e+03
## [189] -6.352817e+03 -1.722450e+03 -9.103454e+03 -3.652648e+03
## [193] -2.058452e+03 -8.312083e+03 -6.934734e+03 -9.477310e+03
## [197] -8.272096e+03 -7.141394e+03 -9.030388e+02  5.812626e+04
## [201] -6.232496e+03 -6.287087e+03 -3.843228e+03 -8.181771e+03
## [205] -8.268300e+03 -6.726894e+03 -6.949619e+03 -7.168766e+01
## [209] -7.085180e+03 -6.669501e+03 -2.427285e+03  5.893391e+02
## [213] -7.137340e+03 -5.642752e+03 -8.394832e+03 -7.861637e+03
## [217] -9.066851e+03 -3.194317e+03 -3.493008e+03 -1.162232e+04
## [221]  1.420303e+05 -7.258451e+03  7.094916e+03  1.595904e+03
## [225]  4.180351e+05 -7.902805e+03 -5.926597e+03  1.422856e+04
## [229] -7.571202e+03  5.840256e+04 -6.447507e+03 -4.183836e+03
## [233] -8.633387e+03  1.363157e+03 -8.402561e+03 -2.809411e+03
## [237] -4.936387e+03 -7.610309e+03  4.502778e+05  8.882258e+03
## [241]  1.298560e+03  4.861821e+02  7.704493e+02 -6.373986e+03
## [245] -3.516989e+03 -5.941670e+03 -5.091227e+03  3.851670e+05
## [249] -7.146578e+03 -9.607396e+01 -3.868316e+03  1.511771e+03
## [253] -1.291670e+04 -7.305718e+03  1.274583e+03  5.083574e+04
## [257] -6.515330e+03  3.263158e+03 -5.744094e+03 -6.716769e+03
## [261]  2.423589e+03  1.640523e+03 -5.474952e+03 -6.991985e+03
## [265]  5.511795e+04  1.735843e+04  3.239962e+02 -8.791657e+03
## [269] -6.527834e+03  5.919581e+02 -6.498057e+03 -4.779127e+03
## [273]  2.157182e+03  1.565846e+03  4.053521e+03 -5.696047e+03
## [277] -5.972472e+03 -6.320746e+03  2.141364e+03  3.419416e+03
## [281] -5.910963e+03  3.565421e+05  1.599170e+04  9.365792e+03
## [285] -6.769141e+03 -8.872338e+02 -7.093929e+03  2.571379e+04
## [289]  3.805038e+03  7.512972e+02 -5.621358e+03  2.355437e+03
## [293]  9.361915e+02 -6.818715e+03 -3.778964e+03  1.285820e+03
## [297] -3.427494e+03 -1.124936e+04  3.768600e+03 -4.087452e+03
## [301]  3.204864e+03 -3.628933e+03  1.090703e+06  1.825045e+03
## [305] -3.501517e+03 -7.524000e+03 -5.456410e+03 -5.536254e+03
## [309]  1.612166e+04 -3.468138e+03  9.514385e+04  5.157634e+02
## [313]  1.572747e+03 -3.386811e+03  2.987924e+04  1.458236e+03
## [317] -3.848394e+03  2.151760e+03  1.962586e+03  3.926453e+03
## [321]  4.121313e+03 -5.413518e+03  4.047062e+04 -5.536254e+03
## [325] -6.815219e+03  8.542491e+03 -5.987357e+03 -7.205046e+03
## [329]  3.091195e+03 -4.643762e+03  1.077980e+03 -6.900481e+03
## [333]  2.962443e+03  2.404105e+03  1.264806e+03 -6.307988e+02
## [337] -1.229822e+04 -5.518600e+03 -6.271741e+03 -4.735508e+03
## [341]  1.960683e+04 -4.280062e+03  3.323220e+03  3.361987e+04
## [345] -5.752344e+03  2.831573e+04  8.434714e+03 -5.737693e+03
## [349] -6.783292e+03 -5.920390e+03  8.024706e+03 -6.326643e+03
## [353] -1.256096e+04 -1.053401e+04 -5.737693e+03 -5.081489e+03
## [357]  2.530224e+02 -5.418739e+03  6.585904e+04 -2.774627e+03
## [361]  1.288860e+04  3.291140e+03  2.886574e+02 -4.878166e+03
## [365] -6.895260e+03 -6.460616e+03 -7.969028e+03 -6.104872e+03
## [369] -3.169974e+03  7.226716e+02  2.449611e+04 -1.937876e+03
## [373]  7.633484e+04  7.059667e+03 -5.940312e+03 -3.776650e+03
## [377]  1.318003e+05  6.835207e+02  2.677894e+04 -4.766633e+03
## [381] -1.096342e+04 -2.623480e+02 -5.009031e+02 -6.253075e+03
## [385] -5.178052e+03  3.976088e+03  7.646548e+02 -4.901281e+03
## [389] -5.452421e+03  4.240451e+03 -1.814561e+03 -6.361212e+03
## [393] -6.776891e+03 -6.203220e+03 -6.118803e+03 -6.839047e+03
## [397]  4.660768e+04  1.998821e+03 -3.670757e+03  1.507828e+05
## [401]  5.300365e+04 -1.299877e+04 -6.331864e+03 -3.524453e+03
## [405] -6.118803e+03  2.148722e+03 -5.120575e+03  4.075393e+04
## [409]  2.819784e+03 -1.855102e+03 -6.777059e+03  5.983476e+03
## [413]  3.175445e+03 -4.001333e+03 -4.154915e+03 -6.098471e+03
## [417]  1.242700e+02 -3.868316e+03  2.380747e+03 -5.379407e+03
## [421] -7.151811e+03  9.300756e+02 -5.880188e+03  4.323682e+03
## [425] -5.481353e+03 -6.020944e+03 -5.421717e+03 -6.215528e+03
## [429] -6.575452e+03 -5.890631e+03  6.693343e+04 -4.199746e+03
## [433] -7.587810e+03 -4.760651e+03 -5.446784e+03 -5.249327e+03
## [437]  2.373563e+05  1.940882e+03 -3.848394e+03 -4.491835e+03
## [441]  1.946981e+02 -5.738873e+03 -5.446784e+03 -4.997839e+03
## [445] -1.392857e+04 -5.506906e+03 -6.266520e+03 -6.931009e+03
## [449] -5.856062e+03 -5.096286e+03 -4.214363e+03 -7.390820e+03
## [453] -5.518600e+03 -6.985911e+03  5.570525e+03  6.873236e+04
## [457] -6.188050e+03 -1.143445e+03 -6.042258e+03  1.786987e+03
## [461]  7.314235e+03 -6.038759e+03  1.725626e+03 -4.411791e+03
## [465] -7.444144e+03 -7.312743e+02 -5.060453e+03 -6.747543e+03
## [469]  3.883228e+02 -5.335269e+03 -6.655335e+03 -5.916184e+03
```

```
## [469] ...very faint...
## [473]  1.084381e+03  1.720962e+05  8.075376e+03 -6.498943e+03
## [477] -4.748353e+03 -5.318625e+03 -3.523040e+03  1.567094e+04
## [481]  1.011943e+04  6.687016e+02 -8.344953e+03  1.382126e+03
## [485] -6.250098e+03 -5.834418e+03  2.196265e+03 -3.257742e+01
## [489]  9.008140e+03  1.809935e+03 -6.375283e+03 -3.372344e+03
## [493] -5.245798e+03 -6.250098e+03 -6.576306e+03  1.084381e+03
## [497] -3.938719e+03 -1.313760e+04 -7.187517e+03  1.015973e+04
## [501] -5.363838e+03  4.518279e+01 -1.330807e+04 -5.623204e+03
## [505] -6.962637e+03 -4.795220e+03  7.453124e+01  1.137915e+03
## [509] -4.436934e+03 -5.198261e+03 -5.122209e+03 -2.460893e+02
## [513]  1.673752e+04 -5.971253e+03 -5.536254e+03  1.757580e+03
## [517] -6.949384e+03 -6.362392e+03 -5.774296e+03 -7.163222e+03
## [521] -6.479581e+03  1.786290e+03 -6.250098e+03 -5.083810e+03
## [525] -5.506906e+03  4.831635e+04  7.594701e+03 -1.677722e+03
## [529] -8.930133e+03  3.393239e+05 -6.826749e+03  1.761842e+03
## [533]  1.125153e+03 -4.942937e+03 -6.470442e+03 -6.337194e+03
## [537] -4.467708e+03 -1.328805e+04  3.874811e+04  3.856685e+04
## [541] -4.170685e+03 -5.329268e+03 -6.711548e+03 -3.703137e+03
## [545] -5.481353e+03 -6.569052e+03  7.810199e+04 -4.808475e+03
## [549] -1.437960e+04 -6.124024e+03  4.511898e+04  1.015054e+03
## [553] -5.579701e+03 -5.946713e+03 -6.504458e+03 -3.169974e+03
## [557]  6.743620e+04 -5.744094e+03  5.318942e+02 -5.891811e+03
## [561]  7.974472e+03 -5.056944e+03  2.051040e+03 -6.118803e+03
## [565] -4.259810e+03  8.528325e+03  9.760873e+03 -6.368466e+03
## [569] -6.124024e+03  1.994827e+03 -5.917571e+03 -4.441783e+03
## [573] -5.089031e+03 -6.290184e+03 -4.234315e+03 -5.732472e+03
## [577] -6.355991e+03 -6.283363e+03 -7.182128e+03 -5.542329e+03
## [581]  1.143033e+03 -4.608009e+03  5.451118e+02 -7.071014e+03
## [585]  1.023979e+04  8.158737e+03 -4.497056e+03 -5.537108e+03
## [589]  5.636584e+04  1.015365e+05 -6.528585e+03 -6.295869e+03
## [593] -5.916184e+03 -6.432735e+03  3.777583e+04  9.128465e+02
## [597]  1.328526e+03  1.870901e+04 -5.323194e+03  3.373426e+02
## [601]  1.358018e+04 -6.099651e+03  2.177751e+04  1.562991e+04
## [605] -6.687420e+03 -6.988776e+03 -6.070302e+03  2.554877e+02
## [609]  5.249540e+04  5.271483e+04  1.096075e+05  8.490950e+04
## [613]  1.611254e+04  3.348901e+04  2.453245e+04  1.401517e+04
## [617]  1.985189e+04  1.522320e+04  1.463442e+04  2.000128e+04
## [621]  2.070701e+04  4.436863e+05  2.068612e+04  5.844612e+04
## [625]  1.753777e+04  2.074717e+04  1.455615e+04  4.175402e+04
## [629]  1.432753e+04  1.566026e+04  3.243058e+04  2.012512e+04
## [633]  2.048498e+04  2.207709e+04  1.457366e+04  2.270961e+04
## [637]  1.444484e+04  1.415116e+04  1.340428e+04  2.303726e+04
## [641]  1.087464e+04  2.790719e+04  1.495395e+04  1.556842e+04
## [645]  1.535163e+04  1.634620e+04  1.516506e+04  1.448337e+04
## [649]  1.588490e+04  1.426521e+04  2.428526e+04  1.516855e+04
## [653]  2.055029e+04  2.081438e+04  1.397997e+04  2.814309e+04
## [657]  2.138992e+04  1.544933e+04  5.727909e+04  2.897425e+05
## [661]  6.196922e+04  1.329068e+04  1.631087e+04  1.673576e+04
## [665]  2.093492e+04  2.583597e+04  1.333170e+04  1.583044e+04
## [669]  1.547600e+04  1.729805e+04  5.663813e+05  1.738486e+04
## [673]  1.268205e+04  2.113477e+04  7.154871e+05  1.455069e+04
## [677]  1.488021e+04  1.463308e+04  2.195048e+04  1.378971e+04
## [681]  1.372809e+04  1.967091e+04  2.714657e+04  1.466730e+04
## [685]  1.410296e+04  2.361170e+04  1.529312e+04  1.423885e+04
## [689]  1.510685e+04  1.676134e+04  1.566721e+04  2.815722e+04
## [693]  1.497738e+04  2.123974e+04  1.449175e+04  1.309204e+04
## [697]  2.460175e+04  1.524459e+04  1.442660e+04  1.562663e+04
## [701]  2.248272e+05  1.697776e+04  2.180821e+04  2.072922e+04
## [705]  1.892899e+04  1.294935e+04  1.462802e+04  4.685701e+04
## [709]  1.469213e+04  1.784517e+04  1.495722e+04  1.556942e+04
## [713]  1.523224e+04  8.705144e+04  1.650302e+04  2.285869e+04
## [717]  1.558074e+04  2.211907e+04  2.313377e+04  1.838907e+04
## [721]  1.608678e+04  1.535635e+04  2.227372e+04  1.584723e+04
## [725]  2.357883e+04  1.576827e+04  1.437410e+04  1.948453e+04
## [729]  1.584317e+04  2.265941e+04  1.478055e+04  1.528466e+04
## [733]  2.062572e+04  1.696183e+04  2.088443e+04  1.452738e+04
## [737]  1.376595e+04  1.525918e+04  2.569366e+04  2.548582e+04
## [741]  1.596127e+04  1.549128e+04  1.459593e+04  1.601850e+04
## [745]  3.868303e+04  1.350961e+04  1.366723e+04  1.839004e+04
## [749]  2.601421e+04  1.599728e+04  2.842922e+04  1.541071e+04
## [753]  1.352259e+04  1.375263e+04  1.458282e+04  2.012472e+04
## [757]  1.517671e+04  1.480938e+04  1.633135e+04  1.053856e+06
## [761]  3.494241e+04  1.400834e+04  1.400838e+04  2.022127e+04
## [765]  1.093639e+05  2.035662e+04  1.673637e+04  1.961940e+05
## [769]  2.206932e+04  1.241534e+05  1.455780e+04  1.551484e+04
```

```
##  [773] 2.170771e+04 1.477789e+04 1.403392e+04 5.339599e+04
##  [777] 2.562632e+04 5.696469e+04 1.502199e+04 2.209986e+04
##  [781] 1.457830e+04 1.370691e+04 1.562658e+04 2.295827e+04
##  [785] 1.751708e+04 2.043724e+04 3.956172e+04 1.442712e+04
##  [789] 1.509435e+04 2.268625e+04 1.503444e+04 1.459786e+04
##  [793] 1.759491e+04 1.291275e+05 4.694277e+04 1.239749e+05
##  [797] 1.588555e+04 2.170521e+04 2.127336e+04 1.821467e+04
##  [801] 2.070660e+04 1.608960e+04 1.333302e+04 4.082263e+04
##  [805] 1.647356e+04 2.178176e+05 2.255861e+05 1.395018e+04
##  [809] 2.158063e+04 1.536302e+04 1.516121e+04 2.911161e+04
##  [813] 1.558028e+04 5.603754e+04 1.512128e+04 4.698923e+04
##  [817] 1.696558e+04 1.603832e+04 1.569178e+04 1.220256e+04
##  [821] 1.924666e+04 1.461924e+04 2.589329e+04 2.315095e+04
##  [825] 1.797584e+04 2.006166e+04 2.790576e+04 1.592392e+04
##  [829] 3.383085e+04 1.351030e+04 2.379997e+04 5.572252e+04
##  [833] 4.511073e+04 2.289605e+04 2.147052e+04 1.526035e+04
##  [837] 2.552715e+04 6.000239e+04 2.767331e+04 2.199877e+04
##  [841] 1.541142e+04 1.510097e+04 3.096406e+04 2.109503e+04
##  [845] 1.631177e+04 1.534661e+04 1.521611e+04 1.628468e+04
##  [849] 2.105666e+04 2.227607e+04 1.394085e+04 1.581917e+04
##  [853] 2.556082e+04 2.278760e+04 2.267114e+04 1.459262e+04
##  [857] 1.399842e+04 2.256738e+04 1.401090e+04 1.355344e+04
##  [861] 1.392149e+04 1.479882e+04 1.629073e+04 2.049298e+04
##  [865] 1.624281e+04 1.936342e+04 1.542729e+04 1.341668e+04
##  [869] 1.442018e+04 9.961891e+04 2.056135e+04 2.636335e+04
##  [873] 2.100992e+04 1.420613e+04 1.181972e+04 2.408121e+04
##  [877] 1.483623e+04 1.563179e+04 1.539187e+04 1.587505e+04
##  [881] 2.190391e+04 1.596790e+04 8.518644e+03 1.678234e+04
##  [885] 1.630623e+04 2.613191e+04 1.880088e+04 2.755331e+04
##  [889] 1.634917e+04 1.554624e+04 3.383767e+05 1.748001e+04
##  [893] 1.479861e+05 2.634113e+04 1.402296e+04 2.086471e+04
##  [897] 1.489716e+04 2.096430e+04 1.531231e+04 1.423480e+04
##  [901] 2.007826e+04 2.190847e+04 1.393437e+04 4.580032e+04
##  [905] 1.824523e+04 1.504370e+04 1.675789e+04 1.594848e+04
##  [909] 1.440100e+04 1.599257e+04 1.359327e+04 1.436582e+04
##  [913] 1.505010e+04 1.526767e+04 2.029610e+04 1.524637e+05
##  [917] 1.572212e+04 2.179687e+04 1.559366e+04 1.717934e+04
##  [921] 1.575972e+04 8.761750e+04 6.132367e+04 1.535570e+04
##  [925] 4.040276e+04 1.252051e+04 1.567135e+04 1.514840e+04
##  [929] 1.431438e+04 5.431533e+04 1.647047e+04 2.099655e+04
##  [933] 1.288989e+04 1.412429e+04 3.677953e+04 1.506025e+04
##  [937] 1.777312e+04 1.949184e+04 1.476097e+04 2.786387e+04
##  [941] 1.533191e+04 2.352476e+04 3.637265e+05 1.164031e+05
##  [945] 1.743440e+05 1.599257e+04 1.516349e+04 1.586468e+04
##  [949] 1.924297e+04 7.846091e+04 1.422734e+04 2.130609e+04
##  [953] 1.406938e+04 2.191342e+04 1.578790e+04 1.419621e+04
##  [957] 1.011502e+06 2.170774e+04 2.316144e+04 1.286475e+04
##  [961] 1.991484e+04 1.408009e+04 2.372778e+04 1.366427e+04
##  [965] 1.298749e+04 6.162041e+04 1.310544e+05 1.441280e+04
##  [969] 2.013100e+04 1.566956e+04 2.789695e+04 1.433213e+04
##  [973] 1.444088e+04 2.750682e+04 1.409960e+04 1.256226e+04
##  [977] 1.410373e+04 2.205905e+04 1.653260e+04 1.490273e+04
##  [981] 1.510386e+04 1.676490e+04 5.666088e+04 2.043397e+04
##  [985] 1.554213e+04 2.035437e+04 1.578473e+04 1.558765e+04
##  [989] 1.584414e+04 1.593355e+04 2.577477e+04 1.490058e+04
##  [993] 1.625885e+04 1.525794e+04 2.330710e+04 1.471736e+04
##  [997] 3.869949e+04 2.502621e+04 2.136802e+04 1.927035e+04
## [1001] 1.427553e+04 1.980586e+04 1.464182e+04 1.289216e+04
## [1005] 1.379883e+04 2.722997e+04 2.050259e+04 2.044165e+04
## [1009] 2.973232e+05 5.520448e+04 1.352577e+04 3.065070e+04
## [1013] 2.113407e+04 2.598910e+04 2.208368e+04 1.436758e+04
## [1017] 2.754004e+04 1.385414e+04 1.548600e+04 1.260710e+04
## [1021] 5.253489e+04 1.566776e+04 2.128452e+04 3.981353e+04
## [1025] 2.105151e+04 3.121488e+04 1.430635e+04 2.553715e+04
## [1029] 2.384838e+04 1.264366e+04 1.304311e+04 5.487511e+04
## [1033] 1.538486e+04 2.243244e+04 2.210761e+04 1.513885e+04
## [1037] 1.441903e+04 1.501186e+04 1.424804e+04 3.328759e+04
## [1041] 2.191121e+04 1.407029e+04 1.545992e+04 1.491341e+04
## [1045] 2.258645e+04 1.474611e+04 2.641669e+04 2.084262e+04
## [1049] 1.428346e+04 1.501181e+04 8.516838e+03 1.536712e+04
## [1053] 1.345541e+04 6.136102e+05 3.217173e+05 1.485950e+04
## [1057] 1.463720e+04 1.441748e+04 1.516534e+04 1.526203e+04
## [1061] 2.111816e+04 2.053956e+04 1.489076e+04 2.211167e+04
## [1065] 3.476433e+04 2.227416e+04 1.670641e+04 2.115015e+04
## [1069] 1.587505e+04 1.551428e+04 1.521611e+04 2.871947e+04
## [1073] 2.184481e+04 2.309563e+04 1.487014e+04 1.428096e+04
```

```
## [1073] 2.184481e+04 2.509505e+04 1.487014e+04 1.428096e+04
## [1077] 1.267822e+04 1.528037e+04 3.552758e+04 1.420496e+04
## [1081] 1.470554e+04 1.988051e+04 1.588366e+04 1.598009e+04
## [1085] 2.012922e+04 2.274514e+04 1.565264e+04 2.053928e+04
## [1089] 6.191924e+04 2.212259e+04 2.172540e+04 1.521374e+04
## [1093] 2.011822e+04 2.115590e+04 1.844282e+04 3.421323e+04
## [1097] 9.065481e+03 5.617534e+04 1.531394e+04 2.032292e+04
## [1101] 1.975780e+04 3.232652e+04 1.542489e+04 1.576236e+04
## [1105] 1.269802e+04 2.611021e+04 6.521947e+04 1.473819e+04
## [1109] 1.652054e+04 1.446503e+04 1.393946e+04 2.057836e+04
## [1113] 1.382330e+04 1.513131e+04 1.698139e+05 1.804941e+04
## [1117] 2.042643e+04 1.474770e+05 1.364278e+04 1.864868e+04
## [1121] 1.828812e+04 2.196682e+04 1.999579e+04 2.017285e+04
## [1125] 1.393921e+04 3.793161e+04 1.625986e+04 2.086417e+04
## [1129] 1.812161e+04 1.493756e+04 1.183776e+04 1.487744e+04
## [1133] 1.704575e+04 2.006282e+04 1.653885e+04 1.441280e+04
## [1137] 2.033052e+04 2.029501e+04 1.304217e+04 2.056770e+04
## [1141] 2.913791e+04 1.334756e+04 1.352705e+04 1.577568e+04
## [1145] 3.948007e+04 1.390675e+04 1.345451e+04 2.202602e+04
## [1149] 1.901962e+04 2.187186e+04 3.080331e+04 2.157848e+04
## [1153] 2.165541e+04 1.319511e+04 1.618075e+04 1.485436e+04
## [1157] 1.880941e+04 1.883489e+04 2.097184e+04 1.431006e+04
## [1161] 1.435841e+04 1.533915e+04 1.333421e+04 5.316346e+04
## [1165] 2.577546e+04 1.897470e+04 2.784078e+04 4.718836e+04
## [1169] 1.417281e+04 1.231602e+05 1.798473e+04 1.781119e+04
## [1173] 1.420166e+04 1.345455e+04 1.995524e+04 1.608018e+04
## [1177] 1.373770e+04 1.388431e+04 2.434641e+04 1.457937e+04
## [1181] 1.230251e+04 2.058438e+04 1.298397e+04 7.352810e+03
## [1185] 2.106063e+04 1.142211e+04 4.594308e+04 1.997938e+04
## [1189] 1.302326e+04 2.054417e+04 1.347033e+04 2.257311e+04
## [1193] 2.060637e+04 2.197038e+04 1.864305e+04 3.270912e+04
## [1197] 1.225140e+04 1.371224e+04 1.921683e+04 2.135638e+04
## [1201] 1.432248e+04 1.477408e+04 3.300994e+04 1.393315e+04
## [1205] 1.320306e+04 1.402650e+04 1.545203e+04 1.899193e+04
## [1209] 1.234958e+04 1.851492e+04 1.298770e+04 1.359343e+04
## [1213] 1.187093e+04 6.774935e+04 2.008407e+04 1.393955e+04
## [1217] 1.018058e+05 1.338732e+04 9.416828e+03 1.922667e+04
## [1221] 1.957364e+04 1.462064e+04 1.557780e+04 2.143410e+04
## [1225] 1.403287e+04 3.528526e+04 1.591644e+04 1.350958e+04
## [1229] 1.516119e+04 1.811030e+04 2.470491e+04 2.009175e+04
## [1233] 1.985717e+04 1.882646e+04 5.634129e+04 1.361242e+04
## [1237] 1.529910e+04 2.157582e+04 1.565984e+04 1.560193e+04
## [1241] 6.439631e+04 2.020527e+04 2.101810e+04 1.314819e+04
## [1245] 1.487060e+04 1.502300e+04 1.588367e+04 1.277234e+04
## [1249] 1.441968e+04 5.167724e+04 9.635005e+04 4.824268e+04
## [1253] 2.731095e+05 6.163219e+04 2.492556e+04 9.475093e+05
## [1257] 1.129937e+06 1.759913e+04 9.043250e+05 2.481273e+04
## [1261] 4.160353e+04 3.666836e+04 9.521763e+04 5.223466e+04
## [1265] 4.418467e+05 3.658343e+04 8.921711e+04 2.785261e+04
## [1269] 6.203865e+04 4.287047e+04 3.616122e+04 3.566039e+04
## [1273] 5.175452e+04 7.025205e+04 2.806999e+05 4.564676e+04
## [1277] 3.691315e+04 2.670081e+04 4.314476e+04 3.556685e+04
## [1281] 3.701079e+04 3.586194e+04 3.682707e+04 3.313404e+04
## [1285] 1.389870e+06 2.924391e+04 1.831410e+05 5.804841e+04
## [1289] 5.501425e+04 8.896863e+04 4.716010e+04 7.607420e+04
## [1293] 5.219719e+04 7.377874e+02 2.698819e+04 2.694392e+04
## [1297] 1.261267e+04 3.108737e+05 4.050731e+04 4.400772e+04
## [1301] 9.743677e+04 2.660060e+04 9.517114e+04 2.396151e+04
## [1305] 3.447869e+04 7.121837e+04 8.463970e+04 2.420400e+04
## [1309] 2.467920e+04 2.886775e+04 3.968653e+04 7.156546e+04
## [1313] 2.673826e+04 6.721487e+04 1.560193e+05 2.704893e+04
## [1317] 8.622406e+04 2.555524e+04 4.416325e+04 2.724830e+04
## [1321] 3.236274e+04 5.992035e+04 3.464149e+04 2.509831e+04
## [1325] 2.687298e+04 8.219793e+05 5.108841e+05 1.454931e+05
## [1329] 1.228864e+05 2.816382e+04 1.799352e+04 2.282963e+05
## [1333] -5.837242e+03 -1.204826e+04 -7.849342e+03 -6.669220e+03
## [1337] 1.016735e+03 -6.187733e+03 -7.722575e+03 -7.470838e+03
## [1341] -6.405859e+03 -5.360403e+03 -1.452292e+02 -6.822158e+03
## [1345] -5.615283e+02 -3.784640e+03 -1.298311e+04 -7.237838e+03
## [1349] 7.019832e+04 1.075268e+03 -5.629402e+03 -3.680046e+03
## [1353] -8.238904e+03 1.359596e+04 -1.172238e+04 7.472886e+02
## [1357] -3.990395e+03 -6.313897e+03 -6.639252e+03 -6.377131e+03
## [1361] 5.917184e+03 -5.808513e+03 1.014290e+03 -6.821539e+03
## [1365] -6.669220e+03 -6.877060e+03 -6.266894e+03 -3.669481e+03
## [1369] -2.047861e+04 -7.138467e+02 9.301952e+02 -3.461910e+02
## [1373] -8.448029e+03 -6.406059e+03 2.029614e+03 -8.062176e+03
```

```
## [1377] -2.481285e+03 -6.911863e+03 -5.574501e+03  8.572344e+01
## [1381] -6.957456e+03 -6.909836e+03 -8.038277e+03 -6.704023e+03
## [1385]  6.667769e+04 -7.404161e+03 -1.309616e+04 -5.066269e+02
## [1389] -7.138467e+02 -1.569498e+03 -9.412114e+02 -1.509159e+03
## [1393] -6.461381e+03 -3.340649e+03 -7.276780e+03 -6.038681e+03
## [1397] -1.675337e+03 -7.237218e+03  1.864459e+04 -6.742690e+03
## [1401] -2.188496e+03 -5.782541e+03 -5.478496e+03 -6.101062e+03
## [1405] -6.910137e+03 -9.456949e+02 -3.375142e+03 -6.981150e+03
## [1409] -6.045082e+03 -1.060628e+03 -5.920688e+03 -3.530689e+02
## [1413] -1.509674e+04  3.837084e+04 -1.266238e+03 -6.388839e+03
## [1417] -6.541777e+03 -8.325059e+03 -8.741216e+03  6.301848e+02
## [1421] -4.565681e+03 -1.717915e+03 -6.198640e+03 -7.210966e+03
## [1425]  8.893375e+04  3.027502e+04  7.423586e+03 -6.889016e+03
## [1429]  1.066746e+04  5.325711e+02 -6.761056e+03 -6.461381e+03
## [1433] -6.537949e+03 -6.045082e+03  6.864229e+04 -8.854600e+02
## [1437] -7.029378e+03 -6.252921e+03  6.254360e+03 -6.821539e+03
## [1441] -1.753045e+03 -7.702018e+03 -5.405307e+03 -7.652897e+03
## [1445] -7.029378e+03 -6.870182e+03 -1.455227e+04 -9.666189e+02
## [1449]  1.771599e+02  1.932864e+05 -5.983922e+03 -5.966926e+03
## [1453] -7.629283e+03 -8.270635e+03 -6.080505e+03  5.457286e+03
## [1457] -7.180325e+03 -7.213796e+03  1.515051e+04 -6.252921e+03
## [1461] -2.020622e+02 -6.460761e+03 -6.613699e+03 -5.568243e+03
## [1465] -6.572495e+03 -4.808944e+03  1.300150e+04 -7.909237e+03
## [1469] -5.959404e+03 -5.383368e+03 -1.273239e+04 -5.973159e+03
## [1473] -4.726122e+03  1.157535e+04 -1.224900e+03 -8.359330e+03
## [1477] -6.461381e+03 -1.250727e+02  2.267656e+04 -5.990180e+03
## [1481]  6.336236e+01 -6.840432e+03  5.753991e+03 -8.205909e+03
## [1485] -1.351810e+03 -6.038824e+03 -6.028846e+03  4.797670e+04
## [1489] -6.390254e+03 -2.395858e+03 -4.529045e+03  2.846407e+04
## [1493]  1.325506e+05 -8.911947e+02 -6.643306e+02 -1.532411e+04
## [1497] -6.405859e+03 -4.999006e+03 -6.045701e+03 -3.120323e+02
## [1501] -7.120322e+03 -8.198093e+03 -6.316410e+03 -5.629402e+03
## [1505]  2.706308e+04 -6.253541e+03 -1.289628e+04 -6.253541e+03
## [1509] -7.916258e+03  9.899393e+03 -6.045701e+03 -6.445052e+03
## [1513] -4.231015e+03  7.472886e+02 -4.582757e+03 -6.614319e+03
## [1517] -1.356827e+04 -5.422183e+03  1.937999e+04  7.421159e+04
## [1521] -1.392887e+03 -6.461381e+03  1.163118e+05 -6.877060e+03
## [1525] -7.647116e+03 -5.937587e+02 -4.048202e+03 -4.791786e+03
## [1529]  2.880734e+04  4.168105e+04 -8.270635e+03 -1.773926e+03
## [1533] -6.198640e+03  2.097556e+05  7.744635e+04 -6.177923e+01
## [1537] -4.126296e+03 -5.245402e+03 -2.293285e+02 -4.736884e+03
## [1541]  3.395152e+04 -1.392887e+03  5.472633e+03 -8.990879e+03
## [1545] -5.887197e+03 -5.066269e+02 -5.207465e+03 -7.647116e+03
## [1549]  5.329088e+03  6.033885e+03 -6.045701e+03 -1.583585e+03
## [1553]  1.964022e+01  6.258887e+04  7.580514e+02 -7.286338e+03
## [1557]  1.441901e+04 -6.461381e+03 -8.894154e+03 -1.123745e+03
## [1561] -7.335741e+03  3.649706e+04 -7.291287e+03 -6.772630e+03
## [1565] -2.564866e+03  4.621900e+04 -5.928186e+03 -9.223062e+02
## [1569]  1.114374e+04 -6.933273e+03 -6.489926e+03  3.247315e+02
## [1573]  2.381467e+04 -1.504169e+03 -5.557480e+03 -7.909857e+03
## [1577]  3.456672e+05 -7.587505e+03 -6.036268e+03 -6.870659e+03
## [1581] -5.373648e+03  1.693658e+04 -1.015412e+04 -7.084899e+03
## [1585] -8.533376e+03 -8.270635e+03 -6.382438e+03 -6.322685e+03
## [1589] -6.406479e+03 -6.470650e+03 -6.669220e+03 -8.325536e+03
## [1593] -1.069437e+03 -7.909380e+03  4.476992e+04 -6.600563e+03
## [1597] -4.143900e+03 -6.661153e+03 -9.504096e+03  2.463369e+04
## [1601] -1.140521e+03 -1.337985e+03 -5.575121e+03  2.867009e+03
## [1605] -6.429837e+03 -8.263757e+03 -5.837862e+03  5.844355e+03
## [1609] -7.445677e+03  7.200699e+03 -3.769933e+03 -7.144666e+02
## [1613]  5.325711e+02  7.000226e+03  2.459111e+04 -3.957802e+03
## [1617] -5.876859e+03  8.371999e+03 -5.633012e+03 -3.253274e+03
## [1621] -7.546648e+03  1.072505e+05  7.066795e+03 -3.743085e+03
## [1625] -5.461180e+03 -6.036198e+03 -5.541576e+03  1.435181e+03
## [1629] -2.697009e+03  3.388692e+05  5.198929e+02  2.653667e+03
## [1633]  1.588947e+04 -4.581521e+03 -4.844062e+03  2.732630e+04
## [1637] -5.204840e+03 -8.283401e+02  1.496169e+05 -4.178573e+03
## [1641] -4.997000e+03 -4.220543e+03 -4.581321e+03  3.080110e+03
## [1645] -3.721879e+03 -4.428383e+03  1.023568e+04  1.552690e+03
## [1649]  4.734594e+03  3.485026e+03 -5.821958e+03  2.946772e+03
## [1653] -4.997000e+03 -4.918057e+03 -4.795691e+03 -4.789161e+03
## [1657] -5.883260e+03 -4.380848e+03  2.696166e+03 -1.167115e+04
## [1661] -3.749963e+03 -4.962182e+03  2.255152e+03  2.452229e+03
## [1665] -4.557280e+03 -5.204840e+03 -6.582189e+03 -6.305043e+03
## [1669]  3.793980e+03  1.256590e+04 -6.029798e+03 -4.152363e+03
## [1673] -8.041405e+03 -5.271673e+03  1.598459e+04 -3.597024e+03
## [1677] -2.668412e+03 -5.669920e+03 -2.256443e+03 -3.143762e+03
```

```
## [1677] -2.668412e+03 -5.669020e+03  2.256443e+03  2.142762e+03
## [1681]  3.222285e+03  9.023477e+03 -4.012704e+03 -4.997000e+03
## [1685]  2.607199e+04 -5.485381e+03 -2.816914e+03 -4.220543e+03
## [1689] -5.620519e+03  4.340426e+03 -6.420740e+03 -4.967652e+03
## [1693] -5.557905e+03 -4.668268e+03 -2.966628e+03 -5.620519e+03
## [1697] -5.649042e+03 -3.908618e+03  1.275198e+05  2.854629e+03
## [1701] -3.957802e+03 -4.900275e+03  1.478695e+03 -6.091100e+03
## [1705]  1.084592e+05 -4.629822e+03  3.226739e+03  4.286626e+03
## [1709]  8.991986e+04  1.607592e+03 -4.005826e+03 -5.669020e+03
## [1713]  5.728532e+04 -4.772306e+03 -7.592301e+02 -5.204840e+03
## [1717] -4.428383e+03 -5.592435e+03  2.663864e+03 -5.204840e+03
## [1721] -5.315066e+03 -4.603311e+03  2.231110e+03 -5.461180e+03
## [1725]  3.192067e+02 -3.957802e+03  1.172952e+05 -2.758788e+03
## [1729] -4.213665e+03 -3.597024e+03  2.799518e+03 -2.007826e+03
## [1733] -6.999027e+03  2.498955e+03 -1.147717e+04  7.277325e+02
## [1737] -4.428383e+03 -3.804864e+03 -3.804864e+03  1.103615e+04
## [1741] -6.077821e+03 -5.725953e+03 -4.143089e+03 -5.180798e+03
## [1745]  2.659475e+03 -4.123671e+03  4.383188e+05 -5.828359e+03
## [1749] -5.009505e+03  4.529183e+04  7.477465e+03 -3.957802e+03
## [1753] -5.132298e+03 -5.620519e+03  8.055815e+02  8.900450e+04
## [1757]  7.778510e+05  6.619205e+02 -5.204840e+03 -9.714475e+03
## [1761] -6.335179e+03  6.351558e+04 -5.675420e+03  2.264920e+04
## [1765] -4.636222e+03 -3.176402e+03  2.237511e+03  1.044352e+04
## [1769]  1.060213e+04 -6.006732e+03 -5.417135e+03 -5.204840e+03
## [1773] -4.782760e+03 -3.511012e+03 -1.609203e+03 -4.782760e+03
## [1777]  3.943332e+03 -5.467581e+03  7.575543e+04 -2.411293e+03
## [1781]  9.738692e+04 -6.908702e+03 -4.636222e+03 -6.053694e+03
## [1785]  1.411079e+03 -3.934699e+03 -4.421982e+03 -4.165642e+03
## [1789] -6.500378e+03 -4.165642e+03 -1.280358e+04 -3.597024e+03
## [1793] -6.036198e+03 -7.062118e+03 -4.990600e+03  1.607592e+03
## [1797]  1.868821e+03  1.245302e+03 -4.997000e+03 -4.459930e+03
## [1801] -5.392523e+03 -4.258166e+03 -5.591171e+03 -3.970733e+03
## [1805] -4.551973e+03  1.513782e+04  3.029652e+04 -5.557905e+03
## [1809]  2.528273e+05 -4.320092e+03  1.636940e+03 -1.229830e+04
## [1813] -4.997000e+03 -3.328034e+03  1.850331e+04  5.838461e+03
## [1817] -4.148001e+03 -4.350378e+03 -7.503350e+03  8.663420e+03
## [1821] -3.524482e+03 -6.091100e+03 -6.292061e+03 -2.685622e+03
## [1825]  9.471907e+04 -1.953023e+03  1.807705e+04 -5.811941e+03
## [1829]  2.030149e+03  8.865051e+03  2.646790e+03 -6.445000e+03
## [1833]  2.457319e+04  1.449417e+04  7.045709e+04 -4.844062e+03
## [1837] -4.165642e+03 -7.202669e+02 -5.876859e+03 -5.978110e+03
## [1841]  2.015799e+03 -6.493023e+03  1.767408e+03 -5.504889e+03
## [1845]  2.844174e+03 -5.058005e+03  3.315955e+04 -3.914698e+03
## [1849] -4.012704e+03  4.108545e+03  1.068267e+04 -4.798385e+03
## [1853]  1.002784e+04  2.641767e+02 -3.524482e+03  3.277186e+03
## [1857]  3.062469e+03  5.198929e+02 -4.581321e+03 -5.620519e+03
## [1861]  2.381747e+03 -5.553508e+03 -4.026388e+03 -5.821958e+03
## [1865]  2.438950e+03  6.499193e+03 -4.373481e+03  1.853853e+03
## [1869]  3.062469e+03  3.423247e+03 -5.589408e+03 -5.259741e+03
## [1873]  8.470693e+03  3.448390e+03 -5.541576e+03 -5.412680e+03
## [1877] -5.235508e+03  2.559734e+04 -5.395824e+03  5.083591e+04
## [1881] -5.038146e+03  3.966002e+02 -1.087829e+01  5.421666e+03
## [1885]  2.397327e+03 -5.786388e+03 -5.204840e+03 -4.740312e+03
## [1889] -3.855912e+03 -6.244038e+03 -3.957802e+03 -4.587851e+03
## [1893]  1.056164e+02  8.999784e+04 -1.071354e+04 -3.735179e+03
## [1897] -5.412680e+03  2.268757e+03 -5.467581e+03  7.387226e+03
## [1901]  6.218911e+03  1.505888e+04  1.648786e+04 -3.730387e+03
## [1905] -4.373481e+03  2.806606e+03 -4.373481e+03  6.473363e+02
## [1909] -5.461033e+03  2.118250e+04  2.029672e+03 -3.804864e+03
## [1913] -4.726547e+03 -4.636222e+03  1.821832e+03 -4.532950e+03
## [1917]  6.173709e+05  3.204098e+05  5.838811e+05  1.313083e+05
## [1921] -4.105219e+03  8.611200e+03 -4.698538e+03 -6.306353e+03
## [1925] -3.837831e+03  2.607160e+03 -5.173237e+03  4.324387e+04
## [1929]  3.249710e+03 -3.613921e+03  3.737092e+04  3.773667e+04
## [1933]  1.775801e+03 -4.839601e+03  2.295671e+04 -6.208758e+03
## [1937]  2.343549e+03 -4.915544e+03  5.451976e+03 -5.883615e+03
## [1941] -4.208206e+02  1.816755e+03 -5.841686e+03 -5.058445e+03
## [1945] -5.682834e+03 -4.643636e+03  4.342445e+03 -4.850606e+03
## [1949] -6.831774e+03 -3.395729e+03  1.805150e+03  1.650473e+05
## [1953] -3.163616e+03 -5.165809e+03 -4.702734e+03 -2.095070e+03
## [1957]  1.251933e+03  3.251872e+03 -5.971570e+03 -1.071100e+04
## [1961]  1.192486e+04 -4.901316e+03 -4.075019e+03  3.590586e+03
## [1965] -4.253510e+03  7.357330e+02 -3.370585e+03 -4.906377e+03
## [1969] -5.945575e+03  7.492524e+03 -7.421814e+03 -5.525705e+03
## [1973]  2.759228e+03 -4.084185e+03 -3.558149e+03  2.693436e+02
## [1977]  6.301215e+02  2.015428e+03 -4.435797e+03 -9.272922e+03
```

```
## [1977]  6.301213e+02  2.015423e+03  4.859797e+03  9.272922e+03
## [1981] -5.225331e+03 -4.075019e+03 -4.698538e+03  8.698598e+03
## [1985]  1.701611e+04 -3.867179e+03 -5.945575e+03 -7.146766e+03
## [1989] -7.864805e+03  1.583317e+03 -3.811408e+03 -5.432468e+03
## [1993]  1.345870e+05 -5.267155e+03  8.986126e+02  1.590902e+04
## [1997] -4.638666e+03  1.572970e+04 -4.075019e+03 -3.931119e+03
## [2001]  8.333283e+02 -4.282858e+03 -6.416598e+03 -7.080843e+03
## [2005]  9.240466e+03 -3.066891e+03 -3.243660e+03 -8.276121e+03
## [2009] -8.934669e+03  5.152058e+05  2.855953e+03  1.567091e+03
## [2013] -4.864721e+03  1.694472e+03  9.564144e+03  4.453541e+04
## [2017]  8.379611e+02 -4.282858e+03 -5.574206e+03 -2.445325e+01
## [2021]  1.559637e+04 -5.580606e+03 -5.322057e+03  9.486111e+03
## [2025] -3.939215e+03 -1.071059e+04 -4.516694e+03  3.312771e+04
## [2029] -6.821243e+03 -6.774288e+03 -4.698538e+03 -3.996675e+02
## [2033]  8.886713e+02  4.183905e+03 -5.226098e+03  3.851046e+03
## [2037] -4.906377e+03 -5.996286e+03 -5.465994e+01  1.009342e+04
## [2041]  5.642130e+03 -1.671710e+03 -4.851476e+03  2.061246e+03
## [2045] -1.390647e+02  1.369193e+03 -4.090766e+02 -4.931841e+03
## [2049] -4.752370e+03  1.969837e+00  9.455504e+03 -5.524835e+03
## [2053] -6.361255e+03 -5.474995e+03 -3.329799e+03 -6.209628e+03
## [2057] -3.238690e+03  1.668787e+03 -7.223047e+03  1.608944e+04
## [2061]  1.172609e+03  2.465417e+03 -5.316995e+03  9.427445e+04
## [2065] -3.604438e+03 -3.006487e+03 -2.419007e+03  2.385205e+03
## [2069] -1.948362e+02  2.703015e+03 -8.691800e+03  7.143713e+02
## [2073]  3.778373e+04 -5.238003e+03  8.102262e+03 -3.010678e+03
## [2077] -6.119320e+03 -3.634197e+03 -1.032595e+03 -1.703183e+04
## [2081] -5.623985e+03  3.354433e+02 -4.699396e+03  3.267536e+03
## [2085] -6.065856e+03  1.811701e+03 -6.148444e+03 -6.135100e+03
## [2089]  1.868277e+03 -6.563779e+03  8.417453e+03  3.306555e+04
## [2093] -6.624437e+03 -5.123784e+02 -5.162658e+03 -3.812278e+03
## [2097] -3.898249e+03 -4.879233e+03  2.190610e+03 -7.634537e+02
## [2101]  1.741778e+05 -5.077422e+03  3.892046e+04 -4.698538e+03
## [2105]  9.066525e+03  7.703470e+04  9.024869e+03 -5.741841e+03
## [2109]  4.351170e+03  4.379252e+02  8.565417e+02 -4.020118e+03
## [2113] -5.706533e+03 -4.969592e+03 -3.375402e+03  4.563540e+03
## [2117]  2.190610e+03  8.836895e+03 -6.411965e+03 -7.617346e+03
## [2121] -4.601110e+03  2.034131e+05 -5.733545e+03 -6.356284e+03
## [2125] -2.540097e+03  8.265024e+01 -4.490698e+03 -2.498273e+03
## [2129]  6.331966e+03 -6.680376e+03  2.109714e+03 -7.323893e+02
## [2133] -6.149224e+03 -6.816273e+03 -3.533051e+02 -5.279660e+03
## [2137] -4.744714e+03  3.200048e+04 -6.208758e+03  1.962962e+03
## [2141]  1.150105e+05  1.088931e+05  6.602618e+00  1.461480e+03
## [2145] -5.114217e+03 -5.188199e+03 -4.784509e+03 -2.594891e+03
## [2149]  4.548843e+03 -4.808949e+03 -1.123120e+04  9.853964e+02
## [2153]  3.527110e+02 -3.006472e+03 -4.154005e+03  1.041168e+03
## [2157] -5.229250e+03 -4.140512e+03 -6.299115e+03 -9.791214e+03
## [2161] -2.498273e+03  1.438684e+05  3.742093e+04 -3.773632e+03
## [2165] -4.260461e+03 -7.770284e+03  3.048226e+05  1.927869e+03
## [2169] -6.887129e+03 -7.188422e+03 -5.433171e+03 -4.227087e+03
## [2173] -5.059316e+03 -4.407562e+03  1.383589e+04 -6.238678e+03
## [2177] -6.973311e+03 -6.247685e+03  3.853327e+03  1.024868e+04
## [2181]  2.706840e+03 -3.659340e+03 -4.419693e+03 -5.844047e+03
## [2185]  4.278968e+03 -4.183697e+03 -5.295468e+03 -5.819669e+03
## [2189] -1.211087e+03  1.041168e+03  3.229808e+03  1.774931e+03
## [2193]  1.774301e+04 -3.807307e+03 -4.470422e+03 -4.075019e+03
## [2197] -5.425370e+03 -7.299536e+03 -4.957088e+03 -5.437967e+03
## [2201]  1.630813e+05  5.038251e+04 -5.496357e+03 -4.033363e+03
## [2205] -4.957088e+03 -4.476566e+03  2.288206e+03  3.907819e+03
## [2209] -1.418634e+04 -3.604438e+03 -6.767772e+03 -8.483257e+03
## [2213] -3.684907e+03 -3.629135e+03  1.222428e+04 -1.428574e+04
## [2217] -7.654926e+03 -3.487865e+03  1.137165e+02 -1.000378e+04
## [2221] -7.818457e+03 -7.818349e+03  5.618713e+03 -8.107142e+03
## [2225] -7.306052e+03 -6.059015e+03 -8.284846e+03 -9.328677e+03
## [2229] -8.062233e+03 -6.682260e+03 -9.029759e+03 -7.305636e+03
## [2233] -8.082509e+03  7.791034e+05  2.397352e+05  3.023500e+04
## [2237]  3.019242e+04  2.598485e+04 -2.147370e+03 -1.354848e+04
## [2241] -1.281317e+04 -1.193697e+04 -6.868295e+03 -1.200270e+04
## [2245]  4.047114e+03 -1.131343e+04 -1.271341e+04 -4.633862e+03
## [2249] -1.125531e+04 -2.385511e+03 -1.001713e+04  1.163759e+04
## [2253] -5.549176e+03 -1.566747e+04  7.727006e+04 -1.316686e+04
## [2257] -6.539494e+03 -6.312053e+03 -6.299678e+03 -8.431660e+03
## [2261] -1.487786e+04 -1.150774e+04 -1.364404e+04  1.069646e+04
## [2265] -1.570477e+04  6.213458e+05 -9.482965e+03 -1.486376e+04
## [2269]  1.525737e+04 -1.089776e+04  2.821314e+05 -4.912078e+03
## [2273] -1.208989e+04 -1.545963e+04 -1.218654e+04 -8.679882e+03
## [2277] -6.750318e+03 -1.208989e+04  4.035413e+03 -7.110355e+03
```

```
## [2281] -3.577263e+02 -1.546568e+04 -1.110559e+04 -5.795292e+03
## [2285] -1.233217e+04 -1.281989e+04 -5.822338e+03 -7.566039e+03
## [2289] -1.129507e+04 -1.374893e+04  1.143469e+06 -1.048113e+04
## [2293] -7.696554e+03 -8.760903e+03 -1.481913e+04 -1.259857e+04
## [2297] -1.631345e+04  8.706956e+05 -3.402299e+03 -6.571695e+03
## [2301]  4.135530e+04  4.280551e+04  1.211845e+05  4.528227e+04
## [2305] -1.571579e+04 -1.503044e+04 -6.366955e+03 -1.347788e+04
## [2309] -2.982352e+03 -1.240686e+04  3.191825e+04  8.204539e+04
## [2313] -1.254732e+04  1.118307e+04 -9.706434e+03 -1.508260e+04
## [2317] -6.228576e+03 -1.094261e+04 -1.375632e+03 -2.960501e+03
## [2321] -6.308954e+03 -1.234236e+04 -1.506900e+04  3.675593e+04
## [2325]  4.089838e+03 -1.254717e+04 -1.333693e+04 -1.320672e+04
## [2329] -1.363108e+04 -7.165559e+03 -3.301356e+03  7.842644e+03
## [2333] -1.276831e+04 -1.296628e+04  2.002780e+04 -1.508485e+04
## [2337] -8.575322e+03 -5.043310e+03 -6.855419e+03  3.648845e+04
## [2341]  8.287156e+04  4.207033e+04  1.568760e+05  9.176728e+04
## [2345]  4.016953e+04 -1.416271e+04  4.261563e+04 -5.591909e+03
## [2349] -1.302766e+04 -1.271341e+04 -1.271341e+04 -3.178984e+03
## [2353] -1.549611e+01 -1.281262e+04  3.904371e+03  1.230188e+04
## [2357] -1.007531e+04 -9.604733e+03 -1.297460e+04 -1.234822e+04
## [2361]  1.191431e+04 -6.068522e+03  1.891436e+05 -9.390454e+03
## [2365]  7.393746e+04 -6.838947e+03 -1.797541e+04 -1.467834e+04
## [2369] -1.378789e+04 -4.524100e+03 -9.577615e+03 -5.757970e+03
## [2373] -4.761288e+03  3.064492e+04  9.129519e+04 -6.478169e+03
## [2377] -6.204986e+03  4.029258e+03 -1.297615e+04  4.940377e+04
## [2381] -8.870100e+03 -1.260478e+04 -1.420950e+04  2.208636e+04
## [2385]  9.325900e+04 -2.106158e+02  6.556821e+04  4.421396e+04
## [2389] -1.358988e+04  3.229913e+04 -6.296579e+03 -2.519181e+04
## [2393] -6.059261e+03 -7.788422e+03 -6.898322e+03 -7.517314e+03
## [2397] -8.367482e+03 -1.147641e+04  1.219916e+04  1.019718e+04
## [2401] -5.023292e+03  1.957804e+04 -1.318399e+04 -1.401225e+04
## [2405] -1.115227e+04 -1.271341e+04  3.002325e+03 -5.588810e+03
## [2409] -1.312909e+04 -1.479181e+04 -1.528515e+04 -3.950275e+03
## [2413] -1.317420e+04 -1.327045e+04  2.495454e+02 -1.525180e+04
## [2417] -1.255322e+04 -7.564038e+03  3.985579e+04 -5.883999e+03
## [2421]  3.747746e+04 -3.216206e+03 -1.131286e+04 -7.467129e+03
## [2425] -1.229773e+04 -1.462828e+04 -9.141743e+03  2.399708e+04
## [2429] -7.859608e+03  7.248997e+02  3.281327e+03  3.712127e+04
## [2433]  3.787948e+04  4.115853e+04 -1.122660e+04  1.363969e+05
## [2437] -8.086391e+03  1.956743e+04 -1.318399e+04  4.155088e+04
## [2441] -5.468319e+03 -1.586544e+04  1.004927e+04 -5.463074e+03
## [2445] -1.229247e+04 -1.339183e+04 -1.250557e+04 -1.419908e+04
## [2449] -6.251246e+03 -1.395519e+04 -1.426440e+04 -7.283498e+03
## [2453] -8.409385e+03  3.687060e+03  4.738672e+04  1.434627e+04
## [2457]  3.333119e+04 -6.232201e+03  1.212253e+04  2.035353e+03
## [2461] -6.880444e+03 -6.697453e+03 -6.151788e+03 -1.446586e+04
## [2465]  2.185968e+05 -6.253585e+03 -1.229818e+04 -1.341424e+04
## [2469]  1.189369e+04 -9.573011e+03 -1.276831e+04 -1.339183e+04
## [2473] -1.187895e+04  1.938504e+04 -4.429121e+03  2.122274e+04
## [2477] -1.310352e+04 -5.488778e+02  3.035516e+04 -1.275079e+04
## [2481] -6.101315e+03  3.912180e+04  4.752526e+04 -1.210566e+04
## [2485] -1.289190e+04 -1.399800e+04 -1.235263e+04  5.996112e+05
## [2489] -1.235108e+04 -4.247532e+03  3.870298e+05  5.846236e+02
## [2493]  2.043219e+04 -1.314366e+04 -1.152127e+04  3.263876e+04
## [2497]  3.248085e+03 -1.249344e+04 -1.486167e+04  1.299165e+04
## [2501] -6.494729e+03  1.169583e+04 -5.673060e+03 -5.465220e+03
## [2505]  2.077634e+03  2.192103e+04 -4.747429e+03  1.759532e+03
## [2509]  4.117197e+04 -1.106197e+04  7.479897e+03 -2.227636e+02
## [2513] -1.250247e+04 -6.612297e+03 -1.110250e+04 -6.497731e+03
## [2517] -6.644230e+03 -7.045642e+03 -1.331552e+04 -4.726243e+03
## [2521] -6.834906e+03  3.725946e+04 -1.462828e+04  3.552679e+03
## [2525] -1.404987e+04 -1.249202e+04 -5.905434e+03  8.486366e+05
## [2529] -7.669911e+03 -8.742143e+03 -8.150619e+03 -6.420168e+03
## [2533] -1.214169e+04 -5.878873e+03 -7.494748e+03 -7.350728e+03
## [2537] -7.117459e+03 -1.130296e+04  4.079839e+04  5.435203e+03
## [2541] -6.289200e+03 -3.598503e+03 -6.070767e+03 -1.271138e+04
## [2545] -1.287227e+04  2.325261e+03 -1.355984e+04 -5.148255e+03
## [2549] -1.213432e+04 -4.718102e+03 -4.623110e+03 -5.589142e+03
## [2553] -1.248200e+04 -1.045795e+04  4.037264e+04 -8.191979e+03
## [2557] -1.378247e+04 -5.806532e+03 -1.296081e+04  5.637010e+04
## [2561]  5.691590e+04 -1.445892e+04  4.710812e+04 -5.873521e+03
## [2565] -6.637843e+03 -6.220479e+03 -7.138465e+03 -1.346316e+04
## [2569]  3.796208e+04 -1.228414e+04 -4.540754e+03  3.572380e+04
## [2573] -1.500102e+04 -1.246372e+04 -1.252581e+04 -3.267981e+03
## [2577]  4.198165e+04  9.937923e+03 -6.900632e+03 -9.602492e+03
## [2581]  4.600570e+03 -1.109464e+04 -1.186005e+04 -5.849680e+03
```

```
## [2581]  4.600570e+03 -1.109464e+04 -1.186005e+04 -5.840680e+03
## [2585] -1.257491e+04 -6.754935e+03 -3.891834e+02 -1.101196e+04
## [2589] -1.326045e+04  3.105268e+04 -1.249354e+04  3.975000e+04
## [2593] -4.826837e+03  4.183898e+04 -5.039063e+03 -8.468372e+03
## [2597] -1.459846e+04 -1.290690e+04 -1.192619e+04 -7.204540e+03
## [2601] -7.742528e+03 -1.166335e+04 -1.192648e+04 -5.030075e+03
## [2605] -7.491691e+03 -9.645846e+03  3.012669e+04  1.229839e+05
## [2609]  7.167869e+05 -1.550406e+04  2.828571e+05  1.231049e+05
## [2613] -6.059570e+03  3.809739e+04 -1.586066e+04 -6.493940e+03
## [2617] -6.689681e+03 -4.269810e+02 -8.561351e+03 -1.049030e+04
## [2621]  5.708840e+04 -1.538587e+04 -1.322111e+04 -9.793178e+03
## [2625] -1.171864e+04 -1.226154e+04 -1.163256e+04 -1.184735e+04
## [2629] -1.399428e+04 -1.213044e+04 -6.278428e+03 -7.119688e+03
## [2633] -1.461780e+04 -7.946863e+03 -1.186846e+04 -6.437764e+03
## [2637] -1.571190e+04 -1.150702e+04 -1.239003e+04 -1.254688e+04
## [2641]  6.666555e+05 -4.776322e+03 -7.117459e+03 -6.617758e+03
## [2645] -1.233904e+04  4.094558e+04 -1.082024e+04  2.914952e+04
## [2649] -1.047160e+04  4.145911e+04 -1.332334e+04 -8.206216e+03
## [2653] -1.311550e+04 -6.908344e+03  8.157549e+04  1.874487e+05
## [2657]  2.695524e+04  5.199609e+04 -1.540629e+04 -1.732560e+03
## [2661] -1.317040e+04  2.028582e+04  4.059406e+03 -1.207630e+04
## [2665]  1.255697e+04  3.784591e+04 -1.171864e+04 -5.856713e+03
## [2669] -1.274575e+04  1.292756e+05 -9.997907e+03 -1.704170e+04
## [2673] -7.270397e+03 -6.727399e+03 -1.164162e+04 -1.000765e+04
## [2677] -5.763668e+03 -8.716470e+03 -6.825370e+03 -1.518688e+04
## [2681]  6.993478e+04  4.730598e+04  4.068679e+04 -1.275035e+04
## [2685] -6.493940e+03 -9.773510e+03 -1.233007e+04 -1.316913e+04
## [2689] -1.335678e+04 -1.293396e+04 -8.227931e+03  7.818228e+03
## [2693] -7.174829e+03 -1.161020e+04 -1.165165e+04  3.625419e+04
## [2697] -1.046539e+04 -8.374785e+03 -7.742528e+03 -4.940365e+03
## [2701] -9.101930e+03 -1.342428e+04 -1.266467e+04 -1.067461e+04
## [2705]  8.546671e+03 -6.649990e+03 -6.002247e+03 -1.207938e+04
## [2709] -1.518638e+04  4.018563e+04 -5.183026e+03  3.132794e+04
## [2713]  1.979356e+04  5.590462e+05 -1.106435e+04 -1.454132e+04
## [2717]  3.601110e+05 -7.689188e+03  5.302758e+03  1.010781e+03
## [2721]  4.393927e+04 -5.123055e+03 -1.166375e+04  4.514445e+05
## [2725] -5.802406e+03 -7.744089e+03  3.926489e+04  5.583231e+01
## [2729] -1.291078e+04 -6.289212e+03  3.009657e+03 -1.332208e+04
## [2733] -6.704891e+03 -6.462093e+03  3.717640e+04 -1.209146e+04
## [2737] -1.151081e+04 -8.597759e+02 -6.381536e+03 -4.779433e+03
## [2741]  3.642002e+04  3.841993e+03 -1.197564e+04  6.443880e+04
## [2745] -1.255001e+04 -1.228727e+04 -6.123080e+03 -1.585998e+04
## [2749] -8.587297e+03 -1.353430e+04  2.360415e+03 -1.104023e+04
## [2753] -1.632921e+04 -1.316355e+04 -1.569982e+04 -6.379198e+03
## [2757] -1.082030e+04  1.311163e+04 -1.291078e+04 -1.192649e+04
## [2761] -1.207943e+04 -6.662873e+03 -1.287967e+04 -1.812967e+04
## [2765] -1.040462e+04 -6.637903e+03 -1.225608e+04 -5.802158e+03
## [2769] -1.536390e+03 -1.206295e+04 -7.380277e+03  4.333154e+04
## [2773] -5.349430e+03  1.936286e+04  2.623041e+03 -1.129088e+04
## [2777] -1.253792e+04  1.664408e+05  3.978426e+04 -6.014384e+03
## [2781] -1.248302e+04 -5.861446e+03 -1.508569e+04 -1.185950e+04
## [2785]  2.224379e+05 -6.400847e+03  5.700243e+04 -1.389323e+04
## [2789] -1.633052e+01 -9.327720e+03  4.720595e+04 -1.212224e+04
## [2793]  3.954160e+04  3.957865e+04 -1.289712e+04 -1.212224e+04
## [2797]  7.528182e+04 -1.129088e+04  1.139853e+04 -1.233008e+04
## [2801] -6.014193e+03  1.282703e+04 -1.208729e+04 -1.424787e+04
## [2805] -1.445279e+04 -1.283712e+04  2.626866e+04 -1.355742e+04
## [2809] -1.171865e+04  3.734178e+03  2.558967e+03 -6.277125e+03
## [2813] -1.234565e+04  1.980509e+04 -1.620138e+04 -1.356275e+04
## [2817] -1.149560e+04 -1.042958e+04 -1.234217e+04  4.011270e+04
## [2821] -1.122389e+04 -1.213433e+04 -2.562916e+03 -1.268360e+04
## [2825] -1.207943e+04 -1.213907e+04 -7.531875e+03  2.798595e+03
## [2829]  1.833518e+04 -2.275397e+03  9.283173e+03 -5.353125e+03
## [2833]  8.269452e+02  3.368036e+03 -3.796032e+03  3.115733e+03
## [2837]  2.221469e+03 -4.721749e+03 -5.633924e+03 -5.728373e+03
## [2841] -4.894078e+03 -3.469347e+03 -3.023990e+03 -5.728993e+03
## [2845] -6.032386e+03 -7.148020e+03 -4.515114e+03  1.313667e+03
## [2849]  1.621671e+03  1.265810e+04 -6.073545e+03 -5.046777e+03
## [2853] -3.123803e+03 -3.240699e+03  3.507673e+03 -6.390116e+03
## [2857]  9.838016e+03 -4.128909e+03  3.204303e+04  4.814844e+04
## [2861] -4.238693e+03  3.243193e+04  3.805580e+03 -5.365128e+03
## [2865] -5.368215e+03 -3.913880e+04  4.990235e+03 -1.077389e+04
## [2869] -3.652253e+03  8.790231e+02 -2.922812e+03  1.697789e+04
## [2873]  1.190191e+05  1.915477e+05 -6.941938e+03 -5.159756e+03
## [2877] -4.391631e+03 -3.448538e+03 -4.748613e+03 -5.468857e+03
## [2881]  5.298621e+03 -5.425456e+03 -3.254563e+03 -6.075107e+02
```

```
## [2885]  3.037983e+04 -4.862212e+03 -4.790277e+03 -5.019293e+03
## [2889] -4.696196e+03 -3.711279e+03  1.752205e+03 -3.088380e+03
## [2893]  9.333675e+04 -3.677187e+03 -5.185355e+03  3.100711e+03
## [2897]  3.340178e+03 -2.459497e+03 -4.513909e+03 -5.319715e+03
## [2901]  1.529899e+03  1.318165e+03 -4.499773e+03  1.099180e+03
## [2905] -4.869943e+03 -3.801603e+03  1.646782e+03 -5.907484e+03
## [2909] -2.819648e+03 -5.576055e+03  7.619890e+03  2.374239e+03
## [2913] -5.914864e+03 -5.554466e+03 -2.916373e+03 -6.371522e+03
## [2917] -4.543257e+03 -3.672404e+03 -4.335418e+03 -3.723242e+03
## [2921]  1.349487e+03 -4.784547e+03 -3.682551e+03 -4.507676e+03
## [2925] -5.082526e+03 -6.016834e+03 -3.227787e+03  1.919393e+03
## [2929]  3.682592e+03 -4.929588e+03 -5.011354e+03 -4.289071e+03
## [2933] -2.464861e+03 -5.547743e+03 -4.960267e+03 -4.440303e+03
## [2937] -3.400343e+03 -4.444117e+03  1.384041e+03 -1.634744e+03
## [2941]  3.665453e+03  1.682205e+03  1.350659e+03 -4.296748e+03
## [2945] -5.462456e+03 -4.274116e+03 -4.024643e+03 -4.696196e+03
## [2949] -3.809518e+03 -3.640772e+03 -4.618032e+03 -4.859797e+03
## [2953] -4.543257e+03 -3.028735e+03  1.944946e+03 -5.196192e+03
## [2957]  4.052691e+03  1.660224e+03  1.310447e+04 -6.465301e+03
## [2961]  1.391409e+03 -3.711899e+03  8.594459e+03  2.513564e+03
## [2965]  2.041653e+03 -1.512022e+03  2.848034e+04 -6.232839e+03
## [2969]  2.057717e+03 -5.740077e+03 -5.728993e+03  3.518442e+04
## [2973]  2.958591e+03 -6.040955e+03  3.607663e+03  3.948429e+05
## [2977]  2.070547e+04 -2.574218e+03 -3.163155e+03  3.554258e+03
## [2981] -4.835192e+03 -4.513909e+03  3.677848e+03 -3.950417e+03
## [2985] -4.904035e+03 -4.488356e+03  1.685038e+05  4.290725e+03
## [2989] -3.673375e+03 -2.484872e+03 -1.475983e+03  4.762253e+03
## [2993] -3.286882e+03  4.839135e+03 -1.578596e+03  1.179544e+04
## [2997] -4.145945e+03  3.619719e+03  8.309598e+03  4.987798e+03
## [3001] -4.740115e+03 -1.258928e+03 -1.055548e+03 -3.168049e+03
## [3005] -3.466213e+03 -1.866110e+03  1.109332e+04 -3.041033e+03
## [3009] -3.837630e+03 -1.206291e+03 -1.575956e+03 -3.027073e+03
## [3013] -2.900552e+03 -2.752370e+03 -1.713172e+03  3.814774e+04
## [3017] -1.583341e+03  2.583905e+03 -2.630098e+03 -2.128851e+03
## [3021]  4.486070e+03 -2.489629e+03  1.363588e+04 -1.029995e+03
## [3025] -2.374576e+03  9.263520e+05  3.941734e+05  8.853483e+05
## [3029]  4.576931e+05  6.477761e+05  5.503562e+05  1.665146e+04
## [3033]  1.590696e+04  2.290830e+04  1.521260e+04  1.700997e+04
## [3037]  1.773972e+04  3.657418e+04  1.794842e+04  1.574759e+04
## [3041]  1.670338e+04  1.724853e+04  1.635968e+04  3.465142e+04
## [3045]  1.634774e+04  1.785845e+04  1.665604e+04  2.371876e+04
## [3049]  3.726420e+04  1.667403e+04  1.824861e+04  1.768657e+04
## [3053]  1.549332e+04  1.659740e+04  2.604470e+04  2.882543e+04
## [3057]  1.778030e+05  1.465163e+04  3.016155e+04  4.143229e+05
## [3061]  1.632339e+04  1.043112e+04  2.501685e+04  1.791655e+04
## [3065]  2.329103e+04  2.274433e+04  2.405278e+04  1.440274e+04
## [3069]  3.131391e+04  2.036156e+05  1.701538e+04  1.602203e+04
## [3073]  3.105690e+04  2.861544e+04  2.941874e+04  1.761844e+04
## [3077]  2.337911e+04  2.401368e+04  1.688190e+04  1.082817e+05
## [3081]  1.693681e+04  1.697197e+04  1.824239e+04  2.377163e+04
## [3085]  1.709835e+04  2.163331e+04  2.242652e+04  1.854459e+04
## [3089]  2.095490e+04  1.678865e+04  1.907052e+04  1.718647e+04
## [3093]  1.409163e+04  2.201637e+04  1.414041e+04  7.340699e+04
## [3097]  1.663992e+04  1.659568e+04  2.292510e+04  2.190205e+04
## [3101]  2.271974e+04  1.780603e+04  1.661145e+04  1.387497e+04
## [3105]  1.766795e+04  2.278072e+04  2.991983e+05  1.592972e+04
## [3109]  1.730137e+04  1.516653e+04  2.377940e+04  2.754873e+04
## [3113]  1.776816e+04  3.910253e+05  1.828773e+04  1.799511e+04
## [3117]  1.820420e+04  1.691838e+04  2.418549e+04  1.781884e+04
## [3121]  1.692482e+04  1.496663e+04  1.652578e+04  2.449131e+04
## [3125]  9.512385e+04  1.926705e+04  1.741671e+04  2.175651e+04
## [3129]  2.122522e+05  2.267571e+04  2.184108e+04  1.653710e+04
## [3133]  1.759805e+05  2.276677e+04  1.725730e+04  1.747216e+04
## [3137]  1.835630e+04  2.333493e+04  3.098158e+04  1.608758e+04
## [3141]  1.696615e+04  1.715691e+04  1.714465e+04  1.717312e+04
## [3145]  1.760215e+04  1.249202e+05  3.051034e+04  1.695888e+04
## [3149]  2.454626e+04  1.579744e+04  1.576826e+04  1.785159e+04
## [3153]  1.605055e+04  2.195710e+04  1.644822e+04  1.625362e+04
## [3157]  2.574557e+04  1.736109e+04  2.921150e+04  1.709822e+04
## [3161]  1.827772e+04  1.599525e+04  1.792107e+04  2.289333e+04
## [3165]  1.246108e+05  1.578649e+04  1.765065e+04  1.498448e+04
## [3169]  1.617657e+04  1.716522e+04  8.122278e+05  1.510913e+04
## [3173]  9.081098e+04  2.434483e+04  2.136690e+04  1.658546e+04
## [3177]  1.641928e+04  1.599430e+04  1.799925e+04  3.016054e+04
## [3181]  1.960105e+05  2.652275e+04  1.533798e+04  1.675867e+04
```

```
## [3185] 2.216452e+04 2.738929e+04 3.822215e+05 1.697863e+04
## [3189] 1.786179e+04 1.785518e+04 1.677714e+04 1.739520e+04
## [3193] 2.334869e+04 1.632951e+04 1.596748e+04 2.983133e+04
## [3197] 6.258972e+04 1.411835e+05 4.051875e+04 1.810935e+04
## [3201] 2.121476e+04 2.960544e+04 1.705167e+04 1.777111e+04
## [3205] 1.531688e+04 1.528613e+04 2.823841e+04 1.601394e+04
## [3209] 1.477296e+04 1.692356e+04 1.631329e+04 2.330563e+04
## [3213] 7.660876e+05 2.445700e+04 1.735173e+04 1.793510e+04
## [3217] 1.616660e+04 1.744636e+04 2.063140e+04 1.628790e+04
## [3221] 1.865819e+04 2.343166e+04 1.697553e+04 2.142934e+04
## [3225] 2.261685e+04 2.185276e+04 1.737456e+04 1.706288e+04
## [3229] 2.296702e+04 1.797931e+04 1.557865e+04 2.159127e+04
## [3233] 3.000037e+04 1.137453e+05 1.600150e+04 2.555596e+04
## [3237] 3.037187e+04 1.710604e+04 2.991745e+04 1.618033e+04
## [3241] 1.685601e+04 1.955153e+04 2.232463e+04 3.427220e+04
## [3245] 1.575092e+04 2.744167e+05 1.821224e+04 2.465371e+04
## [3249] 1.594273e+04 2.164271e+04 1.776816e+04 2.385119e+04
## [3253] 1.572219e+04 2.224413e+04 1.801899e+04 1.593633e+04
## [3257] 1.614727e+04 1.751672e+04 1.844131e+04 2.380434e+04
## [3261] 1.629084e+04 2.211103e+04 2.195263e+04 2.678930e+04
## [3265] 2.561975e+04 1.714795e+04 2.174498e+04 2.369305e+04
## [3269] 1.760545e+04 2.865806e+05 1.674731e+04 2.411210e+04
## [3273] 1.107045e+04 1.594634e+04 2.675662e+04 2.354612e+04
## [3277] 1.825991e+04 1.751776e+04 2.455860e+04 7.762823e+05
## [3281] 1.771656e+04 2.363319e+04 2.101924e+05 1.748463e+04
## [3285] 2.288685e+04 1.645618e+04 2.383239e+04 2.176425e+04
## [3289] 1.780689e+04 1.552521e+04 1.657433e+05 2.980349e+04
## [3293] 1.757410e+05 4.308952e+05 2.429302e+04 1.741031e+04
## [3297] 1.784134e+04 1.749858e+04 2.375265e+04 1.656365e+04
## [3301] 1.618337e+04 1.594305e+04 1.744611e+04 3.616010e+04
## [3305] 1.554264e+04 1.856421e+04 6.421193e+04 4.250483e+04
## [3309] 1.003810e+05 2.236568e+04 1.885666e+04 1.718007e+04
## [3313] 1.467851e+04 2.191172e+04 1.703683e+04 1.744963e+04
## [3317] 1.766882e+04 2.269028e+05 1.731029e+04 1.760545e+04
## [3321] 2.286499e+04 5.650351e+04 1.626169e+04 3.198567e+04
## [3325] 1.716915e+04 1.860282e+04 1.804324e+04 1.516668e+04
## [3329] 1.435968e+04 1.710785e+04 2.458036e+04 1.673227e+04
## [3333] 1.801661e+04 1.789161e+04 2.276161e+04 7.356737e+03
## [3337] 1.694422e+04 1.653303e+04 2.285544e+04 2.457826e+04
## [3341] 6.064830e+04 1.675744e+04 1.540324e+04 1.808348e+04
## [3345] 1.705394e+04 1.636717e+04 2.342001e+04 1.417447e+04
## [3349] 4.612574e+04 2.305143e+04 1.702097e+04 2.445924e+04
## [3353] 1.434804e+04 1.750873e+04 1.724467e+04 2.227620e+04
## [3357] 1.750873e+04 4.437860e+04 2.278365e+04 1.795824e+04
## [3361] 1.370340e+04 1.580431e+04 1.364396e+04 8.947865e+05
## [3365] 6.027583e+05 2.344042e+04 1.589539e+04 1.839168e+04
## [3369] 1.593943e+04 2.342110e+04 1.592922e+04 1.645287e+04
## [3373] 3.857146e+04 1.652794e+04 1.485576e+04 1.665402e+04
## [3377] 4.248708e+05 2.263105e+04 1.610545e+04 2.294300e+04
## [3381] 2.865565e+04 1.592333e+04 1.598681e+05 1.714486e+04
## [3385] 1.759571e+04 2.335743e+04 2.186439e+04 1.846620e+04
## [3389] 1.673582e+04 2.843447e+04 2.941892e+04 1.494593e+04
## [3393] 1.847126e+04 1.610875e+04 1.700724e+05 1.698728e+04
## [3397] 7.842387e+04 1.758920e+04 1.622170e+04 2.305927e+04
## [3401] 1.833617e+04 2.177578e+04 1.586065e+04 2.464531e+04
## [3405] 5.245301e+04 2.851074e+04 2.525252e+04 1.644358e+04
## [3409] 1.818384e+04 2.268541e+04 2.218761e+04 1.605055e+04
## [3413] 1.558196e+04 1.586488e+04 1.338472e+05 1.635841e+04
## [3417] 1.787903e+04 1.613807e+04 8.219650e+03 1.474632e+04
## [3421] 1.552358e+04 2.371248e+04 1.532970e+04 1.692638e+04
## [3425] 2.891763e+04 1.608402e+04 2.323411e+04 1.621817e+04
## [3429] 2.414415e+04 1.811388e+04 1.672679e+04 2.965929e+04
## [3433] 1.661785e+04 1.774015e+04 4.617972e+04 2.317317e+04
## [3437] 6.319701e+04 1.558856e+04 1.780355e+04 1.718337e+04
## [3441] 2.266322e+04 2.314508e+04 1.531591e+04 2.188005e+04
## [3445] 1.608497e+04 1.240376e+05 1.674516e+04 2.114872e+04
## [3449] 1.752236e+04 2.330546e+04 1.676439e+04 1.596144e+04
## [3453] 1.577314e+04 1.687926e+04 1.750873e+04 3.405597e+04
## [3457] 1.697260e+04 2.408266e+04 1.765395e+04 2.835194e+05
## [3461] 2.281435e+05 5.084600e+04 2.764745e+04 1.786179e+04
## [3465] 2.327566e+04 1.733115e+04 1.595134e+04 1.646902e+05
## [3469] 4.324507e+04 1.535831e+04 5.713761e+04 2.385480e+04
## [3473] 2.591110e+04 1.563817e+04 1.496446e+04 1.658590e+04
## [3477] 1.544880e+04 1.551125e+04 9.828520e+04 1.645702e+04
## [3481] 2.364877e+04 1.573139e+04 1.740256e+04 2.314568e+04
## [3485] 1.750873e+04 1.806963e+04 2.245888e+04 1.620108e+04
```

```
## [3485]  1.750875e+04  1.660985e+04  2.249888e+04  1.620108e+04
## [3489]  2.265981e+04  5.401913e+05  1.615917e+04  1.601036e+04
## [3493]  1.615057e+04  1.933446e+04  1.681700e+04  1.695658e+04
## [3497]  1.789756e+04  9.525723e+04  1.882352e+04  1.531871e+04
## [3501]  2.308342e+04  2.063633e+04  1.648803e+04  1.642314e+04
## [3505]  1.766390e+04  2.310059e+04  2.086976e+04  2.285143e+04
## [3509]  2.413019e+04  1.693229e+04  1.887691e+04  1.599763e+04
## [3513]  3.916671e+04  1.643779e+04  1.105720e+04  2.562773e+04
## [3517]  4.896866e+04  8.837505e+04  1.426397e+05  1.993932e+04
## [3521]  2.886684e+05  5.406854e+04  1.487460e+04  1.577395e+04
## [3525]  1.750171e+04  5.301084e+04  1.771656e+04  1.577449e+04
## [3529]  2.199188e+04  1.835813e+04  2.113228e+04  2.372461e+04
## [3533]  9.589878e+04  4.003779e+04  1.646953e+04  1.512250e+04
## [3537]  1.611230e+04  1.845606e+04  2.070892e+04  5.465558e+05
## [3541]  1.672897e+04  2.304069e+04  1.617657e+04  2.489681e+04
## [3545]  1.701988e+04  1.964898e+04  1.695603e+04  1.770745e+05
## [3549]  2.930581e+04  1.333536e+05  2.282564e+04  1.601118e+04
## [3553]  2.310397e+04  1.667970e+04  1.356206e+04  1.371500e+04
## [3557]  2.579939e+04  1.822567e+04  5.666459e+04  4.301905e+05
## [3561]  1.765065e+04  5.544863e+04  1.557865e+04  2.310311e+04
## [3565]  2.217533e+04  1.522178e+04  1.717706e+04  1.492417e+04
## [3569]  1.575352e+04  1.825242e+04  2.148938e+04  1.652924e+04
## [3573]  1.625717e+04  1.556221e+04  2.264525e+04  1.625945e+04
## [3577]  1.718311e+04  1.616154e+04  1.910639e+04  1.614727e+04
## [3581]  1.686632e+04  1.744138e+04  1.651192e+04  1.689113e+04
## [3585]  3.039985e+04  1.646623e+04  1.839024e+04  1.580693e+04
## [3589]  2.870738e+04  9.064550e+05  1.648114e+04  2.217558e+04
## [3593]  4.929053e+04  1.617657e+04  2.227390e+04  2.609958e+04
## [3597]  1.683260e+04  1.546087e+04  5.762957e+04  2.457480e+04
## [3601]  6.648152e+04  2.509640e+04  2.529684e+04  5.408762e+04
## [3605]  1.698925e+04  1.677059e+04  2.176168e+04  2.113816e+04
## [3609]  2.311285e+04  1.580290e+04  1.622510e+04  1.842707e+04
## [3613]  1.567493e+04  2.220821e+04  8.883243e+04  1.604659e+04
## [3617]  1.682366e+04  1.559079e+04  1.521377e+04  1.500614e+04
## [3621]  1.516628e+04  1.714461e+04  1.863495e+04  3.098056e+04
## [3625]  8.987991e+04  1.682804e+04  2.686249e+04  2.709669e+04
## [3629]  2.371200e+04  1.400129e+04  2.829775e+04  1.696596e+04
## [3633]  1.752433e+04  1.645372e+04  2.398454e+04  2.669679e+04
## [3637]  2.400669e+04  1.511520e+04  8.065003e+05  2.755681e+04
## [3641]  1.675976e+04  1.577586e+04  1.654668e+04  1.661782e+04
## [3645]  2.520136e+04  1.697211e+04  2.204769e+04  1.244627e+05
## [3649]  4.723712e+04  1.509631e+04  1.707468e+04  1.030762e+05
## [3653]  1.265152e+05  2.135505e+04  1.589027e+04  1.799344e+04
## [3657]  1.720683e+04  2.319279e+04  1.720814e+04  1.702103e+04
## [3661]  1.736198e+04  2.915299e+04  6.152565e+04  3.251607e+04
## [3665]  2.988320e+04  1.729758e+04  2.387400e+04  2.353763e+04
## [3669]  1.352509e+04  2.434796e+04  1.784750e+04  2.152154e+04
## [3673]  1.549116e+04  5.636620e+04  1.421228e+05  1.693433e+04
## [3677]  1.474730e+04  2.894883e+04  6.447560e+05  1.779986e+04
## [3681]  1.767520e+04  1.678046e+04  2.305748e+04  1.034551e+05
## [3685]  1.623879e+04  5.866924e+05  1.669419e+04  4.188830e+05
## [3689]  2.290992e+04  1.617609e+04  3.056196e+04  1.702713e+04
## [3693]  1.671462e+04  1.667966e+04  2.209124e+04  1.668157e+04
## [3697]  1.645372e+04  1.765937e+04  2.449678e+04  1.610875e+04
## [3701]  2.452367e+04  1.693681e+04  2.478959e+04  1.601960e+04
## [3705]  1.647914e+04  1.621932e+04  2.313039e+04  4.703692e+05
## [3709]  6.259210e+05  4.903697e+04  2.332165e+04  1.117494e+04
## [3713]  2.432916e+04  2.487162e+04  1.760910e+04  2.432408e+04
## [3717]  1.551108e+04  2.409754e+04  2.327802e+04  2.768356e+04
## [3721]  1.818622e+04  1.725624e+04  1.922533e+04  2.212038e+04
## [3725]  1.725760e+04  1.620547e+04  1.860756e+04  1.625839e+04
## [3729]  2.346773e+04  1.600416e+04  2.099379e+04  2.143425e+04
## [3733]  2.273005e+04  1.797693e+04  1.660225e+04  1.612341e+04
## [3737]  1.492954e+04  2.538236e+04  2.270644e+04  1.629895e+04
## [3741]  2.877652e+04  1.641874e+04  2.287766e+04  4.210775e+04
## [3745]  2.326380e+04  1.794170e+04  1.559918e+04  1.870348e+04
## [3749]  5.707633e+05  2.423475e+04  1.600124e+04  1.615057e+04
## [3753]  2.227245e+04  1.671665e+04  1.654158e+04  1.797636e+04
## [3757]  2.956279e+04  1.656625e+04  2.291306e+04  1.699861e+04
## [3761]  1.735579e+04  2.204663e+04  2.250720e+04  2.307301e+04
## [3765]  1.468833e+04  1.658569e+04  2.260334e+04  1.478973e+05
## [3769]  1.540631e+04  2.446455e+04  3.002694e+04  2.342762e+04
## [3773]  1.545662e+05  1.832894e+04  1.587054e+04  1.621752e+04
## [3777]  1.652113e+04  4.253496e+04  2.265926e+04  6.344992e+04
## [3781]  1.689732e+04  3.050081e+04  1.649225e+04  1.658293e+04
## [3785]  1.908660e+04  2.256541e+04  1.575064e+04  1.524193e+04
```

```
## [3789] 2.278072e+04 2.339578e+04 1.696660e+04 1.503787e+04
## [3793] 1.574565e+04 1.673184e+04 2.213395e+04 2.275971e+04
## [3797] 5.085699e+04 2.519635e+04 1.618088e+04 1.486137e+04
## [3801] 1.723580e+04 2.781851e+04 1.606976e+04 1.620904e+04
## [3805] 2.259126e+04 1.620578e+04 1.624076e+04 1.714702e+04
## [3809] 1.584830e+04 1.537772e+04 2.353344e+04 1.655261e+04
## [3813] 1.947381e+04 1.602785e+04 1.600525e+04 3.223417e+04
## [3817] 2.285502e+04 2.327070e+04 2.478047e+04 2.773969e+04
## [3821] 2.411139e+04 1.451869e+04 1.812813e+04 3.637592e+04
## [3825] 2.585838e+04 2.838001e+04 1.681164e+04 1.704158e+04
## [3829] 2.173022e+05 2.404584e+04 2.384175e+04 2.355633e+04
## [3833] 1.535079e+04 1.676274e+04 2.359258e+04 5.660436e+04
## [3837] 2.162595e+04 9.226103e+03 1.682009e+04 2.195058e+04
## [3841] 1.769678e+04 2.130615e+04 1.698269e+04 1.799919e+04
## [3845] 2.426991e+04 2.437158e+04 3.073362e+04 1.555996e+04
## [3849] 9.577514e+03 1.656969e+04 7.136801e+04 1.577016e+04
## [3853] 1.655461e+04 1.715155e+04 1.744968e+04 2.071257e+04
## [3857] 2.765842e+04 2.393986e+04 1.696824e+04 2.187452e+04
## [3861] 1.667966e+04 1.732612e+04 1.801898e+04 1.773720e+04
## [3865] 1.306140e+04 1.533949e+04 2.323949e+04 2.429306e+04
## [3869] 2.263281e+04 1.890099e+04 3.631263e+04 3.323949e+04
## [3873] 1.713321e+04 2.851142e+05 3.166192e+05 1.558196e+04
## [3877] 2.171072e+04 1.703775e+04 2.330876e+04 2.167737e+04
## [3881] 2.234089e+04 1.574846e+04 2.416124e+04 1.689363e+04
## [3885] 1.629483e+04 1.627641e+04 2.825043e+04 1.640760e+04
## [3889] 2.925675e+04 1.649973e+04 1.460520e+04 1.725073e+04
## [3893] 1.473725e+04 3.047071e+04 1.613442e+04 1.564747e+04
## [3897] 1.677409e+04 1.723953e+04 3.558495e+04 2.414504e+04
## [3901] 3.166013e+04 1.718111e+04 2.125063e+04 2.219151e+04
## [3905] 1.614727e+04 2.440022e+04 2.830655e+04 1.678487e+04
## [3909] 1.687842e+04 1.682915e+04 1.865200e+04 5.920948e+04
## [3913] 1.439342e+04 1.364348e+04 1.815045e+04 2.850263e+05
## [3917] 1.612258e+04 2.436480e+04 2.168776e+04 2.922555e+04
## [3921] 2.748701e+04 1.558196e+04 1.674949e+04 4.559751e+04
## [3925] 1.693125e+04 1.535809e+05 2.333823e+04 2.354076e+04
## [3929] 2.332557e+04 1.741492e+04 2.211698e+04 1.774656e+04
## [3933] 2.791321e+04 1.833362e+04 1.495801e+04 2.960544e+04
## [3937] 2.171908e+04 3.523043e+04 1.335680e+04 1.537976e+04
## [3941] 1.635508e+04 1.759566e+04 1.683187e+04 1.688190e+04
## [3945] 1.706819e+04 1.609220e+04 2.410205e+04 2.287099e+04
## [3949] 3.270242e+04 1.630431e+04 2.247400e+04 1.906636e+04
## [3953] 2.363735e+04 1.729222e+04 2.410205e+04 1.670668e+04
## [3957] 2.040798e+04 1.685020e+04 2.868319e+04 2.247537e+04
## [3961] 2.147662e+04 2.916507e+04 2.481620e+04 1.600124e+04
## [3965] 2.195338e+04 2.366681e+04 1.673587e+04 2.175839e+04
## [3969] 7.398882e+04 1.661836e+04 2.232822e+04 1.708727e+04
## [3973] 2.125437e+04 1.095552e+04 2.379667e+04 2.912740e+04
## [3977] 1.640285e+04 1.673587e+04 1.726090e+04 1.584830e+04
## [3981] 3.271898e+04 2.316803e+04 2.324557e+04 2.496907e+04
## [3985] 1.623352e+04 1.580785e+04 2.508596e+04 2.794719e+04
## [3989] 1.653333e+04 2.275654e+04 1.486369e+04 2.120451e+04
## [3993] 1.502328e+04 2.175632e+04 1.562796e+04 1.664528e+04
## [3997] 1.550582e+04 1.729344e+04 1.744971e+04 1.860643e+04
## [4001] 1.784359e+04 2.691551e+04 2.697649e+04 2.359219e+04
## [4005] 2.039025e+04 2.319129e+04 2.193321e+04 2.276957e+04
## [4009] 1.651468e+04 2.378788e+04 2.137453e+04 1.701224e+04
## [4013] 1.666001e+04 5.517941e+04 2.307705e+04 1.542012e+04
## [4017] 5.872896e+04 1.007291e+04 2.316943e+04 1.907701e+04
## [4021] 1.754337e+04 1.658555e+04 2.306566e+04 2.264718e+04
## [4025] 1.848891e+04 2.853913e+04 2.809676e+04 2.402024e+04
## [4029] 8.273489e+04 2.472557e+04 1.667962e+04 1.693183e+04
## [4033] 1.614238e+04 2.395429e+04 1.741530e+04 1.683256e+04
## [4037] 1.943779e+04 1.658521e+04 2.264116e+04 1.553967e+04
## [4041] 2.590663e+04 1.743171e+04 3.641889e+04 1.453365e+04
## [4045] 1.601935e+04 1.653653e+04 1.728717e+04 1.732612e+04
## [4049] 1.584830e+04 1.677884e+04 1.524106e+04 2.091733e+04
## [4053] 1.672079e+04 1.569667e+04 1.558742e+04 1.612086e+04
## [4057] 1.713491e+04 4.241799e+05 5.784844e+03 4.719423e+03
## [4061] -1.928188e+03 2.111148e+04 1.171235e+04 -2.345359e+03
## [4065] 3.954903e+02 -1.969982e+03 -2.148327e+03 -1.537150e+03
## [4069] 2.906340e+04 1.033608e+04 6.132899e+04 7.574674e+03
## [4073] 4.097810e+03 -2.449352e+03 2.131272e+04 -1.944819e+03
## [4077] -2.906829e+03 -4.667415e+03 1.954530e+04 1.245231e+04
## [4081] -3.542522e+03 5.701222e+03 5.143097e+03 -3.222751e+03
## [4085] 8.216563e+04 -2.041087e+03 -1.847274e+03 6.584340e+03
## [4089] 1.859175e+03 2.263230e+03 1.013153e+04 5.996588e+05
```

```
## [4089] -1.859175e+03 -2.263230e+03 -1.013152e+04  5.996388e+05
## [4093]  5.350532e+04 -3.491504e+03  1.564010e+04 -3.420377e+03
## [4097] -3.491504e+03  3.059629e+05 -2.218183e+03  6.911558e+03
## [4101] -3.029119e+03  1.486870e+04  1.317928e+04 -1.977286e+03
## [4105]  7.839681e+04  6.980876e+03  5.715851e+03  6.084470e+05
## [4109] -3.642579e+03  4.933076e+03 -2.405600e+03 -1.099115e+03
## [4113] -2.660146e+03  5.384993e+03  1.921366e+04 -2.660146e+03
## [4117]  2.902997e+04 -2.727552e+03  4.228863e+05 -1.724715e+02
## [4121]  6.024941e+03 -2.405600e+03 -1.372803e+03 -3.175132e+03
## [4125]  2.332786e+04 -1.835188e+03 -3.851907e+03  2.389917e+04
## [4129] -1.757661e+03  3.597834e+04  4.432394e+03  1.885750e+05
## [4133]  7.765029e+03 -2.715215e+03  5.779322e+03  6.906910e+03
## [4137] -1.306668e+03  4.775196e+03  1.233510e+04  1.219358e+04
## [4141] -1.779911e+03  3.900195e+03  5.724421e+03 -2.427510e+03
## [4145] -2.027771e+03 -1.869695e+03  6.667631e+05 -2.507208e+03
## [4149]  2.088150e+04  2.971160e+03  3.900195e+03 -2.603933e+03
## [4153]  5.165492e+04 -3.130727e+03  7.062099e+03  5.770752e+03
## [4157]  1.964233e+04 -1.468010e+03  1.146811e+05 -3.130727e+03
## [4161] -4.351411e+03 -1.368048e+03  1.305456e+04 -3.852716e+02
## [4165]  5.779036e+03  2.945615e+04 -3.098447e+03  4.053134e+03
## [4169]  5.147233e+03 -2.250868e+03  5.198072e+03 -2.012288e+03
## [4173]  2.165094e+05 -1.627349e+03  7.134424e+03  8.935038e+03
## [4177] -3.491504e+03 -5.177714e+02  1.005322e+05  6.028257e+05
## [4181]  2.281703e+04  6.394271e+03  1.961894e+04  3.853579e+03
## [4185]  3.120440e+04  4.425917e+04  7.053045e+03  5.226645e+03
## [4189] -1.260170e+03  7.477778e+03 -3.075825e+03  6.119025e+03
## [4193] -2.055828e+03 -2.091529e+03  6.429971e+03  5.562912e+03
## [4197]  4.315875e+03  7.807436e+03  8.607836e+01  1.377189e+04
## [4201] -2.595097e+03 -1.193839e+04  1.312475e+04 -1.260337e+03
## [4205] -3.009073e+03  7.691672e+03  3.942333e+03 -1.871078e+03
## [4209]  6.131530e+03  1.105550e+04  4.072930e+03 -3.130894e+03
## [4213]  4.939393e+03 -3.831575e+03 -3.114668e+03  6.546958e+02
## [4217] -3.338566e+03  2.995117e+04  5.167026e+03  4.575641e+03
## [4221]  5.968583e+03  3.443919e+05  5.564796e+03  6.688852e+03
## [4225] -2.034743e+03  1.967616e+04 -2.709601e+03 -3.483220e+03
## [4229]  1.394531e+04 -2.693627e+03  1.811542e+02  2.118016e+05
## [4233]  5.948833e+03 -2.044990e+03 -3.238772e+03 -2.893539e+03
## [4237] -2.892438e+03  4.277315e+04 -2.203184e+03  3.924706e+03
## [4241]  8.495664e+04  1.170496e+04  2.123301e+04 -4.043896e+03
## [4245] -4.106739e+03 -2.244467e+03 -3.004698e+03 -1.052330e+03
## [4249] -2.325143e+03 -3.048409e+03 -3.130727e+03  5.830447e+03
## [4253] -2.408035e+03  2.730532e+05  1.024640e+04 -3.283734e+03
## [4257] -1.675849e+03  5.355073e+03  6.791662e+04 -3.303929e+03
## [4261]  2.206729e+04 -3.475279e+03  4.926889e+03  1.842445e+04
## [4265]  2.145000e+04  6.289644e+03 -2.613440e+03  6.939295e+03
## [4269]  2.314742e+04 -3.125863e+03 -2.609959e+03 -1.258907e+03
## [4273] -1.177552e+03  2.790790e+04 -3.584677e+03  5.823454e+03
## [4277]  1.750886e+04 -9.760299e+02 -5.290934e+03 -3.283665e+03
## [4281]  7.062099e+03 -2.154142e+03  3.029583e+04  2.216312e+04
## [4285]  5.688720e+03  5.978592e+03 -2.562277e+03  1.786935e+04
## [4289]  2.248524e+04  3.889879e+03 -3.263865e+03  6.166785e+03
## [4293]  1.267883e+05  3.056644e+04  5.324514e+03  4.269258e+03
## [4297] -1.383829e+03  1.448029e+04 -1.640594e+03  6.508513e+03
## [4301] -3.075825e+03 -5.212148e+02  1.597892e+04  6.815927e+03
## [4305] -2.851760e+03 -4.536597e+03  6.524249e+05  6.723117e+05
## [4309]  3.953872e+04  3.508985e+02 -3.826206e+03  2.535376e+02
## [4313] -5.488923e+03  1.545989e+04  9.444622e+02  2.831143e+04
## [4317] -4.449725e+03 -4.957095e+03 -4.920973e+03 -4.012196e+03
## [4321]  4.088828e+03  7.495716e+02 -2.662264e+03  2.817176e+03
## [4325] -3.111880e+03 -5.185077e+03  4.082113e+04 -4.303187e+03
## [4329] -5.666289e+03  1.176345e+03 -6.942417e+03 -5.281083e+03
## [4333]  7.348412e+05  3.175797e+03 -4.649602e+03 -6.630086e+03
## [4337] -1.985373e+03  9.303248e+04  7.964202e+03 -4.088947e+03
## [4341] -4.128804e+03  3.021059e+03  8.194995e+02 -4.712633e+03
## [4345] -4.248286e+03  1.997110e+04 -4.872472e+03  2.023136e+02
## [4349]  3.685306e+03 -3.570659e+03  3.415081e+03  8.968559e+02
## [4353] -3.977832e+03  2.343771e+03 -2.585569e+03  3.865900e+03
## [4357] -3.594225e+03  7.590721e+03  2.607179e+03  2.509268e+03
## [4361]  2.491767e+04 -5.206641e+03  2.258110e+04  9.248216e+02
## [4365]  2.719543e+02  7.517184e+04 -4.234657e+03 -3.819657e+03
## [4369]  1.642423e+03  3.664243e+04 -3.131973e+03 -4.449725e+03
## [4373]  7.306408e+04 -6.094692e+03  1.587522e+03  7.397996e+03
## [4377]  1.886268e+03 -4.425811e+03 -4.117843e+02  1.569694e+03
## [4381] -4.740661e+03 -5.004713e+03 -7.836761e+03  2.069260e+03
## [4385] -5.054370e+03  7.445686e+03  2.551440e+04  1.651857e+05
## [4389] -2.724878e+03  9.108429e+03 -2.029341e+01  8.110650e+02
```

```
## [4393]  3.042232e+03 -5.481886e+03 -5.404167e+03  1.837123e+03
## [4397] -2.634546e+03 -5.482998e+03  1.487535e+03 -1.085409e+04
## [4401] -4.747154e+00 -2.454425e+03  1.036987e+03  1.044183e+04
## [4405]  1.775821e+03 -4.486984e+03 -4.349888e+03  3.015790e+03
## [4409] -5.411669e+03 -1.059196e+04 -4.232060e+03  2.691784e+01
## [4413]  3.380374e+03  2.894893e+03  6.688465e+03  2.349194e+03
## [4417]  1.365386e+03 -4.921517e+03  7.505065e+03  1.567103e+03
## [4421] -4.638023e+03  2.200857e+03  2.073137e+04  1.923459e+04
## [4425] -4.985035e+03 -4.094816e+03  5.587087e+03 -3.618366e+03
## [4429]  3.732644e+03 -5.059782e+03 -3.701463e+03 -4.981064e+03
## [4433] -5.059782e+03 -5.273855e+03  1.942191e+03 -3.646561e+03
## [4437] -5.151095e+03 -4.771257e+03  3.737549e+03 -4.740661e+03
## [4441] -5.267622e+03  7.349640e+03 -5.767988e+03  1.286990e+04
## [4445] -4.470017e+03 -5.872223e+03  3.601000e+03 -3.985369e+03
## [4449]  2.120271e+05  2.472461e+05 -3.922931e+03  2.552278e+03
## [4453] -3.507252e+03 -1.316933e+04  2.708620e+04  1.596662e+03
## [4457] -5.563498e+03  4.349091e+03  3.275015e+04  3.214031e+04
## [4461] -4.378060e+03  9.671905e+03 -4.457348e+03 -5.164044e+03
## [4465] -4.049530e+03 -4.477712e+03 -5.769511e+03  7.928357e+02
## [4469] -3.471829e+03  1.987963e+03 -3.679668e+03  3.494083e+03
## [4473]  9.673348e+01 -4.450881e+03 -3.679668e+03  2.789421e+03
## [4477]  3.209394e+04  2.663194e+03 -4.089614e+03  2.521388e+03
## [4481]  4.043895e+05 -3.826206e+03  3.197824e+03 -4.236085e+03
## [4485] -4.795433e+03  5.967731e+02  2.257492e+03 -4.242553e+03
## [4489]  2.230446e+03  2.731391e+04 -4.233922e+03 -3.049749e+03
## [4493] -4.657564e+03  2.696580e+03  1.195284e+04 -4.034522e+03
## [4497] -4.601351e+03 -4.920473e+03 -4.248286e+03  8.618484e+03
## [4501] -4.811491e+03  3.914029e+02 -3.562821e+03 -4.255643e+03
## [4505]  2.503862e+03  1.840172e+04 -5.353076e+03  7.945785e+03
## [4509]  8.467503e+03  2.191500e+03  5.490225e+03 -4.589034e+03
## [4513] -4.062240e+03  3.496756e+05 -4.178377e+03  7.377847e+03
## [4517] -7.329243e+03 -5.067319e+03 -3.834869e+03  3.342285e+03
## [4521] -4.272112e+03  1.712892e+03  2.100687e+03  8.185977e+03
## [4525]  1.305240e+03 -2.651207e+03  4.328989e+05 -9.073843e+03
## [4529] -6.231059e+03  2.946288e+04  7.359550e+02 -4.010527e+03
## [4533]  1.016292e+03  1.982993e+03  9.831678e+02 -5.417843e+03
## [4537] -3.946457e+03  3.798648e+03 -3.451255e+03  2.030925e+02
## [4541] -5.112887e+03 -4.577877e+03 -4.022896e+03 -3.819657e+03
## [4545] -5.073911e+03 -5.378476e+03 -3.898924e+03 -5.336819e+03
## [4549] -3.048389e+03 -3.625434e+03  1.151634e+03  1.392912e+03
## [4553]  7.699314e+03  3.221462e+03  4.736111e+04 -5.936128e+03
## [4557] -3.826873e+03 -3.601392e+03  1.339133e+05  3.174641e+03
## [4561] -5.336819e+03  4.837357e+03  2.407551e+03 -3.176558e+03
## [4565]  1.377969e+04  3.465467e+04  1.584605e+04  1.137502e+05
## [4569]  1.235109e+03  9.270829e+03 -5.369481e+03 -5.281751e+03
## [4573]  1.440127e+03  3.021702e+03  2.422703e+03  1.096733e+03
## [4577] -5.073911e+03 -4.628845e+03  2.454885e+03  2.898020e+04
## [4581]  1.167860e+03 -5.746586e+03  5.409381e+03  2.555729e+03
## [4585] -4.768202e+03 -1.115919e+04 -5.336652e+03  2.416946e+03
## [4589] -9.850980e+03 -4.452256e+03  8.663198e+04  2.348464e+04
## [4593]  4.415766e+03  1.928091e+03 -4.352523e+03  9.182417e+02
## [4597] -3.673935e+03  3.847148e+03  1.753735e+03  1.311963e+04
## [4601] -3.084277e+03 -5.044563e+03  9.781364e+02 -2.521073e+02
## [4605]  2.145337e+04 -5.489590e+03 -2.260882e+03  5.048888e+03
## [4609] -3.313325e+03 -4.852101e+03 -5.334685e+03 -6.209834e+03
## [4613] -6.388498e+03  2.460797e+03  1.033123e+04  5.443411e+02
## [4617] -5.586315e+03  2.398081e+04 -2.914159e+03  6.997926e+03
## [4621] -5.170636e+03  2.970712e+03 -4.303855e+03  2.397794e+03
## [4625] -3.056817e+03  1.317907e+03  2.041583e+03  8.203631e+02
## [4629] -3.159646e+03  2.398672e+03 -4.686439e+03 -4.852622e+03
## [4633]  5.757058e+01  1.380172e+04 -3.978500e+03 -3.411194e+03
## [4637] -4.069485e+03 -5.161434e+03 -2.794076e+03  9.382306e+02
## [4641] -4.089614e+03  4.359382e+03 -3.810648e+03 -5.336652e+03
## [4645]  2.007667e+03  2.668629e+03  2.033023e+04  1.734409e+04
## [4649]  1.249504e+03  2.460797e+03 -5.909811e+03  2.381688e+03
## [4653] -3.258423e+03 -3.826873e+03  2.343603e+03  3.963256e+05
## [4657]  2.360483e+03  1.161459e+03  3.694666e+03  2.022575e+04
## [4661] -6.103907e+03  2.479588e+05 -3.826873e+03  1.466363e+04
## [4665]  2.343282e+03 -3.489652e+03  2.973034e+03 -4.858796e+03
## [4669] -2.842577e+03 -5.538579e+03 -5.891820e+03 -5.120315e+02
## [4673] -5.483678e+03 -3.056817e+03 -5.008670e+03  1.436513e+03
## [4677] -4.034713e+03  3.939344e+04  4.007482e+03 -2.828702e+03
## [4681] -4.092904e+03  4.050931e+03 -2.977251e+03 -5.457607e+03
## [4685]  1.929840e+03 -3.833274e+03  1.558638e+03 -2.884400e+03
## [4689] -4.054399e+03  8.672688e+03  5.633293e+03 -5.279700e+03
```

```
## [4693] -5.122900e+03 -6.858200e+03 -4.339278e+03 -6.967842e+02
## [4697]  4.215704e+04  9.932093e+03 -5.960171e+03  1.179110e+03
## [4701] -3.783165e+03  2.758961e+03 -2.909382e+03  2.523661e+03
## [4705] -4.590194e+03 -2.848977e+03 -6.025699e+03  4.961664e+03
## [4709]  2.077802e+05 -5.427473e+03  1.451443e+04 -4.478599e+03
## [4713] -5.475973e+03 -4.184373e+03  1.309731e+03 -3.819657e+03
## [4717] -5.544659e+03 -4.089614e+03 -3.472496e+03 -2.011707e+03
## [4721] -3.888175e+03  2.301947e+03  4.097808e+03  2.614474e+03
## [4725]  1.359474e+03 -4.297454e+03  6.977115e+03  1.528602e+04
## [4729] -4.723642e+03 -4.186339e+03 -4.438041e+03  4.054988e+03
## [4733] -4.920973e+03 -4.090660e+03  1.809544e+02 -4.248953e+03
## [4737]  1.567313e+03  1.000008e+03  1.742089e+03  9.534294e+03
## [4741] -4.365972e+03 -4.642006e+03  4.648024e+03  6.889892e+04
## [4745]  2.286146e+03 -5.011440e+03 -6.231059e+03 -4.177826e+03
## [4749] -5.905269e+03 -5.378476e+03  8.320882e+04  3.515921e+03
## [4753] -4.309929e+03 -5.057685e+03 -4.171425e+03  1.283871e+05
## [4757]  1.536062e+03 -4.083702e+03  1.928091e+03 -6.096883e+03
## [4761]  7.873545e+02 -5.599560e+03  7.004155e+02 -5.669680e+03
## [4765] -4.686439e+03  3.141732e+04 -3.881775e+03 -5.067999e+03
## [4769]  7.749363e+03 -5.544492e+03  2.442990e+03 -3.430824e+03
## [4773] -5.051773e+03  8.833385e+04  1.231938e+05  4.494699e+03
## [4777] -5.002784e+03  2.649735e+03  2.255961e+04  2.398672e+03
## [4781]  1.994814e+04  2.716635e+05  1.359474e+03 -4.089614e+03
## [4785] -2.821502e+03 -4.116700e+03  2.196745e+03 -2.439743e+03
## [4789]  3.078404e+03 -6.162265e+03 -5.433377e+03  3.420697e+05
## [4793] -4.866071e+03  1.994817e+03 -4.450392e+03 -4.809858e+03
## [4797] -4.798033e+03  2.838001e+03 -5.128812e+03  6.906587e+03
## [4801] -1.362556e+03  3.869775e+03  2.190832e+03 -4.186339e+03
## [4805] -2.011218e+03 -4.933477e+03 -2.468721e+03  9.145094e+02
## [4809] -3.815011e+03 -6.130524e+03  7.601492e+02 -5.330740e+03
## [4813]  1.245754e+04 -3.092240e+03 -2.794076e+03 -4.131438e+03
## [4817]  2.717626e+03  8.181916e+02 -2.706787e+03 -2.382992e+03
## [4821] -4.505461e+03 -4.041114e+03 -4.838596e+03  1.395973e+03
## [4825] -5.697430e+03  1.994138e+03 -2.794076e+03 -3.124366e+03
## [4829] -2.676561e+03 -4.360694e+03 -3.508644e+03  2.406601e+04
## [4833]  2.905563e+03 -3.702952e+03 -3.923598e+03  1.116095e+03
## [4837] -4.394179e+03 -4.657645e+03 -5.677889e+03 -1.066357e+04
## [4841]  2.265263e+03 -4.664633e+03  7.418674e+02 -6.135373e+03
## [4845] -4.993556e+03  1.547673e+03  1.843387e+04 -2.794076e+03
## [4849] -4.248953e+03  8.708291e+03  3.460583e+03  1.347337e+04
## [4853] -5.905269e+03 -3.923598e+03 -4.628883e+03  2.398184e+03
## [4857]  1.939916e+03 -6.583690e+03  1.377211e+03 -1.523480e+03
## [4861]  6.628773e+03  1.811652e+03  9.936842e+03 -5.897795e+03
## [4865] -2.350893e+03  2.973202e+03 -2.229001e+02  7.487290e+04
## [4869]  7.585015e+04 -3.611818e+03 -3.287532e+03 -3.196138e+03
## [4873] -4.573979e+03 -4.277667e+03 -5.122900e+03 -6.041982e+03
## [4877] -4.013971e+03  3.679767e+03  3.827508e+03  1.518324e+03
## [4881] -2.868475e+03  2.475711e+03 -4.130946e+03 -3.918354e+03
## [4885] -5.484870e+03 -2.307288e+04  7.616837e+04  3.881784e+04
## [4889]  7.554627e+03 -1.154790e+04 -1.446566e+04  3.971873e+03
## [4893] -1.258236e+04 -1.390749e+04 -1.127181e+04 -3.768612e+03
## [4897] -1.337303e+04  3.710494e+03 -1.190173e+04 -9.103435e+03
## [4901]  2.473010e+04  1.244617e+03  8.196848e+03 -6.727197e+02
## [4905]  1.009574e+02  7.532062e+02  5.594725e+03 -1.558578e+03
## [4909]  6.600446e+03  1.498813e+03  1.966050e+03  1.675424e+03
## [4913]  1.088194e+05  1.235075e+04  1.201730e+02  8.339702e+03
## [4917]  7.160014e+02  1.705706e+04  1.593486e+03  7.709028e+02
## [4921]  9.184305e+03  7.532304e+03  1.665899e+04  1.290508e+02
## [4925]  6.964771e+03  1.214773e+04  1.509241e+03  7.697747e+03
## [4929]  2.438090e+03 -3.059470e+02  3.552236e+02  7.517118e+03
## [4933]  8.092818e+03  1.067485e+04  1.651648e+04  2.072117e+04
## [4937] -8.766663e+01  2.664580e+04  9.407905e+02  4.407040e+04
## [4941]  1.355875e+03  1.518540e+02  3.165427e+04 -1.292648e+04
## [4945]  1.602261e+03 -6.518260e+02  8.341479e+03  1.144304e+04
## [4949]  3.485352e+04  5.343838e+02  6.775488e+03  6.656797e+04
## [4953]  2.491897e+03  2.326338e+04  8.685202e+03  7.978924e+03
## [4957]  6.788447e+03  2.187828e+03  7.573476e+03  7.294381e+03
## [4961]  7.557122e+03  9.879976e+03  1.833474e+03  8.860661e+03
## [4965]  5.481657e+02  6.893599e+03  6.997921e+02  6.307574e+02
## [4969]  1.373544e+03 -1.001985e+03  2.301579e+04  2.534341e+03
## [4973]  1.485588e+03  2.591028e+03  2.451774e+03  7.209645e+03
## [4977]  5.803261e+02  9.337243e+03  4.028894e+04 -5.839174e+01
## [4981]  1.964145e+03  1.718171e+03  9.638449e+02  1.918373e+03
## [4985]  1.380899e+04  5.481657e+02  8.348476e+03  2.188710e+04
## [4989]  5.081618e+02  6.780496e+02  3.124085e+04  3.434910e+03
## [4993]  9.249755e+02  1.898190e+05  2.247740e+02  1.039383e+03
```

```
## [4993]  9.249735e+02  1.898190e+03 -2.247740e+02  1.039585e+03
## [4997]  1.362411e+04  8.189581e+03  1.274774e+03  1.217811e+03
## [5001]  9.400467e+03  4.995584e+02  2.179127e+04  1.050589e+05
## [5005]  7.717961e+03  1.339690e+03  6.030670e+02  2.158455e+04
## [5009]  1.574835e+04  8.109066e+02  1.383381e+04  1.516568e+04
## [5013]  7.998194e+03  8.088805e+03 -7.608783e+02  1.033077e+04
## [5017]  2.240917e+04  1.198049e+03  7.543488e+03  8.270170e+03
## [5021] -2.815403e+02  3.855710e+03  7.435973e+03  8.050307e+03
## [5025]  7.916749e+03  1.402994e+04  7.557122e+03  1.002846e+04
## [5029]  5.498182e+02  1.143181e+03  1.304613e+04  1.772149e+03
## [5033] -2.325963e+02  1.586171e+04  7.183266e+03  1.213341e+03
## [5037]  2.138607e+03  8.023122e+03  4.427056e+05  6.809691e+05
## [5041]  5.498260e+05  1.288019e+05  3.151218e+05  4.147779e+03
## [5045] -6.216046e+03  6.005634e+03  6.701990e+04 -5.998646e+03
## [5049] -6.469227e+03 -4.999473e+03  1.010818e+01 -5.405091e+03
## [5053]  1.715397e+04 -3.305498e+01 -7.010988e+03 -5.729122e+03
## [5057] -6.917522e+03  8.407991e+02 -6.825189e+03  2.993861e+04
## [5061]  1.093366e+04  1.090068e+04 -4.701651e+03 -1.927131e+02
## [5065]  1.049306e+03  1.290099e+04 -6.683120e+02 -4.442882e+03
## [5069] -5.536314e+03  8.075654e+03 -6.824006e+03  1.108895e+03
## [5073] -5.888199e+03  8.414666e+02  9.525812e+02 -5.383180e+03
## [5077]  1.381043e+03 -7.734387e+02  1.626816e+03  7.907871e+03
## [5081]  2.559729e+03  1.796365e+04  1.081042e+05 -4.187533e+03
## [5085] -6.686626e+03  6.089645e+04 -7.933664e+03 -3.750873e+03
## [5089]  4.783676e+03  4.278083e+03  6.130288e+04  4.927319e+02
## [5093]  4.064465e+04 -6.246472e+03 -7.517985e+03  7.865653e+02
## [5097] -7.048072e+03 -7.047404e+03 -5.231749e+03 -4.654807e+03
## [5101] -5.120634e+03 -2.153583e+03 -7.725824e+03 -4.700680e+03
## [5105] -6.473303e+03 -6.041937e+03  5.362344e+02 -7.019058e+03
## [5109] -6.255916e+03  1.590458e+03 -5.592527e+03 -3.777039e+03
## [5113] -6.008206e+03 -1.983990e+02 -6.811111e+03 -6.459310e+03
## [5117] -5.638536e+03 -5.430029e+03 -6.423885e+03  6.398748e+03
## [5121]  5.900594e+03  3.227877e+03 -5.636474e+03  2.187058e+03
## [5125] -4.067226e+03  2.062951e+03 -4.953035e+03 -6.882856e+03
## [5129]  3.563786e+03 -7.517985e+03 -7.659313e+03 -5.482080e+03
## [5133]  1.781232e+03  6.165146e+03  2.964402e+05 -4.283847e+03
## [5137] -5.897092e+03 -6.216046e+03 -5.427978e+03  2.502751e+04
## [5141] -6.301816e+03 -6.839565e+03 -6.018638e+03 -6.765814e+03
## [5145] -6.171643e+03  6.627639e+03 -5.116802e+03 -4.816070e+03
## [5149]  1.042937e+05 -5.632659e+03 -5.249619e+03 -5.211246e+03
## [5153]  1.322907e+03  9.891546e+02  4.214046e+02 -6.198523e+03
## [5157]  2.586135e+03 -6.408495e+03 -5.996596e+03 -5.367108e+03
## [5161] -6.057624e+03  9.079098e+04  4.945875e+04  5.369019e+02
## [5165] -9.359224e+02  1.760900e+05 -7.638510e+03 -6.620770e+03
## [5169] -4.815414e+03  7.647819e+04 -4.497116e+03  1.554520e+05
## [5173] -5.855935e+03  1.194205e+03 -1.236929e+03 -6.856941e+03
## [5177] -6.271615e+03 -5.574563e+03 -5.544614e+01 -5.963971e+03
## [5181] -4.187533e+03  7.475228e+03 -3.249439e+03  2.246104e+04
## [5185] -5.845708e+03  8.250531e+02 -6.054215e+03 -5.855268e+03
## [5189] -5.360212e+03 -5.800366e+03  1.944635e+04  1.001358e+04
## [5193]  7.123827e+05 -5.554347e+03 -9.849403e+02 -5.992648e+03
## [5197]  5.444335e+03 -3.574758e+03 -5.231749e+03  2.122673e+03
## [5201] -6.414993e+03  5.189432e+03  1.064209e+03 -5.244921e+03
## [5205]  1.682520e+05  1.629713e+04  7.746201e+03 -6.631725e+03
## [5209] -5.689252e+03 -4.822471e+03  8.535841e+03  3.996741e+03
## [5213] -4.999434e+03 -6.839565e+03 -2.505526e+03 -6.313704e+03
## [5217] -5.231749e+03 -4.264801e+03 -5.439589e+03 -4.223420e+03
## [5221] -4.546071e+01 -5.592527e+03 -5.592527e+03 -4.497116e+03
## [5225] -6.216046e+03 -5.232417e+03  1.538604e+05 -4.528853e+03
## [5229]  1.438765e+03 -4.755959e+03  1.522580e+03 -6.896159e+03
## [5233]  4.017213e+03 -4.055710e+02  5.752493e+03 -9.779555e+03
## [5237] -9.858177e+03 -4.719700e+03  1.560699e+03 -2.708180e+03
## [5241]  6.222072e+04 -6.424553e+03 -4.608230e+03 -7.268416e+03
## [5245] -6.814970e+03 -5.126700e+03 -6.188939e+03 -6.845239e+03
## [5249] -4.239393e+03 -4.214906e+03 -3.856289e+03 -6.063107e+03
## [5253] -5.541988e+03 -6.691812e+03  1.142157e+03 -6.628877e+03
## [5257] -8.389642e+03 -2.768267e+03 -5.440256e+03 -7.052423e+03
## [5261]  8.355471e+03 -5.181866e+03 -5.282944e+03 -9.076982e+02
## [5265]  1.177075e+04 -5.826660e+03 -6.221064e+03 -5.618747e+03
## [5269] -4.912330e+03  1.252127e+03  4.803530e+03 -6.691645e+03
## [5273]  3.402961e+04  5.438152e+04 -4.974026e+03 -6.899484e+03
## [5277] -5.887532e+03 -5.172974e+03 -6.155291e+03 -5.806040e+03
## [5281] -4.825817e+03 -5.805385e+03 -5.022961e+02 -3.783273e+03
## [5285] -5.619905e+03  2.214282e+03 -4.165609e+03 -5.269031e+03
## [5289]  6.675948e+03 -4.811528e+03  7.017249e+03 -6.013224e+03
## [5293] -5.598201e+03  4.394770e+03 -4.974026e+03 -4.370742e+03
```

```
## [5297] -6.483805e+03 -5.390361e+03 -6.215095e+03 -7.401981e+03
## [5301] 2.116689e+03 -6.484461e+03 -3.702501e+03 -2.416782e+02
## [5305] 6.957452e+04 4.544683e+02 -5.806040e+03 -6.275965e+03
## [5309] 2.681595e+03 -4.974026e+03 -6.650344e+03 -6.184290e+02
## [5313] -6.433657e+03 -5.236767e+03 8.364483e+02 5.496336e+03
## [5317] -5.763819e+03 2.000185e+03 8.107269e+03 -4.346155e+03
## [5321] 7.130102e+03 -3.820506e+03 3.892136e+03 -3.523229e+03
## [5325] -4.175428e+03 -3.962582e+03 -4.328367e+03 -5.007454e+03
## [5329] -7.956334e+02 1.339364e+03 -5.422466e+03 2.258396e+03
## [5333] -3.497008e+03 -1.363064e+04 -3.339063e+03 9.032754e+03
## [5337] 3.373342e+03 -4.798947e+03 -3.906355e+03 -3.670493e+03
## [5341] -3.735274e+03 -3.619954e+03 -4.099357e+03 -5.214626e+03
## [5345] 2.913940e+03 -9.139126e+03 -3.339719e+03 3.673603e+04
## [5349] -1.819152e+04 -4.318819e+03 2.436162e+04 2.083237e+03
## [5353] 1.101437e+04 -3.299952e+03 -4.110979e+03 1.119649e+04
## [5357] 3.458884e+04 -2.630227e+03 -3.136230e+03 -4.241907e+03
## [5361] -4.383268e+03 -5.130377e+03 -4.683482e+03 2.221747e+04
## [5365] -4.536206e+03 -2.244964e+03 -1.780467e+03 -4.318342e+03
## [5369] 1.836314e+04 -3.551910e+03 3.844687e+04 -3.327441e+03
## [5373] -2.350692e+03 -3.514755e+03 -4.371658e+03 -3.501582e+03
## [5377] -3.933031e+03 1.066456e+04 1.683577e+04 -2.268786e+03
## [5381] 2.521738e+04 -2.512711e+03 -5.771634e+03 1.850903e+03
## [5385] -5.423134e+03 4.328662e+05 -3.748139e+03 3.131283e+04
## [5389] -2.812270e+03 -4.373243e+03 -3.136230e+03 -3.071781e+03
## [5393] -5.946654e+02 -4.299018e+03 -4.829161e+03 -5.613677e+03
## [5397] -4.591108e+03 5.894405e+04 1.743543e+04 2.429999e+04
## [5401] 2.262008e+05 2.958845e+04 -5.159725e+03 1.220953e+04
## [5405] -4.318819e+03 6.326330e+03 -6.157176e+03 -4.591108e+03
## [5409] -2.400554e+03 -3.049216e+03 5.588066e+03 -5.152498e+03
## [5413] -8.255190e+02 1.005600e+04 -4.849665e+03 -4.722876e+03
## [5417] -3.577549e+03 1.468416e+04 4.333037e+03 -4.329034e+03
## [5421] 5.526332e+03 1.179874e+04 2.681887e+04 -4.303990e+03
## [5425] -5.312398e+03 -2.365511e+03 -4.300340e+03 -4.345072e+03
## [5429] -1.978787e+03 -1.419023e+03 3.994437e+03 -4.362098e+03
## [5433] 6.139144e+03 -4.591108e+03 3.882667e+03 5.658677e+04
## [5437] -3.772921e+03 -4.775727e+03 1.095065e+05 4.743726e+04
## [5441] 7.180055e+03 -1.864717e+03 3.933013e+04 2.536546e+03
## [5445] -4.175428e+03 3.620581e+03 3.704175e+03 -5.267757e+03
## [5449] -5.159725e+03 5.194973e+03 2.900911e+04 -5.160393e+03
## [5453] 7.158644e+04 1.197399e+04 -2.792801e+03 3.467643e+03
## [5457] -2.563791e+03 6.477502e+04 1.549728e+03 4.515450e+03
## [5461] 9.033642e+03 1.076081e+04 -4.840771e+03 -4.558995e+03
## [5465] -2.651083e+03 7.252559e+04 -4.373720e+03 1.006027e+04
## [5469] 3.637173e+03 1.063576e+04 3.888600e+04 3.389037e+03
## [5473] 6.431233e+03 4.447780e+03 -3.967589e+03 5.153248e+05
## [5477] 7.318566e+03 3.882667e+03 1.707788e+04 5.099893e+04
## [5481] 2.635629e+03 -3.081329e+03 1.213288e+04 -4.176096e+03
## [5485] 1.351359e+03 -4.579497e+03 2.590276e+03 -3.110042e+03
## [5489] 3.751212e+04 -5.367565e+03 -3.094644e+03 1.536373e+05
## [5493] 9.517005e+03 -4.142648e+03 -1.698701e+03 -5.367565e+03
## [5497] 9.269523e+03 3.204902e+03 -3.726969e+03 1.904258e+04
## [5501] -5.215294e+03 -8.673428e+02 -1.483193e+03 -2.928391e+03
## [5505] 3.652288e+04 -4.802322e+03 -4.041947e+03 -2.471607e+03
## [5509] -8.841443e+01 -4.272821e+03 5.815962e+03 3.412742e+03
## [5513] -2.910273e+03 -3.901077e+03 -4.994521e+03 -3.693238e+03
## [5517] 1.510694e+04 2.861312e+03 -3.967589e+03 1.020024e+04
## [5521] 4.508507e+03 -2.929058e+03 6.622555e+03 1.750025e+03
## [5525] -6.199591e+03 3.185083e+04 -3.948780e+03 -3.522416e+03
## [5529] -1.698701e+03 1.166583e+04 -4.536874e+03 -2.868483e+03
## [5533] -1.111961e+04 -5.006787e+03 -5.352006e+03 -4.334503e+03
## [5537] 1.725332e+04 -3.378695e+03 -3.949025e+03 1.247274e+04
## [5541] 3.216512e+03 -3.692582e+03 1.454787e+04 -4.316756e+03
## [5545] 2.615750e+03 6.858024e+04 -3.332460e+03 -2.006045e+03
## [5549] 7.360377e+03 -4.940275e+03 2.061945e+04 -4.679677e+03
## [5553] -4.316756e+03 1.720074e+04 -4.754557e+03 -2.080404e+03
## [5557] 1.502259e+04 -2.521252e+03 -3.540299e+03 1.192328e+04
## [5561] -2.999772e+03 2.586623e+03 -3.835759e+03 -5.206772e+03
## [5565] 1.148292e+04 -3.481047e+03 4.084588e+04 1.400857e+03
## [5569] -3.402631e+03 -9.545102e+03 1.393457e+04 1.112125e+03
## [5573] -4.733103e+03 -3.565968e+03 9.414770e+03 -3.882559e+03
## [5577] -3.901745e+03 2.082236e+03 1.209142e+04 -3.839560e+03
## [5581] -1.712038e+04 -4.722876e+03 -2.903196e+03 -7.091184e+03
## [5585] -4.813603e+03 1.000748e+03 2.081861e+04 9.753096e+03
## [5589] 8.680839e+03 5.475214e+04 1.070797e+04 1.471328e+03
## [5593] -3.693238e+03 -9.368811e+02 -3.069719e+03 -9.454328e+02
```

```
## [5597]  1.854953e+04 -4.942516e+03  8.177897e+03  7.831141e+04
## [5601] -3.344070e+03 -5.367565e+03 -4.333645e+03 -4.383268e+03
## [5605] -4.120527e+03 -3.967589e+03  2.994147e+03 -4.744713e+03
## [5609]  4.575819e+04 -4.995177e+03 -2.924139e+03  2.812729e+04
## [5613] -4.120527e+03  4.560404e+04  4.627992e+03 -3.076558e+03
## [5617] -2.903915e+03 -4.536874e+03  3.523201e+03 -5.712784e+03
## [5621] -4.319474e+03 -3.126682e+03  3.477203e+03 -4.299686e+03
## [5625] -4.744046e+03  3.880684e+03 -5.159725e+03 -3.344737e+03
## [5629] -3.081996e+03 -4.175596e+03  5.544974e+03  2.077491e+01
## [5633]  4.263369e+03 -4.383268e+03 -5.333865e+03 -5.098264e+03
## [5637] -3.552577e+03 -2.304872e+03 -3.558310e+03 -3.760417e+03
## [5641]  2.355183e+03 -4.091846e+03 -3.076322e+03  2.460727e+04
## [5645] -1.920553e+03 -4.951885e+03 -4.383268e+03  6.826435e+03
## [5649]  1.521976e+03  3.126305e+03 -5.007454e+03  2.948902e+05
## [5653] -1.382723e+03 -8.664815e+03 -7.688649e+03 -9.456649e+03
## [5657] -2.671977e+03 -7.825361e+03 -8.328208e+01 -7.576431e+02
## [5661] -8.358383e+03 -6.808790e+03 -6.754223e+02 -9.211099e+03
## [5665] -7.760388e+03 -9.860742e+03 -9.500131e+03  4.809200e+03
## [5669] -8.017780e+03  1.580773e+04 -9.704476e+03 -1.464536e+04
## [5673] -1.604827e+04 -8.163120e+03 -1.540723e+04  2.386925e+05
## [5677] -1.242533e+03 -2.048110e+03 -3.873812e+01 -7.700984e+03
## [5681]  7.217269e+03 -8.630620e+03  2.415919e+04  4.501077e+02
## [5685] -5.172753e+03 -8.690430e+03 -8.727847e+03 -4.829030e+02
## [5689] -3.339317e+03  4.914012e+03 -7.281528e+03 -9.335307e+03
## [5693] -7.218933e+03  6.899902e+04 -9.695419e+02 -8.587580e+03
## [5697] -9.225337e+03  5.419456e+03 -9.561537e+03  1.431862e+04
## [5701] -9.203543e+03 -1.564524e+04 -6.772901e+03 -2.057174e+01
## [5705]  2.267486e+04 -1.638155e+04 -7.452896e+03  6.139783e+05
## [5709] -1.515115e+03  1.149278e+04 -6.514520e+03  8.123887e+02
## [5713] -3.008626e+03 -8.616732e+03 -6.095455e+03 -7.875298e+03
## [5717] -6.441778e+03 -9.260776e+03  1.113937e+03 -7.529467e+03
## [5721]  1.214303e+05 -4.397201e+02 -5.625212e+03 -8.935686e+03
## [5725] -8.619351e+03  4.563465e+05 -8.048160e+03 -7.336059e+03
## [5729]  4.599293e+03  7.792037e+03 -7.930366e+03  1.960275e+04
## [5733] -8.138151e+03 -1.756987e+04 -4.587615e+03 -1.969630e+03
## [5737]  2.033257e+03 -1.574397e+04  4.937229e+03 -1.481183e+03
## [5741] -8.320893e+03  1.015223e+04 -8.451001e+03  9.165443e+04
## [5745] -1.387283e+03 -1.469753e+04 -2.753157e+03  1.822783e+03
## [5749] -9.712143e+03 -9.406434e+03 -2.325604e+03  5.262409e+04
## [5753] -1.357533e+03  1.249708e+03  6.449454e+04 -7.559205e+03
## [5757] -8.353991e+03 -9.981146e+03 -7.986228e+03 -1.603149e+04
## [5761] -1.590340e+03 -8.312167e+03 -1.024906e+04 -1.785717e+03
## [5765] -6.683161e+03 -7.851023e+03  1.281771e+04  1.052475e+04
## [5769] -8.043395e+03 -9.351366e+03 -8.432132e+03 -9.888213e+03
## [5773] -7.664725e+03 -1.648123e+04 -8.149023e+03 -9.253542e+03
## [5777] -1.367138e+03  7.102609e+03 -6.896290e+03 -1.793611e+04
## [5781] -8.275493e+03 -5.255279e+03  4.963503e+03 -1.421921e+04
## [5785] -7.164031e+03 -7.082863e+03 -7.326949e+03 -9.512862e+03
## [5789] -4.844633e+02 -1.144842e+04 -9.538164e+03  8.955095e+04
## [5793] -9.973216e+02 -1.649277e+04 -9.140654e+03  9.334717e+04
## [5797]  8.401747e+04 -9.712143e+03 -7.670959e+03  2.745132e+05
## [5801] -2.090707e+03 -9.380061e+02 -7.418839e+03  1.223778e+04
## [5805]  6.282041e+01  5.785601e+05 -1.044951e+03 -6.387574e+03
## [5809]  1.070024e+05 -6.890489e+03 -1.386337e+04 -7.555669e+03
## [5813]  2.467241e+05  8.013875e+04  1.258847e+04  4.959487e+03
## [5817]  4.240348e+03  3.901551e+03  5.120898e+03  5.848938e+03
## [5821]  8.587456e+03  1.222479e+04  4.954715e+03  5.517853e+03
## [5825]  1.163756e+04 -1.141487e+03  4.371527e+03  3.943624e+03
## [5829]  4.958928e+03  6.270367e+03  3.708619e+03  8.485433e+03
## [5833]  9.714990e+03  5.607801e+03  1.037748e+04  5.094462e+03
## [5837]  6.004082e+03  8.635883e+03  5.149781e+03  5.524338e+03
## [5841]  4.533557e+03  3.715510e+02  4.858157e+03  1.059454e+04
## [5845]  1.196315e+04  4.949462e+03  6.520874e+03  4.286179e+02
## [5849]  3.889784e+03  6.328006e+03  1.023681e+04  3.780063e+03
## [5853]  4.660676e+03  4.547414e+03  3.284190e+03  5.587632e+03
## [5857]  5.051007e+03  1.098716e+04  3.819245e+03  9.435618e+03
## [5861]  9.045358e+03  4.041770e+03  4.941452e+03  5.550810e+03
## [5865]  1.272115e+04  4.021846e+04  9.378230e+03  9.542442e+03
## [5869]  5.286114e+03  5.367953e+03  4.719487e+03  3.798923e+03
## [5873]  5.512597e+03  9.680689e+03  4.082475e+03  8.821590e+03
## [5877]  5.192534e+03  1.118626e+04  3.846196e+03  4.363492e+03
## [5881]  4.479108e+03  4.339160e+04  1.120962e+04  9.302898e+03
## [5885]  3.737085e+03  4.485856e+03  1.294700e+04  4.115184e+03
## [5889]  5.574021e+03  5.125368e+03  9.801331e+03  1.330985e+04
## [5893]  1.168538e+04  4.650782e+03  5.583662e+03  5.085903e+03
## [5897]  5.136981e+03 -3.644775e+02  1.026734e+04  3.868829e+03
```

```
## [5897] 3.180901e+03  3.044773e+02  1.020734e+04  3.088829e+03
## [5901] 1.071849e+04  5.115308e+03  2.953017e+03  1.186153e+04
## [5905] 2.749428e+03  5.006601e+03  1.168159e+04  1.100176e+04
## [5909] 3.526968e+03  5.467479e+03  3.049945e+03  5.288808e+03
## [5913] 4.026799e+03  3.473401e+03  5.487386e+03  1.205424e+04
## [5917] 1.612627e+04 -8.520754e+02  1.221253e+04  4.161078e+03
## [5921] 5.967228e+03  4.462456e+03  9.670505e+03  4.637813e+03
## [5925] 1.100879e+04  1.255787e+04  1.184569e+04  1.110903e+04
## [5929] 3.304931e+03  6.014059e+03  1.084810e+04  5.773585e+03
## [5933] 3.746119e+03  1.026074e+04  4.283949e+03  1.782987e+04
## [5937] 4.932238e+03  4.240348e+03  3.491283e+03  3.307685e+03
## [5941] 4.723302e+03  1.148655e+04  1.108914e+04  4.929345e+03
## [5945] 5.763382e+03  1.054979e+04  4.858157e+03  1.202600e+04
## [5949] 5.744417e+03  4.638117e+03  1.011529e+04 -1.825351e+03
## [5953] 9.689920e+03  1.183314e+04  8.580764e+04  1.147736e+04
## [5957] 5.758614e+03  5.454269e+03 -6.852943e+03  1.162530e+04
## [5961] 1.195922e+04  9.811814e+03  1.194896e+04  5.993115e+03
## [5965] 4.622361e+03  5.364272e+03  4.945553e+03  5.322602e+03
## [5969] 3.826818e+03  1.762929e+04  3.815886e+03  1.188899e+04
## [5973] 9.256855e+03  3.340203e+03  5.813482e+03  4.946566e+03
## [5977] -6.386029e+03 -6.409627e+03  1.043103e+04  1.144414e+04
## [5981] 5.157076e+03  5.598613e+03  5.486374e+04  3.978419e+03
## [5985] 3.711630e+03  8.077025e+04  1.114480e+04  4.526548e+03
## [5989] 4.119414e+03  2.969738e+03  1.314903e+04  5.377276e+03
## [5993] 5.566461e+03  5.710733e+03  4.933740e+03  3.713387e+03
## [5997] 6.412875e+03  4.382179e+03 -1.471781e+03  1.160834e+04
## [6001] 4.297339e+03  2.207035e+03  4.858872e+03  5.130343e+03
## [6005] 1.066292e+04  4.248966e+03  2.408205e+03  1.722186e+03
## [6009] 5.150067e+03  6.535071e+03  1.091577e+04  1.578406e+04
## [6013] 1.088044e+04  9.570932e+03  1.039245e+04  5.617051e+03
## [6017] 3.665536e+03  4.963453e+03  4.573771e+03  3.156612e+03
## [6021] 3.098870e+03  4.345648e+03  1.129042e+04  5.164335e+03
## [6025] 6.057553e+03  1.031599e+04  1.132941e+04  3.449150e+03
## [6029] 4.486307e+03  1.388924e+04  1.000896e+04  5.423979e+03
## [6033] 1.037615e+04  2.297345e+03  7.846690e+03  5.595166e+03
## [6037] 4.513858e+03  4.276295e+03  3.071821e+03  1.046320e+04
## [6041] 1.054616e+04  8.571889e+03  4.090485e+03  6.118018e+03
## [6045] -3.411178e+02  3.611964e+03  5.358502e+03  1.198406e+04
## [6049] 1.147140e+04  3.840956e+03  4.534783e+03  4.570614e+03
## [6053] 8.537891e+03  3.899062e+03  4.721168e+03  3.904125e+03
## [6057] 5.177889e+03  5.393161e+03  4.372265e+03  5.085903e+03
## [6061] 4.394605e+03  4.423301e+03  5.249581e+03  5.449886e+03
## [6065] 1.107817e+04  1.204258e+04  9.590163e+03  6.195617e+03
## [6069] 4.139584e+03  7.914721e+03  1.017279e+04  9.261508e+04
## [6073] 6.744494e+03  5.388691e+03  5.746540e+03  5.458650e+03
## [6077] 5.188815e+03  4.961258e+03  5.936225e+03  1.195312e+04
## [6081] 5.318440e+03  4.738215e+03  3.664225e+03  5.359679e+03
## [6085] 1.929192e+04  5.913136e+03  1.025592e+04  1.107325e+04
## [6089] 6.121750e+03  4.983125e+03  4.176437e+03  5.826911e+03
## [6093] 5.009246e+03  4.382471e+03  6.419914e+03  9.731364e+03
## [6097] 6.262492e+03  5.289121e+03  6.349377e+03  5.497457e+03
## [6101] 1.196629e+04  4.773424e+03  1.322843e+04  4.687435e+03
## [6105] 7.550465e+03  5.330322e+03  1.304459e+04  5.733212e+03
## [6109] 5.309514e+03  1.028151e+04  7.186174e+03  1.233322e+04
## [6113] 5.477669e+03  5.564767e+03  1.014660e+04  1.303267e+04
## [6117] 1.073371e+04  1.936590e+04  4.721417e+03  4.178311e+03
## [6121] 4.291147e+03  5.603516e+03  5.209479e+03  4.270202e+03
## [6125] 5.137096e+03  5.360233e+03  6.301938e+03  6.580206e+03
## [6129] 4.943108e+03  5.795621e+03  6.489012e+03 -1.989355e+03
## [6133] 1.966097e+04  5.573584e+03  6.264185e+03  1.298688e+04
## [6137] 4.311058e+03  5.717574e+03  1.254413e+04  5.929778e+03
## [6141] 5.352566e+03  5.428278e+03  1.211815e+04  5.588556e+03
## [6145] 6.773734e+03  1.040229e+04  4.499738e+03  1.148948e+04
## [6149] 1.074643e+04  7.265618e+02  5.161497e+03 -2.020180e+02
## [6153] 6.357805e+03  3.991844e+03  1.131487e+04  1.030597e+04
## [6157] 1.335405e+04  1.664227e+03  1.846502e+04  1.359035e+04
## [6161] 1.191210e+04  5.081777e+03  4.167622e+03  1.205816e+04
## [6165] 1.314524e+04  4.441000e+03  6.938912e+03  1.123849e+04
## [6169] 6.581436e+03  1.104409e+04  1.308993e+04  5.082552e+03
## [6173] 1.257850e+04  1.189285e+04  1.012244e+04  4.929614e+03
## [6177] 4.311030e+03  4.921762e+03  9.764134e+03  1.003949e+04
## [6181] 1.117041e+04  4.800426e+03  5.112017e+03  4.645378e+03
## [6185] 1.208409e+04  1.844999e+03 -1.557954e+03  1.062769e+04
## [6189] 4.143802e+03  1.122638e+04  1.128333e+04  1.043701e+04
## [6193] 5.199970e+03  8.016242e+04  4.766701e+03  4.140275e+03
## [6197] 4.614653e+03  3.941788e+03  5.138769e+03  3.800215e+04
```

```
## [6201] 4.213773e+03  6.536726e+03  5.067581e+03  4.085374e+03
## [6205] 5.388204e+03  6.231197e+03  6.096631e+03  6.106779e+03
## [6209] 6.801148e+03  9.902147e+03  5.370230e+03  3.982176e+03
## [6213] 1.083073e+04  7.222188e+04  7.341853e+03  5.364115e+03
## [6217] 4.265073e+02  7.163454e+03  5.082552e+03  3.309808e+03
## [6221] 3.955322e+03  3.962403e+03  9.943544e+03  1.960042e+04
## [6225] 3.517647e+03  5.506893e+03  5.333568e+03  4.444062e+03
## [6229] 1.080407e+04  4.688907e+03  1.220372e+04  6.213711e+03
## [6233] 1.143402e+04  4.115909e+03  5.014521e+03  5.628672e+03
## [6237] 5.422121e+03  5.968812e+03  5.765323e+03  1.098995e+04
## [6241] 4.707578e+03  5.893774e+03  6.523233e+03  3.627658e+03
## [6245] 9.532834e+03  5.789208e+03  1.110236e+04  3.474477e+03
## [6249] 3.162972e+03  5.974915e+03  5.975067e+03  6.011065e+03
## [6253] 6.759884e+03  3.084503e+03  5.179412e+03  5.484035e+03
## [6257] 1.155085e+04  1.577385e+04  4.406152e+03  4.865478e+03
## [6261] 6.355323e+03 -3.288206e+03  3.906341e+03  1.153303e+04
## [6265] 5.884742e+03  1.042260e+04  1.120187e+04  5.337343e+03
## [6269] 4.532662e+03  1.147832e+04  5.151404e+03  5.553133e+03
## [6273] 5.556709e+03  5.101128e+04  5.430200e+03  4.559167e+03
## [6277] -1.674593e+03  8.674464e+02  1.195061e+04  5.220590e+03
## [6281] 1.107172e+04  4.784626e+03  4.688392e+03  1.271970e+05
## [6285] 1.099554e+04  1.178649e+04  4.684578e+03  2.837704e+03
## [6289] 6.181435e+03  4.914642e+03  7.795524e+02  1.317073e+04
## [6293] 1.193267e+04  7.898704e+03  7.144058e+03  5.290392e+03
## [6297] 6.756805e+03  6.992607e+03  2.080465e+03  9.582695e+03
## [6301] 4.814128e+03  9.968751e+03  2.406586e+04  3.307069e+03
## [6305] 5.349074e+03  6.182906e+03  4.835321e+03  7.035482e+03
## [6309] 2.696189e+04  3.848002e+03  1.397682e+04  5.735395e+03
## [6313] 5.764549e+03  6.342453e+03  5.330322e+03  5.676903e+03
## [6317] 2.539454e+03  4.092353e+03  1.919711e+04  9.053768e+03
## [6321] 1.116360e+04  1.087676e+04  1.105281e+04  6.745449e+03
## [6325] 4.408149e+03  5.316125e+03  5.121912e+04 -1.752977e+03
## [6329] 7.103167e+03  1.112232e+04  7.395673e+03  2.034258e+04
## [6333] 1.129418e+04  6.713614e+03  5.676903e+03  1.216970e+04
## [6337] 4.474920e+03  7.383028e+03  3.161279e+04  1.298228e+04
## [6341] 1.001248e+04  1.163812e+04  5.053384e+03  1.174373e+04
## [6345] 1.292415e+04  3.536432e+03  3.927931e+03  1.775687e+03
## [6349] 6.300421e+03  1.062841e+04  7.277927e+03  5.598288e+03
## [6353] 1.109010e+04  3.724868e+04  9.076436e+03  5.998818e+03
## [6357] 1.149372e+04  5.053384e+03  1.379858e+04  5.212806e+03
## [6361] 5.506833e+03  5.347035e+03  6.079271e+03  4.658267e+03
## [6365] 6.224674e+03  5.155985e+03  5.145460e+03  5.406449e+03
## [6369] 6.882544e+03  4.022546e+03  1.238828e+04  1.045007e+04
## [6373] 3.356821e+04  6.222733e+03 -4.327719e+03  6.572681e+03
## [6377] 5.964390e+03  1.229731e+04  4.030683e+03 -1.038763e+03
## [6381] -1.835414e+03  9.800649e+03  1.136328e+04  4.923848e+03
## [6385] 6.686358e+03  5.140367e+03  1.254859e+04  1.221639e+04
## [6389] 1.231233e+04  1.024107e+04  1.295708e+04  4.282069e+03
## [6393] 1.204306e+04  5.525631e+03  6.878060e+03  1.344132e+04
## [6397] 3.903324e+03  5.998411e+03  4.686960e+03  9.453522e+03
## [6401] 5.976632e+03  1.184715e+04  5.290130e+03  3.818805e+03
## [6405] 5.305426e+03  7.033292e+04  1.030148e+04  6.820622e+03
## [6409] 5.275420e+03  3.766120e+03  6.126685e+03  1.814439e+04
## [6413] 8.625890e+03  1.075088e+04  5.942484e+03  3.339736e+03
## [6417] 1.390194e+04  4.325275e+03  3.542251e+03  1.033355e+04
## [6421] 5.245968e+03  4.500220e+03  5.578094e+03  4.355643e+03
## [6425] 6.365003e+03  5.573584e+03  1.114607e+04  5.019235e+03
## [6429] 5.317148e+03  6.065454e+03  3.324536e+02  9.447852e+04
## [6433] 9.811248e+03  5.571597e+03  4.914642e+03  5.330322e+03
## [6437] 6.198855e+03  4.268245e+03  6.412706e+03  1.004958e+04
## [6441] 4.126502e+03  5.781495e+03  4.298276e+03  5.695143e+03
## [6445] 7.451162e+03 -5.180969e+01  1.635652e+04  5.190195e+03
## [6449] 4.518953e+03  1.134160e+04  4.839693e+03  6.238757e+03
## [6453] 1.350435e+04  1.213771e+04  1.674012e+05  1.322099e+04
## [6457] 4.699221e+03  1.204020e+04  6.674347e+00  1.205842e+04
## [6461] 5.898939e+03  1.654319e+04  2.365479e+04  1.301917e+04
## [6465] 1.148739e+04  5.580605e+03  1.054310e+04  2.135831e+04
## [6469] 5.081921e+03  1.670648e+04  6.481062e+03  3.724750e+03
## [6473] 6.462088e+03  1.097453e+04  1.412953e+04  6.692388e+03
## [6477] 6.323418e+03  1.272812e+04  3.676511e+03  6.627051e+03
## [6481] 5.668019e+03  4.098879e+03  1.087402e+04  5.609433e+03
## [6485] 1.236700e+04  1.098190e+04  1.207788e+04  4.783882e+03
## [6489] 1.244406e+04  1.166512e+04  1.295636e+04  3.737894e+03
## [6493] 5.092285e+03  1.141274e+04  1.214139e+04  3.271665e+03
## [6497] 6.266201e+03  4.362820e+03  5.081849e+03  5.497457e+03
## [6501] 1.105829e+04  4.255160e+04  6.328815e+03  9.474413e+03
```

```
## [6501] 1.103829e+04 4.233160e+04 6.328813e+03 9.474412e+03
## [6505] 4.529457e+03 5.215510e+03 1.234075e+04 1.389636e+04
## [6509] 4.580208e+03 1.098197e+04 1.335547e+04 4.327123e+03
## [6513] 6.341126e+03 5.705296e+03 1.104638e+04 2.022537e+03
## [6517] 4.779096e+03 3.488989e+03 2.868003e+03 4.033179e+03
## [6521] 1.068086e+04 3.352646e+03 6.225568e+03 5.837040e+03
## [6525] 7.436967e+03 5.477617e+03 9.370454e+03 9.570939e+03
## [6529] 5.706012e+03 6.627074e+03 6.004271e+03 1.058570e+04
## [6533] 5.124512e+03 5.081777e+03 4.895894e+03 9.831440e+03
## [6537] 1.205685e+04 5.550527e+03 4.747808e+03 1.276351e+04
## [6541] 4.596125e+03 1.144992e+04 6.710417e+03 4.811395e+03
## [6545] 1.162143e+04 1.127538e+04 6.252004e+03 1.125992e+04
## [6549] 5.541410e+03 9.503661e+03 5.252390e+03 5.455476e+03
## [6553] 6.029327e+03 9.162304e+03 1.173150e+04 1.325881e+04
## [6557] 6.202267e+03 8.019084e+03 6.012095e+03 1.043512e+04
## [6561] 1.142657e+04 5.587781e+03 5.404777e+03 1.222026e+04
## [6565] 4.806967e+03 4.651901e+03 6.252004e+03 1.281341e+04
## [6569] 3.909595e+03 5.153834e+03 1.109908e+04 1.059471e+04
## [6573] 6.414792e+03 4.232900e+03 3.964698e+03 1.705590e+04
## [6577] 5.836745e+03 1.336132e+04 5.110989e+03 7.055317e+03
## [6581] 4.267323e+03 6.209253e+03 7.585729e+03 7.913365e+03
## [6585] 5.303144e+04 5.539185e+03 6.267225e+03 1.167803e+04
## [6589] 1.278296e+04 5.391658e+03 1.158532e+04 3.366093e+03
## [6593] 4.651973e+03 5.644095e+03 8.511566e+03 5.330322e+03
## [6597] 1.322814e+04 4.737225e+03 8.946965e+03 5.822128e+03
## [6601] 4.225032e+03 1.246900e+04 5.227003e+03 1.299219e+04
## [6605] 5.305741e+03 6.899697e+03 -2.162983e+02 4.904872e+03
## [6609] 1.221030e+04 5.373838e+03 5.330322e+03 5.843346e+03
## [6613] 1.327516e+03 5.421288e+03 4.428535e+03 5.717793e+03
## [6617] 1.363076e+04 5.178467e+03 5.386104e+03 4.596402e+03
## [6621] 8.094838e+02 4.867596e+03 5.096046e+03 1.185863e+04
## [6625] 4.399775e+03 9.306827e+03 1.156963e+04 5.117968e+03
## [6629] 9.913659e+03 5.509532e+03 5.434843e+03 6.106779e+03
## [6633] 4.020965e+03 5.290165e+03 6.426160e+03 7.656325e+04
## [6637] 5.423097e+03 8.414537e+03 1.145977e+04 5.607974e+03
## [6641] 2.976003e+04 5.734645e+03 5.087892e+03 9.568177e+03
## [6645] 1.018685e+04 -1.536982e+03 7.534349e+03 4.076808e+03
## [6649] 5.628486e+03 5.818503e+03 6.496007e+03 5.144010e+03
## [6653] 5.561549e+03 1.230160e+04 -1.290868e+03 6.760587e+03
## [6657] 4.653463e+03 3.377486e+03 4.229837e+03 5.528927e+03
## [6661] 4.549538e+03 5.072067e+03 9.265190e+03 4.758175e+03
## [6665] 5.127834e+03 1.674848e+04 4.533114e+03 1.336960e+04
## [6669] 4.914642e+03 1.108591e+04 4.137994e+03 1.200374e+04
## [6673] 6.106779e+03 1.283135e+04 6.140896e+03 1.319205e+04
## [6677] 4.672205e+03 7.430877e+03 1.287724e+04 6.715365e+03
## [6681] 6.093599e+03 5.040115e+03 5.299537e+03 4.186819e+03
## [6685] 1.986353e+04 4.962324e+03 1.213440e+04 9.483599e+03
## [6689] 7.180702e+03 6.343999e+03 1.244404e+04 6.535991e+03
## [6693] 5.637986e+03 1.334379e+05 7.681972e+04 4.367020e+03
## [6697] 5.017225e+03 5.474490e+03 5.556668e+03 7.574938e+03
## [6701] 1.350717e+04 6.798612e+03 1.125917e+05 1.342014e+04
## [6705] 1.192535e+04 6.580419e+03 1.288431e+04 6.681627e+03
## [6709] 5.629388e+03 5.197623e+03 4.927301e+03 1.360424e+04
## [6713] -2.436977e+03 5.561953e+03 1.185308e+04 7.747713e+03
## [6717] 5.130295e+03 1.163427e+04 6.663517e+02 5.673131e+03
## [6721] 5.490271e+03 4.590190e+03 4.992633e+03 6.583949e+03
## [6725] 1.452880e+04 1.335247e+04 5.682282e+03 4.998263e+03
## [6729] 4.538966e+03 5.947559e+03 5.170164e+03 6.417201e+03
## [6733] 1.265330e+04 5.482922e+03 5.898362e+03 6.919587e+03
## [6737] 6.771391e+03 1.458751e+04 1.191471e+04 1.301361e+04
## [6741] 1.367808e+04 5.158307e+03 4.784411e+03 5.192455e+03
## [6745] 4.849139e+03 7.689382e+03 5.155967e+03 5.621389e+03
## [6749] 6.090376e+03 1.211199e+04 6.001522e+03 6.072864e+03
## [6753] 1.119348e+04 4.227523e+03 1.029750e+04 1.900538e+03
## [6757] 6.847149e+03 5.662685e+03 8.724001e+03 4.984178e+03
## [6761] 7.479191e+03 4.982886e+03 4.720073e+03 4.859593e+03
## [6765] 6.424210e+03 6.533479e+03 6.960193e+03 1.065139e+04
## [6769] 9.878225e+03 4.754484e+03 4.761998e+03 1.111450e+04
## [6773] 2.293192e+03 4.064278e+03 7.786971e+03 5.585664e+03
## [6777] 6.296474e+03 6.847149e+03 3.830740e+05 1.194549e+05
## [6781] 5.104727e+04 2.189378e+04 2.145348e+04 1.425587e+04
## [6785] 7.452021e+03 6.769107e+03 7.812799e+03 9.018180e+03
## [6789] 1.376420e+04 1.835397e+04 8.813535e+03 1.657236e+04
## [6793] 7.835268e+03 7.956904e+03 9.198548e+03 9.029719e+03
## [6797] 7.406073e+03 1.211931e+04 8.598210e+03 9.713707e+03
## [6801] 7.244205e+03 2.548735e+04 8.460790e+03 8.644181e+03
```

```
## [6805] 1.027448e+04 8.699082e+03 7.796348e+03 8.237432e+03
## [6809] 9.504303e+03 5.789328e+03 5.997167e+03 1.013249e+04
## [6813] 7.909476e+03 6.274049e+03 1.737717e+04 7.202549e+03
## [6817] 8.033907e+03 9.648052e+03 7.452045e+03 7.455216e+03
## [6821] 8.190016e+03 8.975903e+03 7.812823e+03 6.776795e+03
## [6825] 7.454059e+03 1.275881e+04 7.406073e+03 8.020460e+03
## [6829] 7.194489e+03 1.626006e+04 7.447730e+03 2.630657e+04
## [6833] 6.841055e+03 1.635532e+04 7.447730e+03 8.020662e+03
## [6837] 8.598210e+03 8.230406e+03 7.060814e+03 8.228502e+03
## [6841] 1.736506e+04 1.690176e+04 7.543305e+03 1.256740e+04
## [6845] 8.164523e+03 8.833954e+03 7.452045e+03 8.699082e+03
## [6849] 1.359966e+04 1.102618e+04 9.088623e+03 6.205007e+03
## [6853] 8.474033e+03 8.219365e+03 1.128750e+04 1.361937e+04
## [6857] 6.917881e+03 1.430336e+03 8.020662e+03 8.298363e+03
## [6861] 7.473048e+03 7.666214e+03 1.090538e+04 1.644639e+04
## [6865] 9.997373e+03 1.412881e+04 1.480634e+04 6.231768e+03
## [6869] 7.397143e+03 1.565035e+04 8.394685e+03 1.476468e+04
## [6873] 7.879635e+03 8.045696e+03 9.255392e+03 8.877869e+03
## [6877] 6.915400e+03 6.387294e+03 2.614127e+04 7.392828e+03
## [6881] 8.019518e+03 6.782138e+03 6.691813e+03 1.523230e+04
## [6885] 7.396383e+03 8.657426e+03 7.653710e+03 7.010539e+03
## [6889] 7.397143e+03 8.707478e+03 8.598210e+03 1.140225e+04
## [6893] 7.392828e+03 1.462701e+04 8.598210e+03 8.436341e+03
## [6897] 9.290902e+03 1.405812e+04 6.840437e+03 9.854190e+03
## [6901] 9.433883e+03 7.060814e+03 8.219924e+03 1.156365e+04
## [6905] 1.452293e+04 6.092986e+03 7.008797e+03 9.119999e+03
## [6909] 1.056509e+03 5.269639e+03 8.436341e+03 1.416762e+04
## [6913] 7.814624e+03 1.208764e+04 6.620686e+03 8.718357e+03
## [6917] 1.149746e+04 6.645134e+03 7.230339e+03 5.643198e+03
## [6921] 1.523526e+04 1.089851e+04 7.023658e+03 1.717823e+04
## [6925] 8.315051e+03 7.315332e+03 1.057672e+04 1.336470e+04
## [6929] 6.594860e+03 1.359186e+04 8.810364e+03 7.825019e+03
## [6933] 8.742226e+02 6.628315e+03 1.538823e+04 8.020662e+03
## [6937] 8.657426e+03 1.391869e+04 8.647507e+03 9.143075e+03
## [6941] 6.084302e+04 7.355487e+03 8.644181e+03 6.863669e+03
## [6945] 6.630187e+03 6.565785e+03 7.052591e+03 9.524163e+03
## [6949] 7.336544e+03 1.366228e+04 7.812823e+03 1.273834e+04
## [6953] 8.585310e+03 6.090351e+03 1.647864e+04 1.581910e+04
## [6957] 1.368133e+04 2.465342e+05 1.505006e+04 8.919581e+03
## [6961] 3.506631e+05 2.274198e+03 9.024331e+03 8.608541e+03
## [6965] 6.884291e+03 3.068246e+04 6.824008e+03 6.565785e+03
## [6969] 1.400445e+04 8.699082e+03 1.402556e+04 7.579157e+03
## [6973] 8.228502e+03 7.812823e+03 8.130269e+03 7.600668e+03
## [6977] 1.433437e+04 7.001039e+03 8.852021e+03 8.182530e+03
## [6981] 8.611487e+03 6.822351e+03 1.462793e+04 7.979052e+03
## [6985] 6.629939e+03 6.632597e+03 1.181453e+04 7.184989e+03
## [6989] 7.310814e+03 8.430934e+03 1.078698e+04 1.710251e+04
## [6993] 7.244205e+03 7.257032e+03 1.768418e+04 7.397143e+03
## [6997] 8.449694e+03 1.469676e+04 1.448065e+04 3.660918e+05
## [7001] 7.032050e+03 7.701428e+03 6.640823e+04 8.228502e+03
## [7005] 1.568868e+03 1.753049e+04 8.436341e+03 7.815993e+03
## [7009] 7.903147e+03 8.927119e+03 1.813835e+04 1.490932e+04
## [7013] 8.864435e+03 7.060814e+03 6.271463e+03 1.905709e+04
## [7017] 8.000635e+03 1.437459e+04 1.745827e+04 1.470148e+04
## [7021] 7.036366e+03 2.274198e+03 1.339477e+04 3.072553e+04
## [7025] 6.776795e+03 1.537045e+04 1.685994e+04 1.585878e+04
## [7029] 6.909237e+03 1.060535e+04 8.337815e+03 7.670008e+03
## [7033] 7.979006e+03 5.311841e+03 8.020662e+03 8.186845e+03
## [7037] 7.425153e+03 8.667771e+03 8.831581e+03 7.558199e+03
## [7041] 9.626161e+03 1.476468e+04 9.687998e+03 1.587411e+04
## [7045] 7.133019e+03 8.810364e+03 1.423772e+04 1.476784e+04
## [7049] 8.283403e+03 1.258766e+04 8.433981e+03 7.611313e+03
## [7053] 6.876985e+03 7.975881e+03 6.967381e+03 6.844356e+03
## [7057] 7.555651e+03 9.519238e+03 8.228502e+03 1.619529e+04
## [7061] 7.606997e+03 6.636912e+03 1.015260e+04 7.771321e+03
## [7065] 9.006747e+03 8.368857e+03 8.668941e+03 1.509122e+04
## [7069] 7.863409e+03 1.325100e+04 8.396700e+03 1.433437e+04
## [7073] 7.863409e+03 1.419823e+04 1.317193e+04 1.049172e+04
## [7077] 2.009546e+04 8.163880e+03 1.753107e+04 6.857983e+03
## [7081] 7.293113e+03 7.009668e+03 1.414116e+04 2.031280e+04
## [7085] 2.465819e+03 7.392828e+03 8.614040e+03 7.406073e+03
## [7089] 8.200077e+03 8.071249e+03 7.604983e+03 9.616242e+03
## [7093] 8.852021e+03 8.699082e+03 9.277200e+03 7.205134e+03
## [7097] 6.111620e+03 8.364686e+04 7.690992e+03 6.072948e+03
## [7101] 9.231229e+03 7.815993e+03 1.381752e+04 9.654476e+03
```

```
## [7105] 8.553128e+03 1.948844e+03 7.189208e+03 8.307851e+03
## [7109] 6.876608e+03 7.632809e+03 6.856266e+03 7.655569e+03
## [7113] 6.589089e+03 6.335278e+03 1.304028e+04 1.158574e+04
## [7117] 7.452381e+03 7.461545e+03 7.048276e+03 1.320185e+04
## [7121] 5.768375e+03 6.848659e+03 8.575029e+03 7.864962e+04
## [7125] 8.858505e+03 1.497252e+04 1.218486e+04 8.699082e+03
## [7129] 8.529837e+03 6.036627e+03 2.247442e+05 9.500683e+03
## [7133] 9.712440e+03 7.522027e+03 8.491243e+03 6.036177e+03
## [7137] 7.447730e+03 1.109801e+04 7.410388e+03 8.237432e+03
## [7141] 8.470290e+03 7.898832e+03 8.694565e+03 8.432026e+03
## [7145] 7.842293e+03 6.221030e+03 1.438708e+04 7.202549e+03
## [7149] 7.471358e+03 1.538317e+04 6.931409e+03 2.919628e+02
## [7153] 7.867724e+03 6.773625e+03 7.890494e+03 6.081964e+03
## [7157] 7.655474e+03 8.833752e+03 8.602525e+03 7.036366e+03
## [7161] 8.880319e+03 7.189304e+03 8.094838e+03 7.036366e+03
## [7165] 7.527444e+03 8.283403e+03 8.098605e+03 7.051123e+03
## [7169] 6.977149e+03 8.271666e+03 7.970707e+03 9.923658e+03
## [7173] 6.383849e+03 8.650511e+03 7.268653e+03 6.494046e+03
## [7177] 1.093570e+04 1.055511e+04 8.608854e+03 7.915091e+03
## [7181] 9.588011e+03 8.491243e+03 7.973878e+03 6.981464e+03
## [7185] 8.702253e+03 9.018204e+03 7.837271e+03 1.399713e+04
## [7189] 9.298289e+03 1.416015e+04 5.236936e+03 7.597893e+03
## [7193] 7.011181e+03 8.460790e+03 8.069389e+03 8.202675e+03
## [7197] 7.685489e+03 6.052801e+03 7.396941e+03 6.946137e+03
## [7201] 1.361452e+04 1.049849e+04 6.627807e+03 9.228367e+03
## [7205] 7.874054e+03 2.214358e+04 8.317937e+03 7.392828e+03
## [7209] 1.472189e+03 6.713350e+03 1.082062e+03 9.076493e+03
## [7213] 6.021360e+02 1.414749e+04 8.694767e+03 7.821753e+03
## [7217] 6.786870e+03 7.238785e+03 3.266700e+04 8.016347e+03
## [7221] 1.689131e+04 6.990394e+03 8.075044e+03 7.600668e+03
## [7225] 5.794513e+03 7.604983e+03 5.031735e+05 1.575745e+04
## [7229] 1.497126e+04 1.093865e+04 1.793062e+04 8.852021e+03
## [7233] 1.315390e+04 8.967758e+03 8.020662e+03 1.398821e+04
## [7237] 5.770676e+03 8.312874e+03 1.372117e+04 7.812823e+03
## [7241] 8.871595e+03 2.181651e+04 1.460508e+04 6.034773e+04
## [7245] 9.485134e+03 9.366610e+03 8.394685e+03 7.608154e+03
## [7249] 7.903224e+03 2.312983e+04 1.429191e+04 7.040636e+02
## [7253] 7.604983e+03 1.170787e+02 9.059860e+03 7.867724e+03
## [7257] 7.034656e+03 8.244918e+03 6.828526e+03 5.393045e+03
## [7261] 7.575986e+03 8.200605e+03 2.745317e+04 1.427540e+04
## [7265] 1.160084e+04 1.202804e+04 1.736943e+04 1.249568e+04
## [7269] 8.445842e+03 1.560237e+04 7.882722e+03 1.338569e+04
## [7273] 7.191318e+03 7.392828e+03 9.637408e+03 1.326538e+04
## [7277] 7.879635e+03 7.447730e+03 8.016347e+03 6.895338e+03
## [7281] 8.283403e+03 1.707475e+04 7.090828e+03 3.229230e+04
## [7285] 7.808508e+03 1.357254e+04 8.075564e+03 7.397143e+03
## [7289] 3.055978e+04 1.035906e+04 8.020662e+03 8.442671e+03
## [7293] 1.477935e+04 8.598210e+03 2.144726e+04 9.018204e+03
## [7297] 8.721230e+03 1.269487e+04 6.131260e+03 1.538388e+04
## [7301] 1.255233e+04 2.069343e+04 2.697625e+04 7.269239e+03
## [7305] 7.256116e+03 2.221046e+04 6.579030e+03 8.016347e+03
## [7309] 6.828526e+03 7.036366e+03 8.548197e+03 7.600668e+03
## [7313] 5.881705e+03 1.136158e+04 1.760816e+04 9.495152e+03
## [7317] 4.539940e+04 7.397143e+03 7.659884e+03 7.452045e+03
## [7321] 7.371317e+03 7.100935e+03 7.624258e+03 9.013889e+03
## [7325] 8.234831e+03 2.067824e+04 6.632630e+03 8.099778e+03
## [7329] 8.008158e+03 7.375100e+02 7.676110e+03 8.075564e+03
## [7333] 7.677233e+02 6.483974e+03 2.152312e+04 1.698470e+04
## [7337] 9.523591e+03 9.337275e+03 6.152120e+03 9.636595e+03
## [7341] 8.003997e+03 4.079108e+04 6.977149e+03 8.494414e+03
## [7345] 1.006564e+04 1.377980e+04 7.452045e+03 8.394685e+03
## [7349] 7.671795e+03 1.593118e+04 1.397498e+04 1.440706e+04
## [7353] 7.024029e+03 2.084380e+04 1.553600e+04 8.428896e+03
## [7357] 1.497741e+04 1.603372e+04 7.492323e+03 9.994866e+03
## [7361] 1.441939e+04 6.697516e+03 7.055354e+03 8.049737e+03
## [7365] 5.955450e+03 6.987794e+03 6.773625e+03 6.400140e+03
## [7369] 7.290761e+03 1.245522e+04 1.338857e+04 1.319832e+04
## [7373] 1.331215e+04 8.444575e+03 8.196666e+03 1.896743e+04
## [7377] 7.496067e+03 9.078849e+03 6.483974e+03 8.376678e+03
## [7381] 3.009342e+04 7.452045e+03 9.896296e+03 1.332879e+04
## [7385] 1.512722e+04 7.877224e+03 7.606275e+03 1.376714e+04
## [7389] 1.646365e+03 8.357662e+03 8.365342e+03 8.154423e+03
## [7393] 7.763440e+03 8.519720e+03 9.641723e+03 1.327364e+04
## [7397] 8.526666e+03 1.335146e+04 9.358024e+03 8.228502e+03
## [7401] 7.277672e+03 8.699082e+03 9.011998e+03 5.973233e+03
## [7405] 7.979006e+03 1.017812e+04 6.408532e+03 1.576924e+04
```

```
## [7405]  7.979000e+03  1.017812e+04  8.468352e+03  1.378924e+04
## [7409]  9.482118e+03  8.526336e+03  2.507037e+02  7.448352e+03
## [7413]  8.961414e+03  1.399690e+04  8.332057e+03  7.604983e+03
## [7417]  8.940870e+03  8.309294e+03  8.955576e+03  1.329900e+04
## [7421]  8.835480e+03  9.338431e+03  7.256116e+03  6.178160e+03
## [7425]  8.257973e+03  1.302003e+04  6.273052e+04  7.709487e+03
## [7429]  7.042695e+03  7.469070e+03  6.828323e+03  1.242094e+04
## [7433]  1.530149e+04  5.773548e+03  8.375534e+03  7.867724e+03
## [7437]  7.492719e+03  7.903147e+03  1.332259e+04  6.006668e+03
## [7441]  4.745671e+04  9.707093e+04  8.020662e+03  7.600668e+03
## [7445]  8.283403e+03  1.363124e+04  1.571435e+04  1.311974e+04
## [7449]  7.477649e+03  7.071866e+03  7.409672e+03  9.286689e+03
## [7453]  1.072773e+04  7.854075e+03  1.275852e+04  1.965655e+04
## [7457]  6.620686e+03  7.452045e+03  1.707306e+04  9.492984e+03
## [7461]  7.954681e+03  7.116967e+03  3.173571e+04  7.487723e+03
## [7465]  1.527363e+03  1.362734e+04  1.544310e+04  1.519330e+04
## [7469]  8.606952e+03  6.412847e+03  1.285328e+04  9.137815e+03
## [7473]  8.008158e+03  7.452045e+03  7.555600e+03  1.426718e+04
## [7477]  7.133441e+03  7.268653e+03  8.091393e+03  8.104041e+03
## [7481]  9.991138e+03  6.442317e+03  8.159350e+03  6.483974e+03
## [7485]  7.176799e+03  7.837582e+03  7.826068e+03  2.626079e+04
## [7489]  1.375348e+04  1.889422e+04  1.279192e+04  2.688721e+03
## [7493]  7.826068e+03  8.228502e+03  1.484781e+04  8.167902e+03
## [7497]  7.239687e+03  8.919581e+03  7.244205e+03  6.824211e+03
## [7501]  7.400314e+03  8.292319e+03  6.964256e+03  7.643065e+03
## [7505]  7.812823e+03  1.820775e+04  1.049840e+04  1.488413e+04
## [7509]  8.639866e+03  7.439737e+03  7.835568e+03  2.506486e+03
## [7513]  7.395999e+03  1.252808e+04  6.828526e+03  7.452045e+03
## [7517]  7.600668e+03  6.221233e+03  1.522202e+04  7.392828e+03
## [7521]  7.403270e+03  7.355487e+03  7.036366e+03  1.794294e+05
## [7525]  8.798659e+03  6.828526e+03  9.450285e+03  1.476180e+04
## [7529]  6.558188e+03  6.357945e+03  6.902824e+03  7.997995e+03
## [7533]  7.870895e+03  6.083254e+03  9.098710e+03  1.461671e+04
## [7537]  8.282025e+03  6.828526e+03  1.931842e+04  9.159779e+03
## [7541]  2.672725e+04  8.373728e+03  8.037078e+03  9.390114e+04
## [7545]  9.503458e+03  1.557060e+04  7.665237e+03  2.128069e+03
## [7549]  1.412287e+04  1.094631e+04  9.041305e+03  1.122690e+04
## [7553]  8.714898e+04  7.455216e+03  8.714912e+03  2.982106e+04
## [7557]  1.243718e+04  7.483979e+03  9.073105e+03  7.131941e+03
## [7561]  6.149903e+03  7.920662e+03  4.863581e+03  8.134260e+03
## [7565]  8.037703e+03  1.350588e+04  8.047125e+03  1.273082e+03
## [7569]  6.012452e+03  7.969672e+03  3.829924e+04  1.089384e+04
## [7573]  7.039536e+03  1.448414e+04  7.000739e+03  1.179854e+04
## [7577]  1.162749e+03  9.491369e+03  1.334714e+04  8.159350e+03
## [7581]  1.439346e+04  9.322601e+03  1.428782e+04  7.895343e+03
## [7585]  6.859634e+03  1.421474e+04  7.882805e+03  2.009320e+05
## [7589]  6.351763e+03  8.032560e+03  8.847881e+03  6.997272e+03
## [7593]  1.430628e+04  7.985335e+03  8.228502e+03  9.504082e+03
## [7597]  1.624486e+04  6.673456e+03  7.340859e+03  1.378354e+04
## [7601]  7.958048e+03  7.015985e+03  8.079631e+03  1.179860e+04
## [7605]  1.147409e+04  7.774337e+03  1.513967e+03  8.278885e+03
## [7609]  2.061087e+04  1.377323e+04  1.426021e+03  8.439512e+03
## [7613]  6.695413e+03  1.372009e+04  6.828526e+03  7.076382e+03
## [7617]  7.713438e+03  1.002065e+04  1.503316e+04  1.481473e+04
## [7621]  8.468275e+03  8.191492e+03  1.535551e+04  6.773625e+03
## [7625]  8.283403e+03  6.912675e+03  3.285093e+04  7.315130e+03
## [7629]  7.812823e+03  6.860460e+03  1.257923e+04  7.027202e+03
## [7633]  6.786870e+03  1.527217e+04  1.490970e+04  5.725972e+03
## [7637]  1.629485e+04  6.013393e+03  5.502610e+03  8.020662e+03
## [7641]  7.023305e+03  5.170559e+03  1.629345e+04  7.128580e+03
## [7645]  1.429470e+04  7.039536e+03  8.809220e+03  6.591389e+03
## [7649]  6.546127e+03  6.009078e+03  9.031518e+03  2.662950e+02
## [7653]  1.018099e+04  1.173543e+04  1.008601e+04  1.074341e+04
## [7657]  1.707863e+04  2.012070e+04  7.048276e+03  9.419377e+03
## [7661]  8.615756e+03  8.694767e+03  7.563327e+03  1.522202e+04
## [7665]  6.786870e+03  6.551384e+03  6.356801e+03  1.461173e+04
## [7669]  7.808508e+03  8.645208e+04  6.150106e+03  7.189304e+03
## [7673]  4.812559e+05  1.746975e+04  7.257436e+03  7.058811e+03
## [7677]  1.730026e+04  1.525394e+04  8.047139e+03  1.780117e+04
## [7681]  1.360685e+04  7.049394e+03  1.260425e+04  1.473037e+04
## [7685]  5.892389e+03  1.502742e+04  6.620686e+03  8.431669e+03
## [7689]  7.126487e+03  8.644181e+03  1.322732e+04  1.552633e+04
## [7693]  1.741297e+04  8.832833e+03  6.636912e+03  7.848499e+03
## [7697]  1.155683e+04  7.487468e+03  1.454024e+04  1.403515e+04
## [7701]  8.283403e+03  1.396201e+04  8.486928e+03  7.286367e+03
## [7705]  7.903973e+03  1.022846e+03  8.488422e+03  7.731011e+03
```

```
## [7709] 8.020662e+03 6.980320e+03 4.374101e+04 1.349404e+04
## [7713] 6.156032e+03 8.397248e+03 6.357945e+03 2.269883e+03
## [7717] 5.997775e+03 1.458672e+04 7.321564e+03 1.248661e+04
## [7721] 7.410388e+03 7.826068e+03 7.436309e+03 5.632624e+04
## [7725] 6.424757e+03 1.939305e+04 8.004324e+03 1.355158e+04
## [7729] 1.936359e+04 7.397143e+03 1.587068e+04 2.089843e+05
## [7733] 1.579163e+04 3.774948e+05 1.801116e+04 9.075690e+03
## [7737] 7.189304e+03 6.977673e+03 7.798222e+02 1.839459e+04
## [7741] 7.032050e+03 6.968960e+03 1.168020e+04 7.080674e+03
## [7745] 1.347959e+04 2.023624e+04 8.699082e+03 8.112032e+03
## [7749] 7.075240e+03 1.374020e+04 5.993007e+03 7.691260e+03
## [7753] 8.156152e+03 7.160879e+03 1.318917e+04 1.479144e+04
## [7757] 7.790727e+03 1.807019e+03 2.467180e+04 7.659884e+03
## [7761] 7.358658e+03 5.301804e+04 1.956850e+04 8.226879e+03
## [7765] 8.049737e+03 6.758714e+02 2.974691e+03 7.186300e+03
## [7769] 7.812823e+03 8.922752e+03 7.746841e+03 2.054020e+04
## [7773] 6.369954e+03 6.724664e+03 7.982177e+03 7.791193e+03
## [7777] 6.756679e+03 7.334529e+03 7.256116e+03 7.756538e+03
## [7781] 2.626144e+02 1.372864e+04 1.007586e+04 1.706330e+04
## [7785] 8.189408e+03 4.613365e+04 1.252326e+04 3.783143e+04
## [7789] 7.774337e+03 6.984790e+03 1.330150e+04 7.617642e+03
## [7793] 1.017748e+04 1.557244e+04 1.256815e+04 8.436341e+03
## [7797] 7.874962e+03 1.624904e+04 6.981464e+03 8.491243e+03
## [7801] 9.701009e+03 6.456284e+03 9.279215e+03 8.694767e+03
## [7805] 7.659064e+03 8.075564e+03 9.016249e+03 7.899658e+03
## [7809] 5.221013e+04 8.465416e+03 1.420654e+04 7.834412e+03
## [7813] 1.911802e+04 7.184989e+03 1.672248e+04 6.364275e+03
## [7817] 7.358050e+03 2.997854e+04 1.098804e+04 7.410388e+03
## [7821] 8.449586e+03 7.630887e+03 1.420221e+04 7.377933e+03
## [7825] 7.045866e+03 1.513967e+03 7.979006e+03 7.594975e+03
## [7829] 7.160619e+04 1.563872e+04 7.069444e+03 1.375079e+04
## [7833] 1.858317e+03 9.130592e+03 1.334821e+04 8.234831e+03
## [7837] 7.052195e+03 8.075564e+03 7.279628e+03 1.528810e+04
## [7841] 8.157179e+03 8.023833e+03 7.324099e+03 8.018413e+03
## [7845] 7.663055e+03 1.729717e+04 1.801540e+04 9.146410e+03
## [7849] 7.402817e+03 7.812823e+03 8.423837e+03 7.832305e+03
## [7853] 1.236190e+04 2.406141e+04 8.337199e+03 1.435101e+04
## [7857] 8.639866e+03 7.421974e+03 6.279222e+03 6.675748e+03
## [7861] 7.533855e+03 7.202535e+03 1.271112e+04 7.244205e+03
## [7865] 7.202549e+03 1.468532e+04 1.087934e+04 8.283403e+03
## [7869] 8.104912e+03 3.126328e+04 8.406200e+03 7.215863e+03
## [7873] 1.935755e+04 1.572917e+04 7.356143e+03 6.195673e+03
## [7877] 7.386850e+03 1.168070e+04 9.118284e+03 8.956600e+03
## [7881] 1.558601e+04 7.109507e+03 7.397143e+03 6.977149e+03
## [7885] 1.552154e+04 8.508951e+03 1.653838e+03 1.445999e+03
## [7889] 4.208022e+05 8.725349e+03 1.386062e+04 7.988772e+03
## [7893] 9.391208e+03 1.396075e+04 8.186845e+03 8.470290e+03
## [7897] 1.509348e+04 1.217123e+04 8.075564e+03 6.796328e+04
## [7901] 2.739690e+04 1.111021e+04 7.646884e+03 8.228502e+03
## [7905] 6.357945e+03 7.864475e+03 7.600668e+03 5.789679e+03
## [7909] 9.130592e+03 6.786667e+03 7.308755e+03 8.227508e+03
## [7913] 1.841478e+04 7.985791e+03 8.036492e+03 6.899653e+03
## [7917] 6.981464e+03 1.335107e+04 9.660740e+03 6.646577e+03
## [7921] 7.416718e+03 5.285653e+05 7.068299e+03 7.956898e+03
## [7925] 8.879640e+03 1.527740e+04 1.314219e+04 7.244205e+03
## [7929] 1.627584e+04 1.764645e+04 8.555735e+03 1.184687e+04
## [7933] 7.974572e+03 7.432821e+03 1.456108e+04 1.415698e+04
## [7937] 6.902824e+03 2.312700e+04 8.644181e+03 8.502543e+03
## [7941] 7.786782e+03 7.389598e+03 7.152588e+03 1.128780e+04
## [7945] 2.046863e+04 1.040739e+04 8.486928e+03 1.243230e+04
## [7949] 1.204372e+04 8.906129e+03 2.319098e+04 1.288076e+04
## [7953] 7.537884e+03 1.360189e+04 1.225472e+04 8.189830e+03
## [7957] 1.449277e+04 1.374944e+04 1.527367e+04 7.837978e+03
## [7961] 1.154080e+04 8.828518e+03 1.048512e+04 1.733421e+04
## [7965] 1.170231e+04 1.037763e+04 7.195633e+03 2.044206e+04
## [7969] 7.264882e+03 5.789328e+03 6.412847e+03 8.442957e+03
## [7973] 8.228502e+03 9.597589e+03 7.355487e+03 8.697938e+03
## [7977] 6.834855e+03 8.285418e+03 7.867724e+03 7.103237e+03
## [7981] 1.300691e+04 7.857091e+03 6.831020e+03 8.810364e+03
## [7985] 7.812823e+03 7.363084e+03 4.127896e+04 6.826087e+02
## [7989] 9.937520e+03 8.228502e+03 2.184058e+04 8.508951e+03
## [7993] 1.364875e+04 6.827382e+03 7.944824e+03 1.282998e+04
## [7997] 1.759029e+04 1.065981e+04 8.529616e+03 8.565457e+03
## [8001] 1.484633e+04 7.873520e+03 3.854906e+01 7.540880e+03
## [8005] 1.472918e+04 1.493426e+03 6.773625e+03 9.148901e+03
## [8009] 6.923395e+03 7.232785e+03 7.095739e+03 1.499241e+04
```

```
## [8009] 6.923295e+03 7.232785e+03 7.095730e+03 1.409241e+04
## [8013] 7.749552e+03 9.073105e+03 8.644181e+03 7.070385e+03
## [8017] 7.455216e+03 8.433092e+03 8.852021e+03 6.686381e+03
## [8021] 6.080954e+03 1.266533e+04 2.146400e+04 5.239918e+03
## [8025] 1.487254e+04 1.427630e+04 1.113023e+04 6.751178e+03
## [8029] 7.150818e+03 2.274198e+03 8.462818e+03 1.324057e+04
## [8033] 8.279740e+03 6.644276e+03 8.660011e+03 8.061915e+03
## [8037] 2.435209e+04 8.814437e+03 8.241747e+03 7.663055e+03
## [8041] 7.600668e+03 9.752954e+03 4.315127e+04 1.139912e+02
## [8045] 8.228502e+03 1.128934e+04 9.059860e+03 1.286558e+04
## [8049] 8.754144e+03 1.395472e+04 1.453917e+04 2.818574e+04
## [8053] 6.153276e+03 1.157565e+04 1.210354e+04 2.126709e+04
## [8057] 8.283403e+03 7.176236e+03 1.378225e+04 7.885432e+03
## [8061] 9.141720e+03 8.747627e+03 7.961228e+03 2.595631e+04
## [8065] 9.071961e+03 1.235980e+04 6.416113e+03 9.719550e+03
## [8069] 8.510556e+03 7.108973e+03 8.177221e+03 7.232785e+03
## [8073] 8.207849e+03 1.378038e+04 7.821753e+03 2.446833e+04
## [8077] 1.392658e+04 7.052591e+03 1.456476e+04 7.383790e+03
## [8081] 5.664504e+03 5.827591e+03 2.784732e+04 1.493426e+03
## [8085] 1.285384e+03 7.693423e+03 5.842992e+03 6.870700e+03
## [8089] 7.604983e+03 1.430467e+04 8.329887e+03 5.805554e+03
## [8093] 8.672944e+03 9.127421e+03 8.708583e+03 6.779954e+03
## [8097] 7.397143e+03 1.220747e+04 1.025484e+04 2.423987e+04
## [8101] 2.069465e+05 2.731406e+04 8.244117e+03 6.630096e+03
## [8105] 8.810364e+03 8.442671e+03 7.397143e+03 1.509652e+03
## [8109] 1.403012e+04 1.454276e+04 2.343762e+04 7.311017e+03
## [8113] 2.667690e+04 1.145213e+04 8.927925e+03 5.997167e+03
## [8117] 8.699082e+03 1.299390e+03 1.743577e+04 4.727169e+03
## [8121] 6.795772e+03 7.613913e+03 1.478423e+04 6.603425e+03
## [8125] 1.134887e+04 7.701307e+03 8.036492e+03 8.643037e+03
## [8129] 1.980471e+04 1.523095e+04 1.848877e+04 7.600668e+03
## [8133] 8.107946e+03 7.874221e+03 6.620686e+03 1.064829e+04
## [8137] 8.871009e+03 9.136909e+03 1.860219e+04 1.315662e+04
## [8141] 1.120032e+04 8.847706e+03 1.296701e+04 7.613913e+03
## [8145] 8.071249e+03 8.052896e+03 8.432026e+03 6.620484e+03
## [8149] 7.239890e+03 8.047046e+03 7.659923e+03 7.250859e+03
## [8153] 1.414318e+04 7.267046e+03 7.355487e+03 1.657753e+04
## [8157] 7.867724e+03 1.237963e+04 8.251819e+03 7.726696e+03
## [8161] 6.153998e+03 9.447151e+03 1.600354e+04 8.342768e+03
## [8165] 8.044908e+03 7.796003e+03 8.318210e+03 1.332561e+04
## [8169] 6.602892e+03 1.603575e+04 1.819315e+04 8.486928e+03
## [8173] 3.139409e+04 7.036366e+03 1.115691e+04 1.699891e+04
## [8177] 7.819152e+03 4.797044e+04 7.600668e+03 1.387871e+04
## [8181] 1.889507e+04 1.419586e+04 6.287649e+03 7.397143e+03
## [8185] 8.048905e+03 3.862552e+03 7.309899e+03 8.186845e+03
## [8189] 5.480421e+02 1.935635e+04 9.092418e+03 8.020662e+03
## [8193] 1.439066e+04 8.699075e+02 4.286414e+01 6.842154e+02
## [8197] 2.691853e+04 1.497768e+04 1.193381e+04 5.822531e+04
## [8201] 1.320500e+04 1.156344e+04 7.205134e+03 7.563327e+03
## [8205] 9.329553e+03 7.832305e+03 1.469030e+04 7.258151e+03
## [8209] 1.206433e+04 1.656795e+03 3.881880e+04 8.105162e+03
## [8213] 8.382912e+03 5.756002e+03 8.292701e+03 7.464501e+03
## [8217] 8.490962e+03 1.820997e+04 1.601196e+05 6.099037e+03
## [8221] 8.369326e+03 2.796073e+04 8.943827e+03 8.283221e+03
## [8225] 6.597516e+03 8.189627e+03 7.242858e+03 6.414659e+03
## [8229] 7.195919e+03 8.727305e+03 7.812620e+03 7.031848e+03
## [8233] 8.094636e+03 7.150986e+03 3.537225e+03 2.066156e+03
## [8237] 2.469932e+03 8.697049e+02 -5.194783e+02 2.763553e+03
## [8241] 8.890205e+03 1.442637e+04 1.048677e+04 2.536737e+03
## [8245] 5.327339e+02 7.604780e+03 1.381859e+04 6.644522e+03
## [8249] 7.732494e+03 7.880753e+03 6.060865e+03 1.397790e+04
## [8253] 1.078300e+04 8.775176e+03 7.279628e+03 2.817761e+04
## [8257] 4.404475e+04 1.310619e+04 8.300909e+03 8.436341e+03
## [8261] 1.559258e+04 8.228299e+03 8.484098e+03 8.243259e+03
## [8265] 7.613710e+03 8.075361e+03 7.471117e+03 8.486725e+03
## [8269] 6.876978e+03 1.715149e+04 1.345416e+04 7.675907e+03
## [8273] 8.010031e+03 1.480027e+04 5.476833e+03 6.895135e+03
## [8277] 7.126487e+03 8.318293e+03 6.981262e+03 9.059658e+03
## [8281] 8.923460e+03 6.844549e+03 7.655367e+03 1.996226e+04
## [8285] 8.228502e+03 1.530808e+04 8.511717e+03 8.020567e+03
## [8289] 1.570913e+04 6.216715e+03 2.781081e+02 8.199671e+03
## [8293] 6.047139e+03 1.419941e+05 5.911175e+03 1.265610e+04
## [8297] 1.023558e+04 6.651166e+03 1.943036e+04 1.038080e+04
## [8301] 1.920795e+04 1.367356e+04 8.577376e+03 1.602028e+04
## [8305] 9.546056e+03 1.501504e+04 1.049371e+04 7.805056e+03
## [8309] 6.620484e+03 1.001926e+04 6.460968e+03 4.894676e+03
```

```
## [8309] ...      ...       ...       ...
## [8313] 7.618228e+03 1.411810e+04 9.519073e+03 8.810162e+03
## [8317] 8.662967e+03 8.442742e+02 7.068097e+03 8.884376e+03
## [8321] 7.023861e+03 8.234831e+03 9.717286e+03 8.742317e+03
## [8325] 9.843200e+03 9.273827e+03 1.007134e+04 1.467090e+04
## [8329] 1.440370e+04 7.867521e+03 6.632394e+03 8.327476e+03
## [8333] 8.241544e+03 1.570621e+04 7.086788e+03 9.280156e+03
## [8337] 7.886796e+03 5.513880e+03 1.150641e+04 1.072650e+04
## [8341] 1.314342e+04 7.412863e+03 6.828323e+03 1.486430e+04
## [8345] 8.439310e+03 6.083910e+03 8.283201e+03 6.391789e+03
## [8349] 6.786856e+03 7.704970e+03 1.033201e+04 7.450585e+03
## [8353] 1.015035e+04 8.874371e+03 9.280781e+03 8.436139e+03
## [8357] 1.800925e+04 7.677390e+03 7.812620e+03 8.228299e+03
## [8361] 8.867636e+03 1.451485e+04 7.723560e+03 6.841092e+04
## [8365] 7.638729e+03 8.331360e+03 1.441992e+04 1.402192e+04
## [8369] 6.620591e+03 6.111191e+05 1.504007e+04 1.375206e+04
## [8373] 8.683537e+03 7.426289e+03 6.250379e+03 1.376720e+04
## [8377] 9.783563e+03 8.384287e+03 1.463560e+04 1.376703e+04
## [8381] 7.204061e+03 8.301636e+03 6.022691e+03 5.811680e+03
## [8385] 9.059860e+03 1.461740e+04 7.604780e+03 9.641520e+03
## [8389] 1.508658e+04 8.078734e+03 9.960629e+03 1.306705e+04
## [8393] 6.691813e+03 1.514555e+04 5.789125e+03 8.018919e+03
## [8397] 7.867521e+03 1.306155e+04 8.426416e+03 6.438535e+03
## [8401] 7.531313e+03 8.040351e+03 8.133600e+03 7.392626e+03
## [8405] 5.967181e+03 1.019564e+03 6.574095e+03 7.739725e+04
## [8409] 7.655367e+03 7.271387e+03 8.738210e+03 8.481928e+03
## [8413] 1.451306e+04 6.221030e+03 8.283201e+03 7.659884e+03
## [8417] 1.507731e+04 9.906150e+03 1.567146e+04 8.699684e+03
## [8421] 1.528698e+04 8.020460e+03 2.597185e+04 1.719851e+04
## [8425] 1.297581e+04 1.408997e+04 7.522969e+03 8.286371e+03
## [8429] 8.094401e+03 1.394803e+04 1.377409e+04 1.029018e+04
## [8433] 7.189101e+03 2.995787e+04 6.633745e+04 8.283201e+03
## [8437] 7.101356e+03 9.608592e+03 7.374273e+03 6.620484e+03
## [8441] 7.563124e+03 1.366755e+04 9.519819e+03 8.499258e+03
## [8445] 1.090776e+03 6.773422e+03 1.371738e+04 9.371053e+03
## [8449] 1.811676e+04 6.976946e+03 7.189101e+03 9.396054e+03
## [8453] 8.244224e+03 6.298573e+03 8.174023e+03 3.028817e+04
## [8457] 7.876791e+03 1.463941e+04 5.398764e+03 6.648427e+03
## [8461] 7.691616e+03 6.775938e+03 1.321728e+03 7.095528e+03
## [8465] 2.522212e+04 9.059658e+03 7.719046e+03 8.877126e+03
## [8469] 8.729779e+03 7.809371e+03 8.020567e+03 8.231470e+03
## [8473] 1.159659e+04 8.084861e+03 5.236841e+03 1.590222e+04
## [8477] 5.954723e+03 8.436139e+03 7.189101e+03 1.304187e+04
## [8481] 7.618025e+03 1.497433e+04 6.600975e+03 7.189101e+03
## [8485] 1.628308e+04 1.475733e+04 7.725376e+03 8.063941e+03
## [8489] 1.766934e+04 6.776593e+03 1.217486e+04 7.899551e+03
## [8493] 6.844549e+03 7.510886e+04 8.671597e+03 7.406644e+03
## [8497] 6.460903e+03 8.330868e+03 8.819662e+03 2.145751e+04
## [8501] 2.033636e+04 8.055852e+03 6.887128e+03 1.490567e+04
## [8505] 7.453857e+03 6.986785e+03 6.933601e+03 1.109875e+04
## [8509] 6.968757e+03 8.223984e+03 7.844554e+03 1.373469e+04
## [8513] 7.036163e+03 8.407142e+03 7.410186e+03 8.851818e+03
## [8517] 1.199966e+04 7.468270e+03 7.861528e+03 8.662409e+03
## [8521] 6.638423e+03 1.462176e+04 1.652345e+04 6.119588e+03
## [8525] 2.314254e+04 1.390851e+04 8.162941e+03 1.297366e+04
## [8529] 1.092823e+04 7.162340e+03 1.452284e+05 6.976946e+03
## [8533] 8.336456e+03 6.948919e+03 2.220870e+03 1.297097e+04
## [8537] 1.518016e+04 2.855320e+05 7.867521e+03 8.682756e+03
## [8541] 1.604537e+04 7.000836e+03 -1.489524e+02 1.312321e+04
## [8545] -1.437791e+02 1.235647e+04 1.407891e+04 1.010836e+04
## [8549] 7.202346e+03 1.693382e+04 9.543005e+03 1.003716e+04
## [8553] 7.771166e+03 7.189101e+03 1.389313e+04 7.517606e+03
## [8557] 7.770801e+03 1.467507e+04 8.283201e+03 7.052389e+03
## [8561] 1.360153e+04 7.659682e+03 7.255913e+03 1.274098e+04
## [8565] 2.138485e+04 7.000836e+03 8.149575e+03 7.396941e+03
## [8569] 1.637787e+04 7.036163e+03 1.007067e+04 9.158103e+03
## [8573] 7.770964e+03 7.784195e+03 7.189101e+03 8.419319e+03
## [8577] 1.772306e+04 2.306393e+04 1.440390e+04 6.063777e+03
## [8581] 8.365019e+03 7.350969e+03 8.918222e+03 8.006422e+03
## [8585] 8.506000e+03 7.038177e+03 1.138236e+04 1.272557e+04
## [8589] 8.565255e+03 1.248815e+04 1.261656e+04 7.033796e+03
## [8593] 8.509631e+03 6.779751e+03 9.665240e+03 1.137927e+04
## [8597] 1.671076e+04 1.173945e+04 1.436030e+04 8.671597e+03
## [8601] 3.749130e+04 6.931384e+03 6.204804e+03 1.360151e+04
## [8605] 4.653985e+04 7.392733e+03 7.808305e+03 7.221440e+03
## [8609] 1.077929e+04 8.027009e+03 1.108327e+04 1.054459e+04
```

```
## [8613] 8.643978e+03 8.308519e+03 1.448011e+04 4.525892e+04
## [8617] 7.867521e+03 1.220484e+04 7.590981e+03 8.941526e+03
## [8621] 7.883554e+03 1.461355e+04 8.286371e+03 1.471026e+04
## [8625] 7.867521e+03 8.652908e+03 1.401767e+04 7.451842e+03
## [8629] 8.326306e+03 1.431750e+04 7.184389e+03 7.874137e+03
## [8633] 8.075361e+03 7.199803e+03 9.535184e+04 7.048074e+03
## [8637] 1.013129e+04 9.752954e+03 1.424586e+04 2.061841e+03
## [8641] 1.398802e+04 1.395095e+04 1.388891e+04 3.216282e+02
## [8645] 1.332813e+04 2.001468e+04 7.259975e+03 2.604270e+04
## [8649] 7.449453e+04 5.986390e+04 7.738255e+03 8.851818e+03
## [8653] 1.484741e+04 8.465202e+03 8.383556e+03 7.691725e+03
## [8657] 8.020460e+03 8.228299e+03 7.244003e+03 1.269963e+04
## [8661] 2.273996e+03 1.157605e+04 2.019182e+04 7.994678e+03
## [8665] 1.385726e+04 8.598181e+03 3.509130e+03 6.374145e+03
## [8669] 1.455232e+04 8.394482e+03 7.659884e+03 9.131505e+03
## [8673] 8.228299e+03 1.284087e+04 7.451842e+03 1.468164e+04
## [8677] 2.237303e+04 9.433883e+03 1.444752e+04 8.436139e+03
## [8681] 8.657223e+03 7.870015e+03 6.902153e+03 8.283201e+03
## [8685] 8.032560e+03 1.651287e+04 -6.765120e+03 7.469961e+03
## [8689] 8.729988e+03 8.864477e+03 1.218052e+04 8.494211e+03
## [8693] 1.474799e+04 1.451081e+04 1.406128e+04 7.453038e+03
## [8697] 8.125909e+03 1.457243e+04 1.253516e+04 7.189101e+03
## [8701] 1.237983e+04 9.146207e+03 8.858302e+03 1.373474e+04
## [8705] 1.368174e+04 3.259050e+03 3.623250e+04 1.051058e+04
## [8709] 8.436139e+03 1.875064e+04 8.278885e+03 1.427387e+04
## [8713] 7.102975e+03 7.867521e+03 6.776593e+03 8.328254e+03
## [8717] 7.566295e+03 7.812727e+03 7.739506e+03 8.644181e+03
## [8721] 1.346029e+04 1.374614e+04 7.811476e+03 8.020460e+03
## [8725] 7.036270e+03 1.528956e+04 2.280453e+04 1.395211e+04
## [8729] 6.221030e+03 1.151831e+04 1.382875e+04 7.280862e+03
## [8733] 7.221762e+03 2.274146e+04 6.937396e+03 5.336928e+04
## [8737] 7.604780e+03 7.810253e+03 8.228502e+03 5.353937e+03
## [8741] 8.075361e+03 1.419843e+04 8.990947e+03 7.451842e+03
## [8745] 7.380121e+03 1.418577e+04 7.381804e+03 8.449384e+03
## [8749] 7.147445e+03 1.382263e+04 7.604780e+03 8.283403e+03
## [8753] 7.298993e+03 6.636066e+03 7.769819e+03 9.079219e+03
## [8757] 1.127045e+04 7.891083e+03 1.148350e+04 8.276675e+03
## [8761] 8.081691e+03 3.893290e+03 8.319910e+03 1.461558e+04
## [8765] 8.451957e+03 7.400111e+03 6.552865e+03 8.643978e+03
## [8769] 7.143130e+03 8.594859e+03 1.746419e+04 1.120908e+04
## [8773] 1.106275e+04 9.201433e+03 6.773625e+03 2.645189e+04
## [8777] 7.028358e+03 7.256116e+03 7.273554e+03 7.867879e+03
## [8781] 7.048276e+03 7.461597e+03 7.966965e+03 8.675114e+03
## [8785] 9.794201e+03 7.315332e+03 1.580709e+03 1.099492e+04
## [8789] 7.496968e+03 8.520442e+03 2.073223e+04 1.068436e+04
## [8793] 7.397143e+03 5.851181e+03 1.166076e+04 7.753743e+03
## [8797] 1.329970e+04 8.075671e+03 1.217504e+04 1.175965e+04
## [8801] 2.915296e+03 7.755141e+03 6.642917e+03 2.842373e+04
## [8805] 1.660382e+04 1.470913e+04 7.425351e+03 6.422248e+05
## [8809] 7.423148e+05 7.821958e+05 3.247602e+05 1.259231e+05
## [8813] 6.854799e+04 4.493291e+05 1.319476e+04 2.415163e+04
## [8817] 7.576402e+05 1.208076e+05 1.623254e+04 3.103627e+04
## [8821] 1.017367e+05 8.175297e+03 1.874849e+05 6.975961e+03
## [8825] 8.441462e+05 6.147690e+05 3.728752e+04 2.958731e+05
## [8829] 3.627450e+04 3.749559e+04 1.347336e+05 1.691760e+04
## [8833] 1.505931e+04 5.217304e+05 7.078990e+04 1.054029e+05
## [8837] 1.113730e+05 5.393171e+05 8.207387e+04 1.263171e+05
## [8841] 1.597658e+04 2.725565e+05 5.959788e+04 1.831830e+04
## [8845] 9.492372e+03 3.023831e+04 1.037865e+05 4.975671e+04
## [8849] 1.523392e+04 2.568175e+04 1.108941e+04 2.387318e+04
## [8853] 1.394418e+04 8.943409e+03 2.088469e+05 7.540394e+04
## [8857] 4.003456e+04 8.326196e+03 1.512783e+04 1.534563e+04
## [8861] 9.062175e+03 3.265192e+05 1.706539e+04 1.441559e+05
## [8865] 2.327069e+04 3.064089e+05 2.572562e+04 1.812125e+04
## [8869] 9.152692e+03 2.819706e+05 1.779892e+04 1.442947e+05
## [8873] 1.147634e+05 2.912851e+04 5.853972e+04 3.086008e+04
## [8877] 7.202555e+04 3.959385e+04 1.071933e+04 1.225146e+04
## [8881] 1.361936e+04 1.387595e+04 1.227020e+04 1.788602e+04
## [8885] 5.590452e+03 1.208405e+04 1.906815e+04 1.452311e+04
## [8889] 4.741077e+03 2.799500e+03 2.699263e+04 1.249843e+04
## [8893] 1.032810e+05 5.227686e+03 -8.783149e+03 1.067487e+05
## [8897] 3.670227e+04 3.807811e+03 2.390263e+04 4.125568e+03
## [8901] 3.470278e+04 2.446076e+04 1.714902e+04 1.291875e+04
## [8905] 2.289013e+04 2.341297e+03 3.129982e+03 1.862395e+04
## [8909] 9.140754e+04 1.530764e+04 1.305620e+04 -4.499133e+03
## [8913] 1.893860e+04 5.102229e+03 6.570575e+03 6.297674e+03
```

```
## [8913] 1.893800e+04  5.102229e+03  8.570575e+03  6.297074e+03
## [8917] 1.629214e+04  7.462339e+04  6.358157e+03  5.947012e+03
## [8921] 3.522808e+05  6.924752e+03  1.256770e+04  1.226036e+04
## [8925] 2.381451e+03  2.772601e+03  8.801007e+03 -1.152633e+04
## [8929] 4.365341e+04  2.464795e+03  1.803276e+04  1.141181e+04
## [8933] 2.325636e+04  4.059547e+03 -1.328947e+03  2.402396e+04
## [8937] 9.464879e+03  5.466095e+03  7.444240e+04 -4.120179e+02
## [8941] 3.724323e+04  5.846651e+04  1.617303e+04  7.531372e+03
## [8945] 1.139675e+04  4.021811e+03  1.675844e+04  2.452220e+02
## [8949] 1.213051e+04  9.099900e+03  9.509534e+03  3.026588e+04
## [8953] 2.180694e+04  9.232912e+03  7.791902e+04  1.273142e+04
## [8957] -8.595001e+02  4.276385e+04  9.749694e+04  1.545627e+04
## [8961] 1.850907e+05  8.337193e+03  1.720935e+05  1.474739e+04
## [8965] 3.030260e+03  2.870292e+03  9.421413e+03  1.807426e+05
## [8969] 1.566122e+03  1.504676e+04  8.592296e+03 -3.282321e+03
## [8973] 2.783404e+03  2.303419e+03  1.781956e+03  1.388394e+05
## [8977] 2.156056e+04  2.599646e+03  3.599245e+03  1.671986e+03
## [8981] 1.762815e+03 -4.048289e+03  2.193214e+03  1.873422e+03
## [8985] 6.433734e+01  1.311375e+03  6.310198e+04  6.494465e+04
## [8989] 2.107305e+03  1.057369e+03  3.120460e+03  8.758258e+03
## [8993] 9.404867e+03  3.552771e+03  7.536575e+03  2.436246e+03
## [8997] 8.983561e+03  3.481070e+03  1.103368e+03  1.040165e+04
## [9001] 1.485434e+04  2.724306e+03  4.061803e+03  2.645683e+03
## [9005] 1.468395e+04  1.906164e+03  3.674322e+04  9.523449e+03
## [9009] 1.335109e+03  3.401858e+03 -3.213547e+03  2.973925e+03
## [9013] 6.781576e+03  2.253174e+04  3.267137e+03  3.129480e+03
## [9017] -4.129644e+03  2.125934e+04  1.460224e+04  1.655891e+04
## [9021] 8.612366e+03  2.627552e+03  9.212964e+03  6.631825e+03
## [9025] 2.319842e+03  2.610407e+03  8.036180e+02  1.740571e+03
## [9029] 1.510670e+04  7.422786e+03  8.360043e+03  8.709947e+02
## [9033] 1.452410e+04  3.066583e+03  8.646677e+03  2.654599e+03
## [9037] 2.382548e+04  2.618940e+03  2.362585e+05  3.500886e+03
## [9041] 3.720272e+03  1.490059e+04  7.736356e+03  7.265776e+03
## [9045] 3.306476e+03  6.462921e+02  2.496725e+03  4.316018e+03
## [9049] -4.295921e+03  3.742367e+04  2.461565e+03  3.306608e+03
## [9053] 5.871594e+03  6.761882e+03  3.290848e+03  1.304404e+03
## [9057] 3.162037e+03  2.566303e+03  9.651564e+03  8.042678e+02
## [9061] 3.344358e+03 -5.367027e+03  2.021874e+03 -4.092051e+03
## [9065] 9.545441e+03  2.928678e+03  3.059765e+03  6.043817e+04
## [9069] 3.752468e+03  2.378980e+03  2.655648e+03  2.644085e+03
## [9073] -4.906102e+03  2.271986e+03  2.139378e+04  4.094934e+03
## [9077] 3.004396e+03  3.402552e+03  2.960604e+04  8.353663e+03
## [9081] 9.068326e+03  7.610328e+03 -3.992932e+03  3.353642e+03
## [9085] 2.413093e+03  6.273375e+03  3.585426e+04  9.456806e+03
## [9089] 2.076588e+04  3.024970e+05  8.686246e+03  8.272798e+03
## [9093] 3.186697e+03  2.360419e+03  3.273421e+03  4.193059e+03
## [9097] 3.794865e+03  2.191358e+03  3.068563e+03  3.181764e+03
## [9101] 1.047211e+03  9.688724e+03  1.013778e+04  4.538318e+03
## [9105] 7.908369e+03  6.814269e+03  2.118691e+03  4.155652e+03
## [9109] 2.307832e+04  3.730350e+04  3.269392e+03  2.847896e+03
## [9113] -2.893015e+03  2.688438e+03  7.485746e+02  1.806040e+03
## [9117] 3.284682e+03  3.107979e+03  8.791600e+03 -4.820261e+03
## [9121] 2.604490e+03  2.259665e+03  3.110804e+03  8.694215e+05
## [9125] 6.829425e+03  3.016679e+05  5.395938e+03  9.150005e+03
## [9129] 2.688269e+03 -3.567407e+03  3.032406e+03  2.375523e+04
## [9133] -4.337484e+03  1.676469e+04  3.098329e+03  8.626136e+03
## [9137] 1.111889e+04 -3.514126e+03  1.122767e+04  1.291617e+04
## [9141] 4.302773e+03  2.513190e+03  1.004515e+04  7.589414e+03
## [9145] 2.501713e+03  9.189185e+03 -3.713965e+03  2.451563e+03
## [9149] 8.794317e+03  4.658433e+03  1.000556e+04  1.879982e+03
## [9153] 2.750982e+03  8.779429e+03  8.079330e+03  9.319638e+03
## [9157] 2.172082e+03  2.564243e+03  1.305377e+05  7.804019e+03
## [9161] 2.963683e+03  8.192228e+03  1.854383e+03  2.928748e+03
## [9165] -2.347111e+03  6.722252e+04  1.305045e+04  3.444672e+03
## [9169] -1.294406e+01  2.461565e+03  2.140407e+03  2.568641e+03
## [9173] 2.850589e+04  3.769714e+03  8.929111e+03  7.711823e+03
## [9177] 2.784370e+03  8.075461e+03 -4.138930e+03  6.490104e+03
## [9181] 3.536330e+04  9.708363e+03  3.324461e+03  3.581385e+03
## [9185] -3.233539e+03  3.249536e+03  3.069836e+03 -2.748356e+03
## [9189] 2.028385e+04  2.240609e+03  1.043824e+04  1.972275e+03
## [9193] 7.512810e+03  4.194182e+03  3.067571e+03  1.547825e+03
## [9197] 9.207156e+02 -3.735755e+03  1.993240e+03  2.766085e+03
## [9201] 1.998031e+05  3.107534e+03  8.431441e+03  3.150224e+03
## [9205] 3.344931e+03  4.269175e+03  1.557603e+04  1.320972e+04
## [9209] 2.501486e+03  9.047148e+04  9.969549e+03  2.955150e+03
## [9213] -4.738899e+03  1.544611e+04  1.215505e+04  2.853258e+03
```

```
## [9217] 7.565804e+04  6.874783e+03  2.093599e+04  8.523671e+03
## [9221] 2.698538e+03 -3.335913e+03  4.551821e+03  1.600027e+05
## [9225] 9.104625e+03  2.845543e+03  9.183430e+03 -4.094254e+03
## [9229] 3.774256e+04  2.752619e+03  2.935484e+04  1.883652e+03
## [9233] 9.042289e+03  6.986521e+03  6.404751e+03  1.027622e+04
## [9237] 2.091694e+03 -3.720353e+03  2.463919e+04  1.344415e+03
## [9241] 9.850859e+03  9.369333e+03  3.755640e+03  1.204952e+04
## [9245] 3.398879e+03  2.935294e+03  4.990941e+03  8.547821e+03
## [9249] 1.183410e+03  6.443566e+02 -9.986473e+02  2.736166e+03
## [9253] 4.177953e+03  8.967698e+03  1.085038e+04  3.713787e+03
## [9257] 7.880795e+03 -4.104495e+03 -3.630177e+03 -2.020636e+03
## [9261] 3.083051e+04 -2.887198e+03  8.337141e+03  7.524011e+02
## [9265] 9.064769e+03 -3.653560e+03  2.627104e+03  8.788211e+03
## [9269] 2.333053e+03  3.223045e+03  3.470966e+03  3.363713e+03
## [9273] 3.787930e+03  2.608369e+03  3.824032e+03  7.742744e+03
## [9277] -3.905131e+03  4.191043e+03  2.720767e+03  1.886486e+03
## [9281] 3.775364e+03  3.009114e+03  3.579838e+03  1.076403e+04
## [9285] 8.874101e+03  1.398381e+03  1.904156e+03  5.929454e+04
## [9289] 8.827762e+03  2.293377e+04 -3.384698e+03  8.820791e+03
## [9293] 2.944173e+03  2.486835e+03  2.011385e+04  1.128964e+04
## [9297] 1.751648e+04  2.481938e+03  3.983371e+03 -1.610587e+03
## [9301] 1.167389e+03  9.268369e+03  4.016837e+04  4.577440e+04
## [9305] 2.752391e+03  1.785927e+03  2.216055e+03  1.193299e+04
## [9309] 8.587059e+03  1.522480e+04  1.762076e+03 -4.270899e+03
## [9313] 1.237806e+04  8.169677e+03  3.804712e+03  8.672049e+03
## [9317] 8.266579e+03  3.005618e+03  2.731887e+03  2.431962e+03
## [9321] 1.708669e+04  1.827192e+03  3.833855e+03  9.766524e+03
## [9325] 3.631833e+03  2.884027e+03  8.875683e+03  9.520304e+03
## [9329] 3.886646e+03  2.742714e+03  7.914456e+03  2.980662e+03
## [9333] 8.596893e+03  2.238843e+03  1.148914e+04  1.421722e+03
## [9337] 2.444374e+03  8.346194e+03  9.363516e+03  2.152282e+03
## [9341] 1.578310e+04  1.046343e+04 -3.825696e+03  1.090451e+04
## [9345] 1.011380e+04  2.022448e+04  3.567524e+03  8.071733e+04
## [9349] 5.354305e+05  3.447440e+03  3.655476e+03  1.551389e+04
## [9353] 3.039346e+03  3.842519e+03 -3.201054e+03  2.120178e+04
## [9357] 7.894287e+03 -4.577772e+03  1.760229e+03  1.918757e+03
## [9361] -3.464918e+03 -4.361256e+03  2.960231e+03  1.280118e+03
## [9365] -4.330823e+03  9.369036e+02 -4.520174e+03  1.299611e+04
## [9369] 8.300540e+03  3.455161e+03  1.324288e+03  1.570484e+03
## [9373] 6.530897e+02  8.641069e+03  3.347634e+03 -3.038952e+03
## [9377] 1.973040e+03  8.699145e+03  3.730813e+03  6.628118e+03
## [9381] 9.023565e+02  9.627703e+04  3.763056e+03  1.197654e+05
## [9385] 2.839218e+03  2.210821e+03  4.152950e+04  1.476600e+05
## [9389] 2.833113e+03  2.647732e+03 -4.296276e+03  3.724725e+03
## [9393] 4.348010e+03  2.440865e+03  2.393950e+03  2.680217e+03
## [9397] 1.072569e+04  5.801852e+04  2.368691e+03  1.568480e+03
## [9401] 2.008081e+03 -1.454528e+03  8.216203e+03  8.104198e+02
## [9405] 7.706449e+03  3.268744e+03  2.294934e+03  4.508626e+04
## [9409] 3.359721e+03  8.816942e+03  2.104171e+04  4.634245e+04
## [9413] 4.606890e+03  1.615324e+03 -4.449215e+03  3.084439e+03
## [9417] 1.831583e+03  1.077137e+04  7.624805e+03  1.928506e+03
## [9421] 8.554652e+03  1.014562e+04  2.338096e+03  2.530966e+04
## [9425] -3.949193e+02  9.729944e+03  1.809693e+04  4.120251e+03
## [9429] 1.262946e+04  1.882786e+04  3.083059e+04  3.699360e+03
## [9433] 2.320654e+03  3.359684e+03  4.025591e+03  9.018797e+03
## [9437] 3.864060e+04  2.443621e+03  1.467050e+04  4.135686e+03
## [9441] 8.571676e+03  2.544552e+03  1.004491e+04  1.384614e+04
## [9445] 3.775364e+03  1.564284e+03  1.449008e+05  3.775531e+03
## [9449] 2.203476e+03  8.968288e+03  2.622985e+03  2.617081e+03
## [9453] 8.253953e+03  8.947851e+03  1.768048e+03  3.133720e+03
## [9457] 4.306835e+03  3.015300e+03  1.201151e+04  1.512798e+05
## [9461] 1.976720e+03  1.024687e+04  2.412251e+03  3.340543e+03
## [9465] 3.153780e+03  2.635402e+03  4.246112e+03  2.949834e+03
## [9469] 9.795254e+03  2.039424e+03  3.636863e+03  9.937783e+03
## [9473] 1.617029e+05  1.939359e+05  2.791234e+03  1.975934e+03
## [9477] -4.260280e+03  3.724175e+04  3.795618e+03  1.856199e+03
## [9481] 2.732768e+04  2.897162e+03  5.726236e+03  1.554438e+03
## [9485] 2.767897e+03  2.599453e+03  3.752052e+03  4.373452e+03
## [9489] 1.042320e+05  9.247471e+03  3.318876e+03  1.059526e+04
## [9493] 3.648880e+03  9.226636e+03  1.549898e+03  1.697135e+03
## [9497] 8.954133e+03  3.763027e+03  8.586000e+03  1.000891e+04
## [9501] 8.522310e+03  9.742313e+03  9.868869e+03  6.712682e+03
## [9505] 5.833850e+05  2.752360e+05  4.028479e+03  9.658517e+03
## [9509] 2.723661e+03  2.167716e+03  1.672981e+03  9.622580e+03
## [9513] -4.496058e+03  1.669554e+03  3.133523e+03  3.385599e+03
## [9517] 3.180274e+03  7.037829e+03  1.256086e+04  8.054295e+03
```

```
## [9517] 3.189374e+03  7.937820e+03  1.256086e+04  8.051205e+03
## [9521] 3.113788e+03  4.130325e+03  6.971529e+03  7.688295e+03
## [9525] 1.051965e+04  2.723829e+03  1.000970e+04 -1.940133e+03
## [9529] -2.883178e+03  2.952231e+03  3.185345e+03  4.119525e+05
## [9533] 8.078254e+03  2.233026e+03  3.909859e+04  3.425162e+03
## [9537] 8.272754e+03  2.187119e+04 -4.909796e+03  3.850664e+03
## [9541] 1.502950e+04  1.463943e+04  8.942155e+03  8.324761e+03
## [9545] -3.436439e+03  2.907628e+03 -4.493912e+03 -2.778414e+03
## [9549] -3.446444e+03 -2.818073e+03  3.607076e+03  8.905984e+04
## [9553] 3.464734e+03 -2.866574e+03  4.678652e+03  3.652884e+03
## [9557] 1.994196e+03  2.849176e+03  1.491101e+04 -3.191973e+03
## [9561] -2.524271e+03  2.886803e+03  2.514543e+03  2.008871e+03
## [9565] 1.552162e+03  1.163906e+03  5.986290e+03  1.601155e+03
## [9569] 3.298126e+03  6.955165e+03  9.985548e+03  1.001909e+04
## [9573] 2.894534e+03  4.225755e+03  2.462514e+03  2.850481e+03
## [9577] 1.398184e+04  2.456886e+03  9.574693e+03  3.430585e+03
## [9581] 1.486827e+03  9.756785e+03  7.577199e+03  1.366908e+03
## [9585] 5.398532e+03  2.874480e+04  2.699655e+03  1.149595e+03
## [9589] 2.887943e+03  3.591057e+03  3.446165e+03  2.535800e+03
## [9593] 3.734073e+03 -2.418413e+03  1.980513e+03  5.646994e+03
## [9597] 3.513228e+03  3.030485e+03  2.730516e+03  3.298966e+03
## [9601] 2.666972e+03  5.282300e+03  1.271832e+04  2.798541e+03
## [9605] 1.331160e+03  8.377040e+03  3.949977e+03  1.387389e+03
## [9609] 1.455474e+04  8.518635e+03  3.767320e+03  4.048217e+03
## [9613] 3.374347e+03  9.776850e+00  3.760349e+03  9.160894e+04
## [9617] 3.133599e+03  1.155912e+03  9.668718e+03  9.108947e+03
## [9621] 2.962659e+04  3.536276e+03  3.277864e+03  2.174192e+03
## [9625] 1.281231e+04  2.938808e+03  2.201298e+03  3.007504e+03
## [9629] 3.831403e+03  1.903639e+03  2.688571e+03  2.986926e+04
## [9633] 1.656941e+03  6.155040e+03  8.959149e+03  4.003209e+03
## [9637] 4.903547e+03  2.025186e+03  2.998487e+04 -4.664623e+03
## [9641] 3.098184e+04  2.948442e+03  1.439388e+05  2.144450e+03
## [9645] 4.273506e+03  3.592927e+03  2.535633e+03  3.150844e+03
## [9649] 1.036479e+04  2.330895e+03  2.247264e+03  8.010986e+03
## [9653] 9.447634e+03  8.153551e+03  9.849847e+03  1.164638e+04
## [9657] 2.515381e+05 -2.855558e+03  2.198905e+03  1.365099e+03
## [9661] 8.569611e+03  4.176827e+03  3.323915e+03  8.580183e+03
## [9665] 1.970117e+03 -3.837294e+03  9.938912e+03  8.103804e+03
## [9669] 1.730455e+05  5.388778e+03  3.170610e+03  6.738701e+03
## [9673] 1.946399e+04  4.268739e+04  1.414791e+03  4.143449e+03
## [9677] 3.254993e+03  1.078997e+04  1.264159e+04  3.198035e+03
## [9681] 8.535266e+03  8.817668e+03  8.011266e+03  4.420414e+03
## [9685] 4.443216e+03  7.984460e+03 -3.938069e+03  1.620008e+03
## [9689] 1.326969e+04  6.079946e+03  3.287361e+03  1.358228e+04
## [9693] 4.693202e+03  2.928344e+04  7.979766e+03  3.706833e+03
## [9697] 3.567552e+03  9.610907e+03  3.006381e+03  2.221552e+03
## [9701] 6.936750e+03 -4.700395e+03  2.730968e+03  2.968813e+03
## [9705] 8.952474e+03  1.480498e+04  3.451316e+03  9.015851e+03
## [9709] 2.492066e+03  8.553161e+03  1.732575e+03  3.115342e+04
## [9713] 3.189910e+04  3.092514e+03  1.294818e+03  2.140433e+03
## [9717] 7.990423e+03  2.215501e+04  1.470807e+03  8.229937e+03
## [9721] 2.107617e+03 -4.597752e+03  9.779803e+03  1.704442e+03
## [9725] 4.068215e+03  3.294520e+03  3.510835e+03 -3.734559e+03
## [9729] 8.605791e+02  3.731369e+03  9.828678e+03  2.548319e+03
## [9733] 7.663097e+03  4.240139e+03  9.523650e+03  3.240663e+03
## [9737] 7.363951e+03  1.987270e+03  5.810094e+03  2.120195e+03
## [9741] -2.502664e+03  9.511829e+03  3.470060e+03  9.847520e+03
## [9745] -2.751540e+03  3.645958e+03  3.840674e+03  2.900440e+03
## [9749] 2.579321e+03  9.626257e+03  1.496602e+03  2.832540e+03
## [9753] 3.676487e+03  2.773158e+03  2.523129e+03 -2.395286e+03
## [9757] 4.919081e+03  2.443453e+03  8.844757e+04  3.872193e+05
## [9761] 1.007442e+04  8.753110e+03  7.518040e+03  8.620259e+03
## [9765] 5.202529e+03  5.394687e+03  9.031909e+03  2.617144e+03
## [9769] 3.430106e+03  1.077312e+04  9.921689e+03  9.442106e+02
## [9773] 3.974492e+03  2.979908e+04  2.120121e+03  5.055194e+03
## [9777] 1.201279e+03  2.946193e+03  3.374179e+03  9.978367e+03
## [9781] 3.527949e+03  2.731136e+03  8.159469e+02  7.771759e+03
## [9785] 1.926193e+03  2.132813e+03  5.294751e+04 -3.818389e+03
## [9789] 2.814600e+03  1.585668e+04  3.600804e+04 -3.749634e+03
## [9793] 4.523201e+03  2.883907e+03  9.453541e+03  1.984364e+03
## [9797] 8.769168e+03  4.587486e+03  2.305007e+04  1.676646e+03
## [9801] 2.041815e+03  8.904438e+03  2.413749e+03  9.215718e+03
## [9805] 9.546821e+03  7.422818e+03 -3.838963e+03  3.567293e+04
## [9809] 2.953599e+03  3.588162e+03  2.049227e+03  2.138336e+03
## [9813] 2.271450e+03  7.057138e+03 -3.457611e+03  1.308850e+03
## [9817] 1.815120e+03  1.501207e+05  2.562906e+03  2.220429e+03
```

```
## [9817] 4.010120e+00 4.001207e+00 2.002900e+00 2.220190e+00
## [9821] 4.455150e+03 1.931616e+03 3.274918e+03 4.501672e+04
## [9825] 1.009013e+04 2.375986e+03 5.361340e+03 2.847009e+03
## [9829] 1.639977e+03 -3.316748e+03 4.917009e+03 2.246937e+03
## [9833] 4.458816e+04 2.590702e+03 3.670485e+05 3.647952e+05
## [9837] 3.060175e+04 2.688571e+03 3.458173e+03 1.013120e+04
## [9841] 1.795714e+03 3.760156e+03 2.146396e+03 1.071203e+04
## [9845] -3.073568e+03 3.663364e+03 2.060899e+02 8.066749e+03
## [9849] 2.223215e+03 1.435312e+04 1.802690e+03 8.814233e+03
## [9853] 2.347295e+03 6.598424e+04 2.088416e+03 3.347817e+05
## [9857] 1.754033e+03 4.051207e+03 4.399956e+03 2.956773e+04
## [9861] 9.444252e+02 7.843969e+03 2.763785e+03 3.154694e+03
## [9865] -8.769666e+02 2.747502e+03 1.582913e+03 1.115762e+05
## [9869] -4.412189e+03 9.527371e+03 1.217049e+03 2.866803e+04
## [9873] 7.648969e+04 4.420488e+03 9.983062e+03 1.041796e+05
## [9877] 2.307991e+03 2.500066e+03 -3.626633e+03 2.046356e+03
## [9881] 4.720853e+03 1.400930e+04 1.062350e+04 1.153854e+05
## [9885] 1.052694e+04 2.319605e+03 7.262498e+03 3.890863e+03
## [9889] 3.764060e+03 3.091126e+03 2.288282e+03 1.416414e+04
## [9893] 9.035759e+03 2.433823e+03 3.959795e+03 3.748081e+03
## [9897] 2.947558e+03 9.015851e+03 3.727769e+03 2.923398e+03
## [9901] -3.541242e+03 1.462895e+04 3.108280e+03 9.863267e+03
## [9905] 2.679476e+03 6.756114e+04 8.265277e+03 1.915262e+03
## [9909] 1.256377e+04 9.237126e+03 5.091947e+03 9.703404e+03
## [9913] 1.483931e+03 7.340366e+03 1.244280e+04 8.258424e+03
## [9917] 9.894818e+03 5.325008e+03 3.593454e+04 2.251919e+04
## [9921] 3.217971e+03 9.101216e+03 7.369359e+03 -3.999627e+03
## [9925] 2.119954e+03 9.778431e+03 9.161084e+03 1.441065e+04
## [9929] 7.658413e+03 3.366992e+03 2.440865e+03 2.879809e+04
## [9933] 1.627800e+04 1.101851e+04 1.015695e+04 1.304821e+03
## [9937] 1.975255e+03 -4.853188e+03 4.649078e+05 8.984718e+03
## [9941] 9.345901e+03 2.219149e+04 9.792308e+03 3.270434e+03
## [9945] 4.060600e+03 1.207309e+02 2.622509e+03 2.360244e+03
## [9949] 9.277298e+03 9.796337e+03 4.301629e+03 2.065052e+03
## [9953] 4.350821e+03 1.427954e+03 2.887316e+03 6.047654e+03
## [9957] 9.945211e+03 2.759698e+03 2.915646e+03 2.191248e+03
## [9961] 1.028460e+03 -3.182795e+03 4.022319e+03 2.859437e+03
## [9965] 6.961571e+03 1.459732e+04 2.004802e+03 3.925558e+05
## [9969] -9.797612e+02 7.513712e+03 2.518230e+03 1.739355e+03
## [9973] 7.016034e+03 2.779269e+03 1.549704e+04 1.132919e+03
## [9977] 8.062252e+03 2.106997e+03 3.036554e+04 1.063353e+03
## [9981] 9.471251e+03 2.930069e+03 9.130565e+03 1.599041e+04
## [9985] 1.467090e+03 9.886821e+02 2.088672e+03 8.584821e+03
## [9989] 2.318866e+03 9.388298e+03 1.899610e+03 7.725839e+04
## [9993] 2.148255e+03 3.522390e+04 2.220028e+04 8.544673e+03
## [9997] 1.026692e+04 2.398921e+03 3.616776e+03 1.096233e+04
## [10001] 9.562877e+03 2.658553e+03 6.531926e+03 2.126996e+04
## [10005] 1.779431e+03 3.614184e+03 3.015062e+03 8.640571e+03
## [10009] 1.588096e+04 2.003553e+03 9.634128e+03 9.666870e+04
## [10013] 2.814600e+03 -2.108065e+02 2.587629e+03 2.925684e+03
## [10017] 8.051809e+03 9.176429e+03 -3.113059e+03 3.233495e+02
## [10021] 2.402950e+03 2.024826e+04 1.915216e+03 1.049717e+04
## [10025] 3.727679e+04 8.450347e+03 3.377187e+03 2.215029e+03
## [10029] 4.128389e+03 -4.160744e+03 7.950109e+03 9.965952e+03
## [10033] 2.822870e+03 -2.219695e+03 3.133721e+03 3.146028e+03
## [10037] -3.427773e+03 2.591026e+03 8.379220e+03 1.028657e+04
## [10041] 2.132196e+03 1.775402e+03 3.022439e+03 2.869601e+03
## [10045] 2.272892e+03 1.648944e+03 3.384920e+03 5.013316e+05
## [10049] 4.353679e+03 2.416564e+03 1.830470e+03 1.496006e+03
## [10053] 9.057154e+03 1.197857e+03 8.760135e+02 2.908876e+03
## [10057] 3.034514e+03 4.073488e+03 2.573221e+03 2.103159e+04
## [10061] 2.370358e+03 1.695967e+03 5.314854e+03 2.140433e+03
## [10065] 7.943564e+03 5.993917e+03 1.642530e+04 1.804917e+03
## [10069] -5.078550e+03 4.168592e+03 5.410798e+03 9.470830e+03
## [10073] 1.245737e+04 2.583826e+03 8.177616e+03 -2.800726e+03
## [10077] 3.769547e+03 1.571222e+03 8.718374e+03 2.488778e+03
## [10081] 2.119692e+03 2.691177e+03 3.159152e+03 2.183069e+03
## [10085] 2.038310e+03 9.416442e+03 5.379182e+03 3.355897e+03
## [10089] 1.607899e+03 1.936386e+03 9.615809e+03 3.101837e+03
## [10093] 1.724529e+03 9.031909e+03 3.727769e+03 1.511095e+04
## [10097] 2.688571e+03 2.330895e+03 2.463123e+03 2.920744e+03
## [10101] 1.787644e+03 9.796169e+03 1.651625e+03 6.495245e+04
## [10105] 1.038026e+05 7.621670e+03 -2.180217e+03 2.847154e+03
## [10109] 2.559905e+03 7.008582e+03 1.006283e+04 2.285701e+03
## [10113] 2.919226e+04 2.042339e+03 4.614029e+03 -3.058157e+03
## [10117] 4.013754e+03 4.576256e+05 2.298181e+03 -3.147020e+03
```

```
## [10121]  2.207409e+03  1.201608e+04  2.732378e+03  2.542764e+03
## [10125]  4.444639e+04  1.910890e+03  2.120520e+04  2.644311e+03
## [10129]  3.786700e+03  3.014989e+03  4.478497e+03  1.607161e+04
## [10133]  1.017136e+03  9.086978e+03  2.199704e+03  4.837269e+05
## [10137]  9.019880e+03  1.804750e+03  2.920285e+03  2.286652e+03
## [10141]  2.795447e+03  8.841034e+03  2.603494e+03  3.156654e+04
## [10145]  3.179407e+03  4.878720e+03  2.967399e+05  3.482757e+03
## [10149]  2.150425e+03  5.213449e+04  2.760317e+03  2.136180e+03
## [10153]  3.308678e+05  2.510080e+03  9.879596e+03  2.606927e+03
## [10157]  7.340629e+03  2.991031e+03  1.153006e+03 -3.528738e+03
## [10161]  4.860483e+04  3.583045e+03  9.057610e+03  2.896411e+03
## [10165]  9.021038e+03  1.168633e+03  9.964852e+04  3.091746e+03
## [10169]  3.194900e+03  2.480732e+03  8.150464e+03  2.585416e+03
## [10173]  1.119071e+05  9.169726e+03  2.220944e+04  2.044860e+04
## [10177]  3.650212e+03  3.299259e+03 -3.625425e+03  1.389882e+03
## [10181]  1.631645e+03  3.676285e+03  1.007409e+04  2.747669e+03
## [10185]  1.019354e+04  6.484347e+03  3.206918e+02 -2.654982e+03
## [10189]  1.086320e+04  1.340293e+03  9.013329e+04  3.628320e+03
## [10193]  7.705994e+03  9.471307e+03  3.616387e+03  2.884087e+04
## [10197]  1.223056e+03  9.792308e+03  3.490913e+03 -4.649580e+03
## [10201]  9.467889e+03  2.632842e+03  2.560257e+03  1.665598e+03
## [10205]  4.410219e+03  4.197248e+03  2.576865e+03 -2.633309e+03
## [10209]  3.345468e+03  1.083915e+04 -1.769947e+03 -2.171730e+03
## [10213]  3.366992e+03  2.555888e+03  2.955509e+03  2.205244e+03
## [10217]  3.519930e+03 -3.121546e+03  2.587796e+03  7.891021e+03
## [10221]  1.000015e+04  2.816245e+03  3.052028e+03 -2.634265e+03
## [10225]  5.400578e+04  7.094422e+03  2.022929e+03  8.622931e+03
## [10229] -3.469819e+03  9.482396e+02  1.019951e+04  3.727769e+03
## [10233]  1.661198e+03  2.718134e+03  1.653400e+04  3.312090e+03
## [10237]  1.619091e+03  1.967183e+03  2.787503e+04  1.360257e+04
## [10241]  3.366992e+03  1.720159e+04  3.806196e+04  3.230446e+03
## [10245]  3.579027e+03  2.250179e+03  1.430378e+04  4.473202e+03
## [10249]  1.431762e+04  2.696617e+03  1.688864e+03  2.383860e+04
## [10253]  1.533825e+04  2.237917e+03  2.688571e+03  1.092580e+03
## [10257]  9.022990e+03 -3.436320e+03  3.204619e+03  4.596985e+04
## [10261]  3.876780e+03  4.648761e+02  9.402888e+03  8.896146e+04
## [10265]  4.428588e+03  3.825217e+03  3.030281e+04  4.725311e+03
## [10269]  2.053844e+04  8.564733e+03  4.214576e+03  1.762445e+03
## [10273]  4.733571e+04 -4.433861e+03  2.548004e+03  9.229319e+03
## [10277]  2.762080e+03  2.641472e+04  1.416975e+03  1.481567e+04
## [10281] -4.838194e+03  5.052345e+03  2.685603e+03  3.858439e+03
## [10285]  1.149479e+04  1.898990e+03  3.246288e+03  2.385796e+03
## [10289]  8.935333e+03  7.562954e+03  3.193744e+03  2.459132e+03
## [10293]  3.977386e+03  1.886486e+03 -2.907177e+03  9.165653e+03
## [10297] -2.874325e+03  1.232652e+04 -5.097456e+03  9.779196e+03
## [10301]  1.490573e+03  3.733820e+04  7.768732e+03  9.023996e+04
## [10305] -6.268778e+03  7.986784e+03  1.081839e+04 -2.875946e+03
## [10309]  3.975205e+03  1.841469e+04  1.986425e+03  2.144236e+03
## [10313]  2.000361e+04  1.628579e+03  2.559428e+03  9.127654e+03
## [10317]  2.776432e+03  9.110518e+03  3.227525e+03  3.443376e+03
## [10321]  4.553141e+03  1.947195e+03  7.217009e+04  3.671945e+03
## [10325]  1.263134e+03  3.506806e+03  4.960231e+04  1.858484e+04
## [10329]  3.598364e+03  8.550959e+02  4.608963e+03  1.033326e+04
## [10333]  2.613316e+03  3.985444e+03  8.952343e+03  2.455300e+03
## [10337]  3.231413e+03  2.746574e+03  3.038664e+03  8.138710e+03
## [10341]  8.185553e+03  9.250168e+02 -3.678574e+03  3.193530e+03
## [10345]  1.040673e+04  8.327751e+03  3.490219e+03  1.499902e+03
## [10349]  1.526116e+03  2.153423e+03  1.054179e+04  3.561707e+03
## [10353]  2.627969e+03  1.819277e+03  3.446392e+03  7.548569e+03
## [10357]  9.571356e+03  8.798642e+03  2.888996e+03  8.395445e+03
## [10361]  2.849252e+03  8.508459e+03  1.678814e+03  8.749974e+03
## [10365]  9.258859e+03  1.150056e+04  2.327889e+03  7.411149e+03
## [10369]  2.137313e+03 -5.282361e+03  1.660539e+03  3.194233e+03
## [10373]  2.808673e+03  2.811799e+03 -3.523900e+03  5.610993e+03
## [10377]  3.432375e+03  1.377752e+04 -1.772410e+03 -3.169391e+03
## [10381]  3.941197e+04  1.199215e+04  5.687555e+03 -1.145219e+04
## [10385] -3.152865e+03 -9.332078e+02  2.185518e+04  4.086714e+04
## [10389]  1.656779e+04  6.026373e+03  2.863969e+04 -1.904379e+03
## [10393]  1.567674e+04  1.468863e+03 -3.494155e+03 -1.024282e+04
## [10397]  1.277932e+04  8.771268e+03  4.627837e+03  7.778642e+05
## [10401]  1.705803e+05 -3.677117e+03 -5.978586e+03  2.418569e+03
## [10405] -6.299656e+03  2.180369e+03 -6.395346e+03  2.006709e+03
## [10409]  1.032483e+03 -5.945434e+03 -5.122315e+03  5.105596e+02
## [10413] -7.056236e+03 -4.986327e+03 -6.126790e+03 -5.752557e+03
## [10417] -6.033059e+03  8.686183e+03 -5.692100e+03 -6.828508e+03
## [10421]  4.315870e+03  9.648654e+02  3.271376e+03 -5.572536e+03
```

```
## [10421] -4.313870e+03  9.848654e+02 -3.271376e+03 -3.372336e+03
## [10425] -3.533098e+03 -5.981310e+03 -1.200650e+04  2.771183e+05
## [10429]  4.339540e+04  3.375545e+03  6.929032e+03 -9.492764e+03
## [10433]  2.663681e+03 -4.270597e+03 -6.030842e+03  1.823161e+03
## [10437]  2.416626e+03 -6.395813e+03  2.833986e+03  2.000796e+03
## [10441]  7.539095e+02  3.866567e+04 -1.418246e+04  4.004035e+03
## [10445]  4.458960e+02 -6.070026e+03 -3.484187e+03 -3.042522e+03
## [10449]  2.939971e+03  1.539995e+03  2.787033e+03 -5.309795e+03
## [10453] -4.778487e+03  1.341475e+05  1.151495e+05  2.179547e+03
## [10457]  2.231788e+03 -4.517294e+03 -4.723586e+03 -5.556214e+03
## [10461] -4.769977e+03  1.140790e+03 -1.365557e+03 -5.409969e+03
## [10465] -5.725474e+03  7.079334e+03  1.900773e+03  1.715367e+03
## [10469] -5.019707e+03 -6.370473e+03 -7.543354e+03  6.769685e+03
## [10473]  4.514074e+01  1.972148e+03  1.693515e+03  2.638413e+04
## [10477]  2.884999e+04  7.637674e+02 -2.172604e+03 -4.412232e+03
## [10481] -4.370771e+03  2.739210e+04  1.321449e+04  9.319411e+03
## [10485]  1.900773e+03 -4.928017e+03 -5.270805e+03 -6.954797e+03
## [10489]  1.324208e+03 -4.731549e+03 -1.216567e+04  5.710902e+02
## [10493]  1.423254e+04 -5.764036e+03 -4.413591e+03  2.286069e+03
## [10497] -6.298187e+03  4.110823e+04 -5.202129e+03  6.122599e+04
## [10501] -8.113003e+03  5.822048e+04 -7.234396e+03  1.244247e+03
## [10505] -7.867732e+03 -3.661394e+03  3.315262e+03  1.971900e+03
## [10509]  1.136717e+03 -4.741178e+03  1.222579e+03  5.912128e+05
## [10513]  8.761223e+04  8.970395e+03 -5.614280e+03 -4.444622e+03
## [10517]  3.731503e+03  3.978535e+04 -4.315870e+03 -4.786450e+03
## [10521] -4.770418e+03  3.696517e+04 -6.722498e+03 -3.635215e+03
## [10525]  2.180894e+04 -4.953256e+03  7.697336e+03 -9.743362e+03
## [10529] -6.528952e+03 -3.909122e+03 -5.703935e+03  2.596577e+03
## [10533] -4.971856e+03  2.405422e+03  7.492573e+03 -1.339837e+04
## [10537] -4.108030e+03 -5.202129e+03 -1.024373e+03 -4.370771e+03
## [10541]  1.783587e+03  2.963594e+03 -4.939388e+03  1.708966e+03
## [10545] -4.692365e+03 -5.517635e+03  1.151864e+03 -4.501987e+03
## [10549] -6.354941e+03  2.114701e+03 -6.692067e+03 -4.221465e+03
## [10553]  3.334872e+04 -6.882802e+03 -4.287071e+03 -6.106123e+03
## [10557] -5.345210e+03 -5.227618e+02 -5.171733e+03 -4.831502e+03
## [10561] -3.701980e+03  9.487348e+02 -4.525982e+03 -2.974327e+02
## [10565]  7.246695e+02 -6.903804e+03 -3.389579e+03 -1.993694e+03
## [10569] -4.429624e+03 -5.202129e+03 -5.360935e+03 -6.010208e+03
## [10573] -4.011525e+03 -2.584121e+03  3.417526e+04  8.081566e+03
## [10577] -4.686705e+03 -5.514463e+03 -5.072440e+03 -4.746697e+03
## [10581]  1.335994e+03 -6.577681e+03 -1.125015e+04 -7.043938e+03
## [10585]  1.709407e+03 -4.146458e+03  2.356452e+03 -5.185656e+03
## [10589]  7.714590e+02 -4.507236e+03 -4.933893e+03 -4.597542e+02
## [10593]  6.646611e+02 -5.198601e+03  3.077381e+03 -5.339035e+03
## [10597] -3.594918e+03  9.267264e+03 -7.404513e+03 -4.904029e+03
## [10601] -4.280133e+03  2.232520e+03 -5.917269e+03  2.262989e+03
## [10605] -7.788220e+03 -4.108030e+03  2.779270e+02 -4.533338e+03
## [10609]  3.375545e+03 -5.978157e+03  1.564172e+03 -3.419344e+03
## [10613]  1.339732e+03 -5.402006e+03 -1.438875e+04 -5.244509e+03
## [10617]  3.688650e+03  2.186615e+03  1.642005e+03  1.546113e+03
## [10621] -4.988056e+03  3.409768e+03  2.116564e+03 -4.317226e+03
## [10625]  7.888735e+04  7.124621e+03  1.517505e+04  7.770102e+02
## [10629] -4.484227e+03  7.162536e+02  7.903343e+04 -3.315305e+03
## [10633] -5.332193e+03  5.216159e+02 -4.782689e+03  3.558933e+02
## [10637] -6.230540e+03 -5.337879e+03  1.290200e+04 -6.123812e+03
## [10641] -6.367231e+03 -5.962936e+03  8.488202e+03 -1.153029e+04
## [10645] -5.193869e+03  1.112077e+04 -4.928172e+03 -4.810656e+03
## [10649] -6.694458e+03  1.625997e+02 -5.521974e+03 -4.033532e+03
## [10653]  2.714577e+03  5.661919e+02 -7.425204e+03  1.232841e+03
## [10657] -4.315870e+03 -5.868275e+03  2.327431e+03 -4.218649e+03
## [10661] -5.119717e+03  2.866850e+03  2.516907e+04  1.558035e+04
## [10665] -5.403568e+03 -5.522961e+03  1.896949e+03 -5.247181e+03
## [10669]  1.534204e+04 -5.006952e+03 -4.448278e+03 -5.189908e+03
## [10673]  6.601364e+02 -4.108015e+03 -5.900713e+03 -5.329177e+03
## [10677] -5.645147e+03  1.790271e+03 -1.217175e+04  2.499820e+03
## [10681]  8.537647e+03 -1.262663e+04  1.386476e+04 -6.186426e+03
## [10685] -5.988644e+03  1.650206e+04 -5.202129e+03 -4.786450e+03
## [10689] -7.433440e+03 -5.488715e+03 -3.454663e+03  1.348382e+03
## [10693] -5.194420e+03  8.532172e+03  1.024057e+04 -4.550186e+03
## [10697]  1.173939e+03 -4.639892e+03  7.840653e+02 -4.483693e+03
## [10701]  4.565517e+04  3.233395e+03  2.936869e+03 -5.987691e+03
## [10705] -1.137959e+04 -3.619783e+03 -4.954274e+03 -3.499397e+03
## [10709] -4.578611e+03 -5.097268e+03 -5.709140e+03 -7.444559e+03
## [10713] -5.680208e+03  4.123683e+04 -3.271268e+03 -5.556506e+03
## [10717]  4.830550e+03 -7.014023e+03 -1.036027e+04 -6.022700e+03
## [10721] -5.217343e+03 -4.274173e+03 -6.651925e+03  2.371354e+03
```

```
## [10725] -4.547067e+03 -3.351482e+03  1.371499e+03 -4.686276e+03
## [10729]  1.748753e+03 -5.780267e+03 -4.980406e+03 -9.433929e+02
## [10733]  1.293597e+03 -6.022116e+03 -2.221959e+03 -5.488405e+03
## [10737] -4.354297e+03  1.607963e+04 -2.890751e+03 -6.786782e+03
## [10741]  2.742742e+04 -6.634573e+03  2.124645e+03 -4.013945e+03
## [10745] -3.938618e+03 -4.742207e+03  1.692934e+03  3.254468e+04
## [10749]  4.216523e+02 -1.097605e+04  6.876162e+05  5.826162e+04
## [10753] -9.884316e+03  4.207920e+04  2.531664e+04 -1.718600e+04
## [10757] -1.485545e+04 -8.945888e+03  2.741986e+04  5.865614e+02
## [10761] -1.440553e+04 -1.358619e+04  3.926438e+04 -1.633032e+04
## [10765] -1.909275e+03  4.924275e+05 -1.295235e+04 -7.257489e+02
## [10769]  1.249191e+05 -1.939590e+04  1.311899e+04 -1.229808e+04
## [10773] -1.917131e+03  3.488315e+04 -9.730892e+03 -1.648494e+04
## [10777] -1.737673e+04 -5.526535e+03 -1.540750e+04 -1.635059e+04
## [10781] -1.588719e+03 -1.516673e+04  1.631179e+04  1.645556e+05
## [10785] -2.978475e+03 -1.519959e+04 -1.684060e+04 -1.593041e+04
## [10789] -1.546788e+04 -1.604171e+03 -1.617272e+04 -1.302706e+04
## [10793] -9.788357e+03  6.868648e+03 -1.594955e+04 -1.368139e+04
## [10797] -9.260497e+03 -5.896668e+03  2.471276e+04  1.389104e+04
## [10801] -1.775685e+04  3.571140e+04 -1.465126e+04 -9.135300e+03
## [10805]  2.464195e+01  1.308362e+05  2.569090e+05  1.085755e+04
## [10809] -8.080347e+03 -1.556632e+04  1.250700e+04 -5.530302e+02
## [10813] -9.922676e+03  3.252303e+04  2.427883e+04  2.092306e+04
## [10817] -2.924156e+03 -1.681276e+04  2.666150e+05 -1.081528e+04
## [10821]  5.201679e+04 -1.594680e+04 -1.709533e+04  3.472818e+04
## [10825] -1.522478e+04 -6.751205e+03  1.916819e+05  1.385133e+05
## [10829] -2.883223e+03 -7.882088e+03 -1.673456e+04 -1.489149e+04
## [10833]  1.243107e+04  5.227622e+03  4.132490e+03  4.351415e+04
## [10837]  2.841470e+04 -2.972396e+03 -1.553784e+04 -3.553686e+03
## [10841] -5.526398e+03 -4.698151e+03 -7.156037e+03 -1.687895e+04
## [10845] -3.103747e+03 -3.496117e+03  4.307541e+04  4.311414e+04
## [10849] -3.619199e+03 -1.501927e+04 -2.497684e+03  4.430805e+03
## [10853] -1.670400e+04  3.380635e+04  8.805622e+04 -1.767328e+04
## [10857] -9.448184e+03 -8.719382e+03  7.098059e+03 -1.765122e+04
## [10861] -9.854478e+03 -1.314286e+04 -3.545111e+03 -1.068031e+04
## [10865]  1.078587e+05 -7.090438e+03 -1.488265e+04 -9.899572e+03
## [10869]  4.906679e+03 -9.342901e+03 -2.159097e+03 -1.715024e+04
## [10873] -6.277798e+03  1.455226e+05  5.324283e+03 -1.058994e+04
## [10877]  3.191215e+04 -1.798127e+03  1.628676e+04 -1.669811e+04
## [10881] -1.819195e+04 -8.224453e+03  2.816217e+05 -2.922672e+03
## [10885]  4.147151e+04 -9.169096e+02 -2.039424e+03 -1.611104e+04
## [10889] -1.648036e+04  1.583204e+05 -1.583173e+04 -1.405518e+04
## [10893] -1.174747e+04 -8.536483e+03  7.257049e+04  1.726222e+05
## [10897]  4.292427e+04  6.154715e+03 -1.738062e+04  1.380837e+05
## [10901] -1.386999e+04  1.471355e+05  9.620977e+04 -8.112506e+03
## [10905]  6.310705e+03  6.274242e+05 -7.250686e+03 -9.889252e+03
## [10909] -1.430649e+04 -2.752476e+02  1.695198e+05 -1.709347e+04
## [10913] -4.509942e+03 -1.062426e+04 -9.126514e+03  3.140802e+04
## [10917] -9.223962e+03  6.546824e+04 -1.785327e+04  3.531310e+03
## [10921] -1.561575e+04 -1.606723e+04  1.510690e+04 -2.990215e+03
## [10925]  3.525708e+04 -1.078923e+04 -1.038606e+04  4.230451e+04
## [10929]  2.561505e+05 -1.614319e+04 -1.702847e+04 -9.036190e+03
## [10933]  3.133771e+04  1.071325e+04 -2.508476e+03 -1.469111e+04
## [10937]  3.231116e+04 -1.475288e+04  4.316365e+04 -1.713339e+04
## [10941] -1.664234e+04  4.208672e+05  3.204246e+04 -1.690787e+04
## [10945]  4.631423e+05 -9.143620e+03  7.308079e+03 -1.113601e+04
## [10949] -1.594502e+04  2.962088e+04  1.548586e+04 -1.540064e+04
## [10953] -1.396965e+04 -8.830824e+03  4.190401e+05 -1.705976e+04
## [10957] -9.533647e+03 -1.628957e+04 -1.614214e+04  3.209350e+04
## [10961] -6.530611e+03 -1.865947e+04 -1.303244e+04 -1.280257e+04
## [10965] -8.403951e+03 -7.704350e+03 -1.341760e+04  4.003570e+04
## [10969]  9.177965e+04 -1.753422e+04 -1.329582e+04 -1.547904e+04
## [10973] -1.667237e+04 -1.076631e+04  2.596995e+04 -3.406135e+03
## [10977] -9.042850e+03 -1.041813e+04 -1.600037e+04 -1.607862e+04
## [10981] -8.984549e+03 -8.757232e+03 -7.823810e+03 -1.871965e+03
## [10985] -1.674706e+04 -1.287131e+04 -4.804567e+03  3.662084e+03
## [10989] -7.049748e+03  2.608502e+04 -1.145856e+04 -1.520535e+04
## [10993] -1.903053e+03 -1.632742e+04 -1.448486e+04  4.648692e+04
## [10997] -1.042454e+04  4.201907e+03  6.096310e+03 -1.534992e+04
## [11001] -9.126514e+03 -9.806548e+03 -1.616473e+04 -3.492213e+03
## [11005] -1.527113e+04  3.295151e+04 -2.205529e+03  1.420239e+04
## [11009]  8.567082e+04 -1.676566e+04 -1.005200e+04 -9.591448e+03
## [11013] -9.124654e+03  7.721473e+04 -1.470602e+04 -1.691498e+04
## [11017] -1.666827e+04 -5.050252e+03 -1.547897e+04 -1.604319e+04
## [11021] -1.514986e+04 -1.794195e+04 -2.193991e+03 -8.710835e+03
```

```
## [11025] -1.015460e+04 -8.762203e+03  1.978464e+05  4.079625e+05
## [11029] -3.289891e+03 -8.916966e+03 -1.658276e+04 -7.681245e+03
## [11033] -1.608643e+04 -1.650600e+04  5.980534e+05 -8.950189e+03
## [11037] -1.632742e+04 -8.180856e+03 -8.427878e+03  5.741294e+04
## [11041] -3.162703e+03  1.335459e+05 -1.667343e+04 -9.259236e+03
## [11045]  8.721247e+03 -3.406135e+03 -7.996992e+03 -8.087341e+03
## [11049]  3.806382e+05  1.314244e+05  6.958322e+05  2.769982e+04
## [11053]  1.277892e+04 -1.283844e+04 -8.988042e+02 -3.737346e+03
## [11057] -1.673456e+04 -9.207136e+03  5.960107e+05 -1.436027e+04
## [11061]  4.933051e+03 -1.682318e+04 -2.348826e+04 -1.965751e+04
## [11065] -1.719589e+04 -1.610272e+04 -1.084791e+04  1.419602e+05
## [11069] -1.004872e+04 -8.536410e+03 -2.104195e+03 -1.672601e+04
## [11073] -1.582319e+04 -1.827124e+04 -3.927427e+03 -1.530222e+04
## [11077] -1.040755e+04  4.610223e+04  2.718276e+05 -1.541418e+04
## [11081]  1.431402e+04 -9.219590e+03 -3.838682e+03 -1.750399e+04
## [11085] -9.063604e+03 -9.318599e+03 -8.659870e+03  4.573523e+04
## [11089]  3.494181e+05 -1.525588e+04 -8.185839e+03 -1.078068e+04
## [11093] -1.571153e+04  3.812196e+05 -3.494117e+03 -2.035786e+03
## [11097] -9.741486e+03 -1.198722e+04 -1.594623e+04 -1.673456e+04
## [11101] -9.962834e+03 -1.651817e+04 -9.844670e+03  4.358766e+04
## [11105]  3.249392e+03 -9.649263e+03 -1.686685e+04 -9.678906e+03
## [11109]  2.354756e+04  7.298208e+03 -9.750033e+03 -1.017426e+04
## [11113] -1.664078e+04  3.766421e+04  4.069648e+03 -4.630142e+03
## [11117] -1.561169e+04  6.040997e+04  7.130040e+03  6.826016e+03
## [11121]  7.033071e+04  5.773413e+04 -9.974978e+03 -1.873200e+03
## [11125] -9.135061e+03 -9.307645e+03 -1.586573e+04 -1.721733e+04
## [11129]  9.660455e+04 -6.557880e+03 -3.530310e+03 -7.469034e+03
## [11133] -3.310082e+03 -1.542947e+04 -1.005505e+04  4.012298e+04
## [11137] -8.625370e+03 -1.456344e+04 -1.631033e+04 -1.511939e+04
## [11141] -7.862947e+03 -1.581236e+03 -4.333077e+03 -1.709533e+04
## [11145] -9.605947e+03  5.110227e+05 -5.203717e+03 -6.524561e+03
## [11149]  1.581499e+03  1.139266e+02 -5.747897e+03 -4.432927e+02
## [11153] -4.653798e+03 -6.713495e+03 -5.978862e+03 -5.232859e+03
## [11157] -6.602381e+03  7.056690e+02 -5.624608e+03 -8.093851e+03
## [11161]  5.714295e+02 -1.792259e+02 -5.923961e+03  6.455157e+03
## [11165]  3.404649e+02 -3.963080e+03  1.344982e+04 -9.391305e+01
## [11169] -7.586677e+03 -6.200169e+03  3.110926e+04  4.546978e+04
## [11173]  3.601217e+05 -6.297816e+03 -1.367661e+04  2.986412e+02
## [11177] -5.478933e+03 -4.469083e+03 -8.334609e+03 -6.481180e+03
## [11181]  7.375738e+03 -5.833636e+03 -4.865142e+03 -4.296525e+03
## [11185] -1.391589e+04 -7.080674e+03 -6.998439e+03  3.404649e+02
## [11189] -5.955737e+03 -6.505656e+03 -1.282482e+04 -5.900836e+03
## [11193]  1.163005e+03 -1.291738e+04 -5.739110e+03 -5.002278e+03
## [11197] -6.760537e+03  6.356618e+03  5.463621e+03  3.843232e+03
## [11201]  3.390159e-01 -5.147503e+03 -5.978862e+03 -1.276355e+04
## [11205]  1.040226e+05 -1.683253e+03  1.604227e+03  3.404649e+02
## [11209] -5.147503e+03  1.141979e+04 -4.621161e+03  1.011585e+03
## [11213] -6.749581e+02  1.026095e+05  9.087618e+03 -1.713873e+03
## [11217]  7.191024e+03 -6.915510e+03 -6.339640e+03 -5.673614e+03
## [11221] -4.982657e+03  3.498896e+04  1.213647e+02  1.196702e+04
## [11225] -5.008200e+03 -5.871707e+03 -4.916539e+03  8.823103e+03
## [11229] -6.091053e+03 -2.069128e+03 -8.148752e+03 -1.373130e+04
## [11233] -6.837085e+03  1.153125e+03 -6.339640e+03 -7.794517e+03
## [11237] -2.031295e+01 -7.905632e+03 -1.302850e+04 -1.095171e+04
## [11241] -6.547479e+03 -1.267351e+03 -6.035075e+03  3.124753e+04
## [11245]  2.531578e+03 -6.077293e+03 -4.316145e+03 -1.356952e+02
## [11249] -5.716121e+03  1.130000e+03 -1.155283e+04 -7.184243e+03
## [11253] -6.882082e+03 -6.438318e+02  7.381725e+02 -7.262492e+03
## [11257] -1.228614e+04  1.338803e+04  2.691996e+02 -6.339640e+03
## [11261] -7.501846e+03 -3.637725e+03  2.233263e+04 -5.355343e+03
## [11265] -5.673375e+03 -7.518903e+02 -6.928727e+02 -7.112375e+02
## [11269]  3.330239e+04 -5.747182e+03 -5.092602e+03 -5.874087e+03
## [11273] -5.716121e+03 -3.809761e+03  5.427155e+03 -4.352738e+03
## [11277] -6.394541e+03  9.276896e+03 -6.921502e+03 -5.277317e+03
## [11281] -7.723390e+03  3.077044e+05  1.201202e+05  6.073720e+03
## [11285]  7.414063e+03 -1.815797e+03 -5.978862e+03 -5.147503e+03
## [11289] -6.048112e+03  1.211423e+04  1.513902e+03  1.435593e+03
## [11293]  3.196639e+05  1.261310e+05  8.037450e+02 -4.939664e+03
## [11297]  3.659756e+03 -6.339640e+03 -5.355343e+03 -6.297816e+03
## [11301] -6.368064e+03 -7.349686e+03 -1.823978e+03 -5.993677e+02
## [11305]  2.588375e+03  9.215287e+02  3.666405e+04 -2.053302e+03
## [11309]  8.672586e+02  4.529334e+05 -6.940034e+03  5.713842e+03
## [11313]  3.080033e+05  5.411135e+03  1.152784e+04 -6.186701e+03
## [11317]  1.105351e+03 -5.355343e+03 -1.997472e+03  1.759580e+04
## [11321] -6.755319e+03 -6.089055e+03 -1.400103e+04 -5.644936e+02
## [11325]  1.704883e+04 -4.939664e+03 -1.532088e+02 -1.108846e+04
```

```
## [11325]  1.704885e+04 -4.959004e+03 -1.552088e+02 -1.108848e+04
## [11329]  1.206741e+03 -7.246690e+03  1.975882e+04  3.136709e+02
## [11333] -4.188293e+02 -6.394541e+03 -6.397150e+03 -5.508281e+03
## [11337] -4.874882e+02 -7.378838e+03  6.277202e+03 -5.631552e+03
## [11341] -4.261244e+03 -4.752614e+03 -1.279987e+04  1.876954e+03
## [11345] -4.459203e+03 -4.500860e+03 -1.991426e+03 -5.092602e+03
## [11349] -1.959531e+03 -4.861637e+03 -6.659891e+03  6.016301e+03
## [11353] -5.690595e+03 -5.069477e+03 -4.801090e+03  1.215054e+05
## [11357]  7.088924e+03  7.114580e+03 -2.610349e+03  3.561780e+02
## [11361]  5.612915e+03 -5.882137e+03  1.855241e+03  8.962037e+03
## [11365]  1.033673e+04 -7.905632e+03 -6.658594e+03  1.636351e+04
## [11369]  1.837932e+03  4.871429e+03  1.814975e+03 -4.931060e+03
## [11373] -7.288083e+03  3.697533e+03  3.905223e+04  1.038518e+03
## [11377] -6.965942e+03  3.976209e+04 -7.170998e+03  3.590020e+01
## [11381] -7.018060e+03 -5.563183e+03  2.125327e+04 -6.090144e+03
## [11385] -6.297816e+03 -4.491920e+03  4.202604e+03  1.753518e+03
## [11389] -1.142533e+04  1.776643e+03 -6.732194e+03 -2.568406e+03
## [11393]  2.654181e+04 -2.381307e+03  3.154860e+04 -6.629245e+03
## [11397] -4.306948e+03  7.497434e+02  4.747044e+02  1.182473e+03
## [11401] -8.168373e+03  1.404592e+04 -5.691761e+03  3.967364e+03
## [11405]  1.013629e+04 -4.641537e+03  1.172615e+04  1.130108e+04
## [11409] -2.165327e+03 -2.978820e+03 -2.002468e+03 -4.101114e+03
## [11413] -8.521557e+02 -8.737499e+03  1.028295e+04  1.153092e+04
## [11417]  3.176365e+03 -4.988971e+03  1.881224e+04  5.292814e+04
## [11421] -2.758619e+03 -3.524312e+03  2.577435e+03  3.944146e+03
## [11425] -4.947796e+03  5.307851e+03  4.077919e+04  3.606875e+03
## [11429]  1.202689e+04  3.721478e+04  1.447090e+03 -3.732152e+03
## [11433]  1.018233e+04  3.177829e+03 -4.292835e+03 -4.410572e+03
## [11437] -3.108633e+03  1.593138e+03 -2.218616e+03  4.582628e+03
## [11441]  1.370178e+04 -3.339598e+03 -3.810178e+03  1.824157e+04
## [11445] -4.619820e+03 -3.339598e+03  1.056660e+03 -4.018018e+03
## [11449] -5.027868e+03  1.429448e+04 -4.586635e+03  5.642504e+03
## [11453] -3.872792e+03  1.007576e+03 -2.883547e+03  4.744759e+04
## [11457] -3.810178e+03  1.163459e+04  4.429293e+03 -4.832376e+03
## [11461]  3.603672e+03  5.663648e+03  1.042173e+04  4.889072e+04
## [11465] -2.953969e+03 -4.231518e+03 -3.751661e+03 -4.544979e+03
## [11469] -3.782470e+03 -3.064791e+03 -4.674625e+03  2.131800e+04
## [11473] -4.436627e+03 -4.355671e+03  3.420575e+03  6.999380e+04
## [11477] -2.563141e+03  3.564179e+03  1.148320e+04  4.328142e+03
## [11481] -3.264760e+03 -3.719457e+03  1.433171e+04 -4.892895e+03
## [11485]  3.136005e+03 -5.376170e+03  6.656065e+03 -4.378796e+03
## [11489] -2.147461e+03  2.896389e+03 -3.963117e+03 -2.813962e+03
## [11493] -3.156096e+03  1.343978e+04 -1.156371e+04  4.081839e+04
## [11497]  4.502494e+03 -3.304175e+03  1.944907e+03 -1.114252e+04
## [11501]  5.773777e+03 -2.900793e+03  1.191369e+04  4.175203e+03
## [11505] -3.547437e+03 -1.609914e+03 -1.150881e+04 -3.810178e+03
## [11509] -3.519707e+03  4.163047e+03  8.168442e+03 -3.994893e+03
## [11513] -2.596496e+03 -5.002315e+03  3.479823e+03  2.424114e+04
## [11517] -3.910851e+03 -5.119830e+03 -2.725626e+03  5.681510e+04
## [11521] -2.770980e+03 -3.394499e+03 -4.489910e+03  2.000787e+04
## [11525]  1.263803e+04 -4.018018e+03 -2.468986e+03  8.368038e+03
## [11529]  1.121934e+04 -4.414065e+03 -1.258743e+04  3.985282e+03
## [11533]  3.613818e+04 -4.732244e+03  2.727739e+03 -3.547437e+03
## [11537] -2.976485e+03 -4.018018e+03 -4.755222e+03 -2.923918e+03
## [11541] -5.052045e+03 -1.117738e+04 -2.543508e+03 -1.293431e+04
## [11545]  6.278742e+03 -3.810178e+03 -3.176217e+03  4.319796e+03
## [11549]  2.993114e+03 -3.433988e+03 -4.897684e+03 -4.586635e+03
## [11553]  3.275237e+03  3.587492e+03  1.080373e+04  4.432738e+03
## [11557]  4.461517e+04 -3.810178e+03 -5.015560e+03 -3.260615e+03
## [11561] -3.300345e+03 -3.089934e+03 -2.394790e+03  3.079302e+05
## [11565]  3.226330e+03  3.448932e+04 -3.339598e+03  9.773139e+03
## [11569] -1.290565e+03  1.463093e+04 -3.304175e+03  3.451459e+02
## [11573] -3.465677e+03  1.593549e+05  1.362174e+03  1.124361e+04
## [11577]  1.170530e+04 -5.265056e+03 -4.905590e+03 -3.896150e+03
## [11581] -4.882465e+03 -3.131758e+03 -3.394499e+03 -3.602339e+03
## [11585] -5.210154e+03 -4.960491e+03  8.560961e+03  1.176158e+04
## [11589]  5.018805e+04  1.005040e+04 -2.787941e+03 -4.378796e+03
## [11593] -3.229874e+03  1.695294e+04 -3.547437e+03 -2.031271e+03
## [11597]  1.132685e+04  4.656753e+03  3.967364e+03 -3.975261e+03
## [11601] -1.400398e+03  3.770493e+03  1.401142e+04  2.586086e+03
## [11605] -4.248983e+03 -4.051106e+03 -3.362723e+03 -4.931142e+03
## [11609]  1.321497e+04  1.384552e+05 -2.342606e+03  1.052352e+04
## [11613]  5.085449e+03  1.395262e+03 -3.716946e+03 -3.362723e+03
## [11617]  3.778055e+03 -1.029848e+04 -3.687051e+03 -1.995821e+03
## [11621] -3.309440e+03  5.834416e+03  4.941416e+04  1.244169e+04
## [11625] -4.983616e+03  1.362280e+03 -4.155903e+03 -4.194081e+03
```

```
## [11629]  2.793926e+03 -4.355671e+03 -3.417624e+03 -2.358794e+03
## [11633] -2.938652e+03 -2.125437e+03  4.001887e+03  3.597934e+03
## [11637]  3.057979e+03 -3.736746e+03 -3.154883e+03 -3.711579e+03
## [11641] -2.856719e+03 -4.609760e+03  2.677645e+03  9.142608e+03
## [11645]  4.959389e+04 -1.660064e+03  9.808148e+03  1.602348e+03
## [11649]  1.508838e+04 -2.593476e+03  1.180652e+04  9.286428e+03
## [11653]  4.809789e+03  6.441046e+03  2.731393e+03 -3.982731e+03
## [11657]  2.690078e+03  8.696438e+03  9.059460e+03  4.846097e+03
## [11661]  8.041278e+02  7.558892e+03  8.923889e+03  1.137300e+04
## [11665]  2.739538e+03  2.742558e+03  3.395408e+03  2.618951e+03
## [11669]  1.203778e+03  3.034630e+03  1.003380e+04  2.130192e+03
## [11673]  2.195376e+03  8.092530e+03  2.285223e+03  2.785612e+03
## [11677]  2.245682e+03  6.387097e+04  9.750608e+03  3.740100e+03
## [11681]  3.740100e+03  8.873811e+03 -5.115811e+02  3.466535e+03
## [11685]  2.564050e+03  3.477359e+03 -1.571105e+03  9.810009e+03
## [11689]  2.148510e+03  1.508596e+04  8.822327e+03  9.974375e+04
## [11693]  2.567575e+03  1.401262e+03 -3.513310e+03  1.579601e+05
## [11697]  3.740100e+03  9.449231e+03  1.133042e+04  3.368111e+03
## [11701]  3.570896e+03  3.740100e+03  2.314626e+03  3.242470e+03
## [11705]  6.181680e+03  1.031923e+04  8.280759e+03  2.564189e+03
## [11709]  2.664123e+04  4.547678e+03  5.839880e+03  5.242251e+03
## [11713]  3.610823e+04  2.221808e+03  7.215956e+03  1.928027e+03
## [11717]  6.827327e+03  1.943916e+03 -3.787055e+03  9.186490e+03
## [11721]  3.395408e+03  8.270899e+03  3.269519e+03  3.603248e+03
## [11725]  3.395408e+03  1.745585e+03  4.053063e+03  2.588596e+03
## [11729] -2.505523e+03  3.580954e+03  8.679070e+03  2.356210e+03
## [11733]  3.027335e+03  2.698961e+03  9.657071e+03  2.806025e+03
## [11737]  3.269519e+03  2.379302e+03  9.663367e+03  6.818443e+03
## [11741]  9.060601e+03  2.618951e+03  3.058109e+03  2.598186e+03
## [11745]  8.915109e+03  1.429796e+03  3.395408e+03  7.202711e+03
## [11749]  2.185015e+03  1.737465e+04  3.402691e+03  2.185094e+03
## [11753]  2.523895e+03  7.285148e+03  2.285707e+04  4.226767e+03
## [11757]  3.187569e+03  2.952226e+03  8.372637e+03  6.250063e+03
## [11761]  3.429544e+03  8.028715e+03  6.086902e+03  4.039375e+03
## [11765]  2.771889e+03  3.932395e+03 -2.986667e+03  2.285223e+03
## [11769]  2.093609e+03  4.337869e+03  3.777818e+03  8.491984e+03
## [11773]  7.954510e+03  1.487721e+04 -3.473155e+03 -4.165980e+03
## [11777]  3.001098e+03  1.922353e+03  2.979729e+03  2.560915e+03
## [11781]  1.631033e+03  3.740100e+03  3.116581e+03  4.489508e+03
## [11785]  2.772029e+03  2.742558e+03  3.969892e+04  7.142484e+04
## [11789]  1.995432e+03  9.241392e+03  5.580898e+03  8.949487e+03
## [11793] -3.112544e+03  1.982187e+03  4.516557e+03  1.497419e+04
## [11797]  2.887976e+03  3.187569e+03  3.658149e+03  3.269519e+03
## [11801]  2.367184e+03  1.907290e+03  4.082818e+03  2.152354e+03
## [11805]  2.523895e+03  8.462849e+03  7.841011e+03  2.493062e+03
## [11809] -3.255818e+02  2.546023e+03  6.513727e+03  8.857890e+03
## [11813]  3.685199e+03  3.514094e+03  3.359844e+03  1.639395e+03
## [11817]  3.284126e+03  1.239557e+05  3.332794e+03  1.624650e+04
## [11821]  1.995432e+03  9.810149e+03  1.615036e+04  1.774487e+03
## [11825]  2.979729e+03  2.709105e+04  2.277363e+03  9.675323e+03
## [11829]  3.175064e+03  3.116581e+03  3.324421e+03 -3.504427e+03
## [11833]  4.226767e+03  9.655830e+03  9.482225e+03  7.146314e+03
## [11837]  2.261154e+03  3.658149e+03  3.419954e+03  9.870120e+03
## [11841]  9.879489e+03 -6.534387e+03  4.703631e+03 -3.679493e+03
## [11845]  2.979729e+03  9.614434e+02  2.916221e+03  7.543533e+03
## [11849]  1.140119e+03  2.618951e+03  2.618951e+03  9.186490e+03
## [11853]  7.360183e+03  2.244487e+03  1.722971e+03  2.416321e+03
## [11857]  2.285223e+03  2.618951e+03 -5.752668e+03  1.837060e+04
## [11861]  3.535646e+03  1.030764e+04  1.052386e+04  1.057131e+04
## [11865]  3.418886e+03  4.155779e+03  9.864379e+03  2.908741e+03
## [11869]  3.374643e+03  2.649964e+02  1.126040e+04  1.843991e+03
## [11873]  3.658149e+03 -2.933857e+03  4.984416e+03  3.140071e+03
## [11877]  2.926617e+03  3.450310e+03  4.236136e+03  8.481160e+03
## [11881]  2.826791e+03  3.242470e+03  3.814473e+03  2.913951e+03
## [11885]  2.646001e+03  1.790044e+05  3.419038e+03  3.218515e+03
## [11889] -3.015819e+03  1.661704e+03  4.018927e+03 -4.067522e+03
## [11893]  3.450276e+03  3.947940e+03  2.772029e+03  3.242470e+03
## [11897]  3.221704e+03  1.251425e+04  3.050856e+03  1.217023e+03
## [11901]  2.797627e+03  2.660608e+03 -2.992329e+03  3.850432e+03
## [11905]  2.646001e+03  2.177523e+03  2.863209e+03  1.358808e+03
## [11909]  2.379840e+03  4.963509e+04  2.700902e+03  1.564922e+04
## [11913] -3.697659e+03  9.219828e+03  9.108208e+03  3.670904e+03
## [11917]  3.278032e+03  4.073828e+03  2.988463e+03  3.251353e+03
## [11921]  3.119275e+03  2.203272e+03  1.196061e+04  8.202194e+03
## [11925]  1.121223e+04  2.979729e+03  2.908741e+03  1.084921e+04
## [11929]  2.618951e+03  9.186490e+03  2.390346e+03  1.995432e+03
```

```
## [11929]  2.618951e+03  9.186490e+03  2.390346e+03  1.995432e+03
## [11933]  9.124098e+03  2.573419e+03  1.027361e+03  9.173986e+03
## [11937] -2.604822e+03  3.769252e+03  2.618951e+03  3.685199e+03
## [11941]  1.982928e+03  3.685199e+03  2.240388e+03  2.059217e+03
## [11945]  2.190166e+03  8.860074e+03  2.493062e+03  2.022482e+03
## [11949]  1.423745e+04  9.186490e+03  3.664433e+03  8.617873e+03
## [11953]  3.434753e+03  5.154683e+03  5.303379e+03  2.826791e+03
## [11957]  2.128409e+03  2.190027e+03  3.272282e+03  2.564050e+03
## [11961]  8.957722e+03  3.320290e+03  2.203272e+03  3.324421e+03
## [11965]  1.162121e+03 -5.296695e+03  3.958721e+04  2.826791e+03
## [11969]  2.646001e+03  8.617873e+03  6.809889e+02  8.662629e+03
## [11973]  1.000136e+04  2.730054e+03 -2.189212e+03  3.550715e+03
## [11977]  3.477359e+03  9.216104e+03  2.836472e+03  3.893038e+03
## [11981]  2.111469e+04  7.977724e+03  7.383645e+03  3.187569e+03
## [11985]  4.260903e+03  2.981168e+03  2.241307e+03  9.432875e+03
## [11989]  1.511140e+03  4.487694e+03  5.667932e+03  3.671093e+03
## [11993]  6.666756e+02 -3.302819e+03  7.810053e+03  2.050426e+03
## [11997]  2.774403e+03  4.628734e+03 -2.587525e+03  8.195631e+03
## [12001]  1.914314e+03  1.917724e+03  2.343268e+03  2.729047e+03
## [12005] -8.565448e+03  3.870243e+03  4.411799e+03  2.205821e+03
## [12009]  4.308841e+03  3.046395e+05  3.825195e+03  9.530322e+03
## [12013]  4.207919e+03  3.372601e+03 -3.716749e+03  3.589822e+03
## [12017]  2.287883e+03  9.941260e+03 -3.616467e+03  3.048062e+03
## [12021] -2.624365e+03  9.678862e+03  2.125563e+03  3.473302e+03
## [12025]  2.064987e+03 -4.594982e+02  9.954107e+03 -5.326421e+03
## [12029]  1.216640e+03  2.258899e+04  9.059881e+03  1.144955e+04
## [12033]  4.034403e+03  3.870243e+03  3.852937e+03  2.541243e+03
## [12037]  2.388263e+04  1.063677e+04  4.149058e+03  4.213090e+03
## [12041]  3.317700e+03  3.069915e+04  2.183445e+03  3.733379e+03
## [12045]  2.517616e+05  4.117267e+03  2.694181e+03  2.983983e+03
## [12049] -2.182127e+02  5.812697e+03  9.067847e+03  2.828394e+03
## [12053]  2.230090e+03 -3.535971e+03  4.469681e+03  3.037430e+03
## [12057]  8.283285e+03  4.493762e+03  4.356898e+03  3.209067e+03
## [12061]  2.141789e+03  2.333403e+03  9.979051e+03  2.395051e+03
## [12065]  9.275818e+03 -2.623782e+03  8.915040e+03  9.757047e+03
## [12069]  3.549640e+03  8.645968e+03  1.036166e+04  1.736945e+03
## [12073]  3.454564e+03  2.328661e+03  8.789163e+03  3.815341e+03
## [12077]  3.454564e+03  1.025341e+04  1.043585e+04  9.929233e+03
## [12081]  9.283824e+03  1.036168e+04 -3.453524e+03  2.831045e+03
## [12085]  2.424484e+03  4.276638e+03  4.493762e+03  8.526208e+03
## [12089]  3.919406e+04  1.576999e+04  3.454564e+03  2.829590e+03
## [12093]  3.662403e+03  3.525539e+03  2.579525e+03  2.418864e+03
## [12097]  8.944174e+03  2.473837e+03  5.759396e+03  9.401632e+03
## [12101]  3.317700e+03  1.404144e+04  1.046789e+04  2.486493e+03
## [12105]  3.055110e+03  2.643079e+04  3.014804e+03  3.190223e+05
## [12109]  3.815341e+03  2.776143e+03  3.852937e+03  5.396096e+03
## [12113]  1.007141e+04  4.421180e+03  3.393678e+03  9.324174e+03
## [12117]  1.112456e+03  4.636792e+03  1.622924e+04  4.021476e+03
## [12121]  7.350916e+03  7.509808e+03  5.865711e+03  3.511802e+03
## [12125]  5.113807e+03  3.443728e+03  1.399687e+04  3.629296e+05
## [12129]  1.039166e+04 -2.125159e+03 -2.042044e+03 -2.430662e+03
## [12133]  3.870243e+03  3.580441e+03  2.855632e+03  1.858841e+03
## [12137]  3.941707e+03  1.335568e+04  6.534285e+03  4.032660e+03
## [12141]  1.541381e+03  8.952192e+03  8.134108e+03  3.464529e+03
## [12145]  3.130553e+03  6.534657e+03  8.349189e+03  4.260369e+03
## [12149]  3.800178e+03  3.282651e+03  8.435171e+03  3.048254e+03
## [12153]  4.988451e+03  2.578269e+03  3.409627e+03  1.530209e+03
## [12157]  1.039871e+04  2.765308e+03  9.345506e+03  4.086105e+03
## [12161]  9.192124e+03  3.340810e+03  8.361371e+03  7.767550e+03
## [12165]  5.470401e+03  3.688576e+03 -3.797531e+03  9.748950e+03
## [12169]  1.872827e+03  2.695766e+03  4.105391e+03  2.910448e+03
## [12173]  1.548765e+04  2.760037e+03  8.558602e+03 -3.467982e+03
## [12177]  9.401057e+03  1.473672e+04  9.566014e+03  4.234168e+03
## [12181]  9.528565e+03  2.560820e+03  3.343957e+03  9.218584e+03
## [12185]  1.406988e+03  2.806964e+03  3.254746e+03  2.855632e+03
## [12189]  3.663977e+03  5.814774e+03  1.986560e+03  2.440794e+03
## [12193]  2.443018e+03  3.592015e+03  3.410450e+03  3.419819e+03
## [12197] -4.264162e+03  1.419203e+05  1.244748e+04  2.453564e+04
## [12201]  4.988451e+03  3.164761e+03  7.032130e+03  2.766500e+03
## [12205]  2.840950e+03  3.407124e+03  3.525539e+03  2.350415e+03
## [12209]  3.790652e+03 -3.299717e+03  8.401236e+02  2.661953e+03
## [12213]  1.173787e+04  9.539918e+03  9.946054e+03  2.840414e+03
## [12217] -2.691312e+03  1.098231e+04  3.257905e+03  4.551026e+03
## [12221]  9.885155e+03  9.474430e+04  7.487168e+04 -1.115950e+03
## [12225]  5.032721e+03  1.459825e+04 -2.600544e+03  9.452816e+03
## [12229]  5.489183e+04  2.090720e+03  2.690859e+03  3.598774e+03
```

```
## [12233] -2.423404e+03  1.160645e+04  3.211584e+03  5.780020e+02
## [12237]  7.978509e+03  7.940488e+03  3.248297e+03  3.230991e+03
## [12241]  2.958507e+03  2.703788e+03  4.611033e+03  3.580441e+03
## [12245]  2.785739e+03  3.636241e+03  3.175716e+03 -3.520109e+03
## [12249] -5.087108e+03 -7.378040e+03  1.337060e+05 -6.761855e+03
## [12253] -6.283562e+03 -2.018580e+03 -1.454586e+03 -5.569099e+03
## [12257]  3.068835e+04  4.557283e+03 -8.626010e+03 -7.024596e+03
## [12261]  6.057148e+03 -4.792012e+03 -8.569797e+03 -4.292974e+02
## [12265] -1.650162e+03  7.477104e+03  5.068106e+03  2.874297e+03
## [12269] -6.664855e+02 -6.193237e+03 -1.027263e+03  1.235681e+03
## [12273] -7.945659e+03 -6.644339e+03  6.432659e+03 -7.683537e+03
## [12277] -6.231057e+03 -1.425508e+04 -1.368800e+03 -5.116699e+02
## [12281] -1.125211e+03 -5.332555e+03 -1.726218e+03  1.535891e+05
## [12285] -7.948805e+03  1.471225e+04  2.493113e+04 -3.698839e+03
## [12289]  2.666675e+03 -9.513732e+02 -7.489102e+03 -1.486407e+04
## [12293]  5.213023e+02  3.747334e+03  1.219675e+05 -6.386564e+03
## [12297] -7.040777e+03 -6.931384e+03 -7.607473e+03 -1.766633e+02
## [12301] -1.270430e+04  1.553030e+04 -7.103391e+03 -6.595749e+03
## [12305]  5.064535e+02  1.497156e+04 -5.459117e+03 -8.395186e+03
## [12309]  3.105520e+03 -2.807539e+04 -8.020579e+01 -7.281882e+03
## [12313] -7.872135e+03 -7.133672e+03 -5.228138e+03 -1.576639e+03
## [12317]  3.050146e+02 -7.771066e+03 -7.664296e+03 -6.209418e+03
## [12321] -7.765024e+03 -7.690669e+03 -7.311230e+03 -5.314502e+02
## [12325] -1.380962e+04 -1.234912e+04 -7.781811e+03 -6.277654e+02
## [12329]  2.254907e+03 -5.283039e+03 -6.452549e+03 -6.895551e+03
## [12333]  1.639295e+04 -4.140239e+03 -2.253312e+02  6.780161e+05
## [12337]  5.481636e+03 -7.031825e+03 -1.283619e+04 -1.471032e+03
## [12341] -8.247313e+02 -2.349301e+03 -5.643817e+03  5.751309e+04
## [12345] -6.890855e+03 -6.209418e+03 -6.417258e+03  1.161534e+04
## [12349]  1.150419e+03  1.579270e+03 -8.736759e+03  1.100122e+05
## [12353]  4.995456e+03 -9.114477e+03 -7.781811e+03  2.400201e+05
## [12357] -5.572596e+03 -6.742613e+03 -7.781811e+03 -2.933198e+03
## [12361] -1.176386e+04  3.301140e+04  4.868036e+04 -5.805618e+03
## [12365]  2.403525e+03  1.721910e+02 -6.108514e+03  3.719923e+04
## [12369] -1.201005e+04 -3.844737e+03  1.805766e+03 -6.124572e+03
## [12373] -5.609875e+03  2.015687e+03 -4.457706e+03  3.880494e+03
## [12377] -6.076072e+03 -1.457444e+03 -5.389939e+03  2.277670e+05
## [12381]  2.368102e+03 -9.925105e+03  3.710300e+04  1.691588e+03
## [12385]  1.211389e+03  4.656932e+05 -4.621195e+03  1.674552e+03
## [12389]  3.684654e+05  1.687577e+04 -5.455521e+03  5.467097e+03
## [12393]  4.626880e+03 -4.270697e+03 -4.063886e+03  5.262651e+03
## [12397] -6.546652e+03  1.839604e+03 -4.840942e+03  1.627068e+03
## [12401] -4.728970e+03  3.147882e+05 -6.113948e+03  3.524354e+03
## [12405]  1.411847e+05 -1.549142e+03  3.348434e+03 -4.621195e+03
## [12409] -6.870204e+03  3.916962e+05  4.408076e+04 -7.108869e+03
## [12413]  2.294979e+04  1.105595e+04  4.685796e+03 -6.957635e+03
## [12417] -5.542877e+03  2.052037e+04 -6.668896e+03  1.156446e+05
## [12421] -4.389622e+03 -5.707765e+03  2.552424e+04 -1.218092e+04
## [12425] -3.702079e+03 -3.349014e+03 -4.053955e+03 -3.285804e+03
## [12429] -3.061010e+03  6.357556e+05  4.936186e+03  2.819205e+03
## [12433] -4.616335e+03  1.066163e+03  3.863099e+03 -6.429137e+03
## [12437] -5.410167e+03 -5.333116e+03 -4.468256e+03 -6.338813e+03
## [12441] -5.715294e+03  3.522768e+03  3.412611e+03 -4.656273e+03
## [12445]  2.105361e+03 -5.091775e+03 -1.263573e+04  4.660337e+03
## [12449]  2.395014e+02 -1.212764e+02 -5.335038e+03 -5.715294e+03
## [12453] -4.468969e+03 -5.177403e+03 -5.244713e+03 -6.167213e+03
## [12457]  2.557629e+04 -4.778713e+03  1.600509e+05 -3.059552e+03
## [12461] -9.321573e+02 -7.728610e+03 -5.660393e+03 -6.351317e+03
## [12465] -5.391820e+03 -4.854587e+03 -6.300194e+00  7.415919e+03
## [12469]  5.393696e+02 -4.260417e+03 -6.858721e+03  4.642002e+03
## [12473]  1.998943e+03  2.819205e+03  7.408084e+02 -4.438908e+03
## [12477] -3.858753e+03 -6.364316e+03 -5.892439e+03 -6.369539e+03
## [12481]  3.827612e+04 -6.332412e+03 -4.660469e+03 -5.087079e+03
## [12485] -7.052656e+03  2.136220e+04 -4.052577e+03  1.003549e+03
## [12489] -1.716028e+03 -5.715294e+03  3.204157e+03 -6.760566e+03
## [12493] -5.299615e+03  6.916669e+04 -5.660393e+03  1.226060e+04
## [12497] -5.552113e+03 -4.260417e+03 -4.539571e+03 -3.286400e+03
## [12501] -6.124740e+03 -5.542659e+03  3.224604e+03  1.529520e+03
## [12505] -2.827727e+03 -5.789437e+03 -5.597779e+03  5.966434e+04
## [12509] -5.660393e+03 -3.997676e+03 -4.052577e+03  4.155029e+02
## [12513]  2.042747e+03  4.001061e+03 -6.992810e+03 -4.026806e+03
## [12517] -6.161700e+03  2.164959e+03 -4.969614e+03 -5.983968e+03
## [12521]  6.507095e+04  2.742437e+03  5.925035e+04  1.311463e+04
## [12525] -5.020648e+03 -3.360922e+03 -4.621195e+03  4.442500e+03
## [12529]  1.852601e+04  1.174277e+04 -7.196201e+03  3.313626e+02
```

```
## [12533]  3.282723e+03 -5.447856e+03 -5.389939e+03 -4.558581e+03
## [12537] -1.340827e+04 -4.342084e+03  3.234884e+03 -4.410386e+03
## [12541] -5.805618e+03  7.178571e+04 -5.151405e+03  4.031157e+04
## [12545] -4.117130e+03  6.563903e+04 -4.413355e+03 -4.798340e+03
## [12549] -5.826235e+03 -2.815819e+03  3.635833e+01 -6.140625e+03
## [12553]  3.222257e+04 -5.860940e+03  5.257492e+03 -5.634169e+03
## [12557] -3.286400e+03  2.743092e+04 -4.711519e+03  5.723376e+03
## [12561] -8.029899e+02  4.121010e+05  2.998032e+05  1.666118e+04
## [12565]  1.415213e+04  9.862649e+03  6.850604e+03  6.372478e+03
## [12569]  6.180899e+03  5.694244e+03  6.327784e+03  8.184906e+03
## [12573]  7.118244e+03  5.600920e+03  1.874559e+04  8.250522e+03
## [12577]  6.044361e+03  4.258267e+04  5.828927e+03  6.864184e+03
## [12581]  2.513674e+03  7.009182e+03  6.813847e+03  6.619166e+03
## [12585]  3.782061e+05  5.555871e+03  6.039607e+03  6.264705e+03
## [12589]  6.502094e+03  1.413313e+04  7.019231e+03  7.727044e+03
## [12593]  6.494725e+03  5.897793e+03  1.348496e+04  3.361101e+04
## [12597] -4.933058e+02  5.803801e+03  2.659827e+04  5.648526e+03
## [12601]  6.213782e+03  6.007778e+03  6.187992e+03  1.684196e+04
## [12605]  5.727249e+03  4.914314e+03  6.658572e+03  5.898341e+03
## [12609]  1.238083e+04  9.941966e+03  7.327016e+03  1.127104e+04
## [12613] -1.695614e+03  5.146885e+03  1.234715e+04  1.164103e+04
## [12617]  1.513267e+04  5.019491e+03  6.397059e+03  7.692871e+03
## [12621]  3.203106e+03  6.017650e+03  6.472330e+03  6.712928e+03
## [12625]  1.071831e+04  1.309576e+04  2.217558e+04  4.466021e+03
## [12629]  4.915860e+04  5.190450e+03  2.030359e+04  2.236225e+02
## [12633]  1.291296e+04  2.502018e+04  1.110563e+04  6.285873e+03
## [12637]  1.380963e+04  6.728110e+03  6.151939e+03  6.428345e+03
## [12641]  6.060844e+03  2.005005e+04  7.534715e+03  1.312422e+04
## [12645]  6.200471e+03  8.944344e+03  7.847465e+03  7.026274e+03
## [12649]  7.494019e+03  9.971100e+03  1.684235e+04  1.703248e+04
## [12653]  7.642869e+03  6.566287e+03  1.162445e+04  6.482570e+03
## [12657]  2.739067e+04  4.864972e+03  6.492389e+03  8.765719e+03
## [12661]  1.255926e+04  6.229648e+03  1.231821e+04  1.140335e+04
## [12665]  7.109948e+03  5.690501e+03  6.109431e+03  1.251808e+04
## [12669]  6.162302e+03  1.087158e+04  7.227190e+03  1.895265e+04
## [12673]  8.064782e+03  4.572856e+03  7.222291e+03  1.115393e+04
## [12677]  5.685602e+03  5.915523e+03  4.896148e+03  8.518339e+03
## [12681]  7.014451e+03  1.305744e+04  6.238342e+03  5.793192e+03
## [12685]  5.662342e+03 -4.241983e+03  7.266225e+03  1.305004e+04
## [12689]  5.560442e+03  7.489931e+03  6.435652e+03  8.323745e+03
## [12693]  7.501257e+03  2.789187e+04  5.004450e+03  7.887466e+03
## [12697]  2.191248e+04  1.174213e+04  2.494202e+05  5.475110e+03
## [12701]  1.334943e+04  7.686837e+03  2.045385e+04  7.093632e+03
## [12705]  6.899037e+03  7.263947e+03  8.684523e+03  4.893330e+04
## [12709]  2.452127e+04  8.393632e+04  6.451713e+03  6.254220e+03
## [12713]  6.109431e+03  4.404731e+03  3.273885e+03  7.697770e+03
## [12717]  8.138532e+03  9.645885e+04  1.176899e+04  7.430130e+03
## [12721]  7.248069e+03  1.565185e+04  7.654704e+03  9.035927e+03
## [12725]  1.050092e+04  1.156315e+04  7.946658e+03  4.298628e+04
## [12729]  1.156412e+04  1.032344e+04  7.277192e+03  1.185457e+04
## [12733]  7.736363e+03  8.373474e+03  6.877616e+03  4.885184e+03
## [12737]  6.487490e+03  1.297742e+04  1.230426e+04  2.515761e+04
## [12741]  6.582894e+03  5.684108e+03  6.903169e+03  8.257032e+03
## [12745]  6.259119e+03  1.359755e+04  5.223950e+03  4.796168e+03
## [12749]  6.237994e+03  5.942858e+03  5.927365e+03  6.700229e+03
## [12753]  9.791043e+03  1.008648e+04  4.939463e+03  2.023778e+04
## [12757]  8.107480e+03  1.743045e+04  1.234768e+04  6.118621e+03
## [12761]  1.341998e+03  1.078458e+04  1.261781e+04 -2.606184e+02
## [12765]  1.219992e+04  6.724800e+03  7.263875e+03  8.910151e+03
## [12769]  5.254005e+03  5.269923e+03  6.577982e+03  6.601215e+03
## [12773]  6.877738e+03  3.522067e+05  5.818042e+03  1.246641e+04
## [12777]  6.776724e+03  1.078825e+04  1.234430e+04  1.743897e+04
## [12781]  4.649655e+03  8.196776e+02  5.870361e+03  1.847806e+04
## [12785]  6.316083e+03  6.389441e+03  1.822417e+05  6.224749e+03
## [12789]  5.302562e+03  6.076710e+03  7.070842e+03  1.196568e+04
## [12793]  1.397786e+04  1.265851e+04  8.275524e+03  8.638494e+03
## [12797]  6.009712e+03  9.683789e+03  6.903169e+03  6.378428e+03
## [12801]  1.157746e+04  5.422861e+03  6.296475e+03  6.239222e+03
## [12805]  6.665496e+03  1.230614e+04  3.776134e+03  6.263773e+03
## [12809]  1.291356e+04  8.267957e+02  5.817570e+03  1.273083e+04
## [12813]  1.166228e+04  5.302279e+03  7.169966e+03  1.235929e+04
## [12817]  1.991446e+05  3.596672e+02  7.305564e+03  1.282200e+04
## [12821] -6.071426e+02  1.462814e+04  7.589280e+03  1.953399e+04
## [12825]  6.594878e+03  1.156160e+04  2.947407e+04  6.481701e+03
## [12829]  6.441581e+03  6.141748e+03  1.301331e+04  1.481503e+04
## [12833]  6.005111e+03  1.256637e+04  7.262889e+03  1.238222e+04
```

```
## [12833]  6.005111e+03  1.250037e+04  7.202089e+03  1.238222e+04
## [12837]  7.577336e+03  6.823127e+03  1.092920e+04  3.302605e+03
## [12841]  1.804683e+04  5.276410e+03  1.280607e+04  1.253008e+04
## [12845]  1.278466e+04  6.939127e+03  1.646667e+05  5.656992e+03
## [12849]  6.025901e+03  1.202292e+04  5.665673e+03  6.857260e+03
## [12853]  1.712381e+04  6.778046e+03 -7.120347e+03  8.200021e+03
## [12857]  1.222048e+04  1.302555e+04  3.311896e+03  1.236098e+03
## [12861]  1.254590e+04  1.236253e+04  4.863084e+03  4.080562e+03
## [12865]  6.928387e+03  5.334622e+03  1.343022e+04  1.264824e+04
## [12869]  7.588076e+03  6.921283e+03  1.950952e+04  7.075840e+03
## [12873]  1.157332e+04  2.274177e+05  5.350516e+02  5.818062e+03
## [12877]  7.491519e+03  7.497085e+03  9.445560e+03  1.037150e+03
## [12881]  7.588076e+03  6.739808e+03  8.006199e+03  4.316419e+04
## [12885]  1.257682e+04  1.257682e+04  3.948052e+03  5.355815e+03
## [12889] -4.222913e+02  3.281051e+03  6.450139e+03  7.390258e+04
## [12893]  7.327840e+03  1.246499e+04  8.818966e+03  1.550995e+04
## [12897]  1.264965e+04  7.311975e+03  7.796527e+03  8.390473e+04
## [12901]  2.150301e+05  8.322877e+03  8.191824e+03  3.015577e+04
## [12905]  4.115965e+04  1.326610e+04  6.505665e+04  7.065100e+03
## [12909]  1.445060e+03 -2.654540e+03  6.764461e+03  5.301641e+03
## [12913]  1.272221e+04  1.283779e+04  1.341891e+04  9.443319e+03
## [12917]  1.934524e+04  6.523995e+02  1.283588e+04  5.652619e+03
## [12921]  5.528411e+03  5.954830e+03  6.679463e+03  1.139513e+04
## [12925]  3.634786e+04  6.068298e+03  1.309763e+04  5.110227e+03
## [12929]  5.299683e+03  5.930845e+03  7.648005e+01  5.040220e+03
## [12933]  7.116795e+03 -1.484981e+01  6.747675e+03  6.730112e+03
## [12937]  6.709304e+03  1.545612e+04  5.933227e+03  6.554364e+03
## [12941]  5.741364e+03  6.214392e+03  5.437578e+03  1.571370e+04
## [12945]  1.054534e+04  5.734354e+03  6.511513e+03  1.316955e+04
## [12949]  2.735495e+04  1.233357e+04  1.225904e+04  5.291101e+03
## [12953]  5.983411e+05  4.970913e+03  5.127408e+03  4.711138e+03
## [12957]  5.462266e+03  1.187676e+04  1.221375e+04  1.295084e+04
## [12961]  1.209384e+04  5.399697e+03  1.139290e+04  5.986787e+03
## [12965]  1.253516e+04  6.280749e+03  9.780198e+03  6.752725e+03
## [12969]  6.483237e+03  6.570764e+03  4.664714e+03  5.999336e+03
## [12973]  5.289336e+03 -7.285137e+02  9.475471e+03  5.594904e+03
## [12977]  1.073006e+04  1.167115e+05  1.107793e+05  7.405164e+03
## [12981]  1.148964e+04  1.262016e+04  5.980797e+03  8.322877e+03
## [12985]  5.027716e+03  1.298268e+04  7.161657e+03  5.871199e+03
## [12989]  7.765562e+03  6.575546e+03  7.788240e+03  7.852399e+03
## [12993]  1.586156e+04  6.735468e+03  7.535680e+03  7.079741e+03
## [12997]  5.460967e+03  1.240470e+04  4.593434e+03  1.402600e+04
## [13001]  4.964035e+03 -7.138759e+02  1.356185e+04  1.526721e+04
## [13005]  1.380526e+04  5.670106e+03  6.649420e+03  7.472720e+03
## [13009]  5.875824e+03  7.542427e+03  6.705309e+03  6.162670e+03
## [13013]  8.030433e+03  4.523815e+03  6.874091e+03  6.925142e+03
## [13017]  6.277019e+03  1.399126e+04  5.131750e+03  7.161657e+03
## [13021]  7.553167e+03  1.590360e+04  6.742464e+03 -1.628866e+03
## [13025]  6.321180e+03  1.259804e+04  6.266279e+03  9.834380e+03
## [13029]  7.929083e+03  1.304941e+04  1.328471e+04  1.455712e+04
## [13033]  1.350751e+04  7.141469e+03  5.409676e+03  7.221028e+03
## [13037]  6.463879e+03  4.477726e+05  1.234466e+04  9.130886e+03
## [13041]  4.683009e+03  6.792936e+03  6.586216e+03  7.468274e+03
## [13045]  6.146670e+03  6.304816e+03  1.849406e+04  7.704925e+03
## [13049]  7.357189e+03  1.223864e+04  7.151029e+03  1.889824e+04
## [13053]  1.600179e+04  2.078565e+04  2.054096e+04  8.634347e+02
## [13057]  7.338580e+03  5.971137e+03  6.451399e+03  1.450412e+04
## [13061]  7.524575e+03  1.238898e+04  1.317950e+04  4.528731e+03
## [13065]  1.380273e+03  5.884095e+03  2.088280e+04  5.451526e+03
## [13069]  1.726995e+04  1.263619e+04  5.661982e+03  1.174782e+04
## [13073]  3.094358e+03  4.568697e+03  4.577413e+03  1.386447e+04
## [13077]  7.044309e+03  4.082457e+04  1.182071e+04  6.441581e+03
## [13081]  7.130741e+03  1.015850e+04  1.199569e+04  1.435603e+03
## [13085]  1.301987e+04  6.126773e+03  7.802926e+03  6.916403e+03
## [13089]  2.177284e+04  4.318856e+03  7.129608e+03  1.951501e+04
## [13093]  1.491463e+04  6.929648e+03  5.715143e+03  7.082586e+03
## [13097]  6.295706e+03  3.640239e+04  7.875668e+03  4.999754e+03
## [13101]  6.480616e+03  1.471073e+04  1.179540e+04  6.308994e+03
## [13105]  2.313894e+05  6.928387e+03  1.228237e+04  1.300636e+04
## [13109]  7.320264e+03  5.044668e+03  7.122862e+03  1.077000e+04
## [13113]  4.876029e+03  6.978295e+03  1.283029e+04  1.690004e+04
## [13117]  1.690004e+04  7.980796e+03  7.252226e+03  4.790820e+03
## [13121]  5.357330e+04  1.298518e+04  6.030884e+03  6.531562e+03
## [13125]  2.977492e+04  6.098256e+03  1.180646e+04  7.153713e+03
## [13129]  1.643647e+04  8.111664e+03  1.909247e+03  1.105087e+04
## [13133]  6.964558e+03  1.388572e+04  8.526724e+03  6.945955e+03
```

```
## [13137]  6.756718e+03  2.612370e+04  1.262248e+04  4.101043e+04
## [13141]  7.325335e+03  6.715062e+03  1.222678e+04  5.846565e+03
## [13145]  5.063047e+03  4.228410e+04  1.418162e+05  7.640875e+03
## [13149]  6.122459e+03  7.958106e+03  6.139350e+03  1.451087e+04
## [13153]  7.113503e+03  7.421179e+03  7.376244e+03  6.292434e+03
## [13157]  2.428891e+03  4.612341e+03  6.723706e+03  1.302314e+04
## [13161]  5.114956e+03  1.246967e+04  1.253516e+04  7.695365e+03
## [13165]  5.708300e+03 -7.376207e+02  1.697750e+04  6.903042e+03
## [13169]  6.604464e+03  5.853961e+03  1.328569e+04  6.216324e+03
## [13173]  6.279524e+03  5.126145e+03  4.841371e+03  6.482439e+03
## [13177]  6.342722e+03  1.976330e+04  7.913945e+03  7.925793e+03
## [13181]  6.115176e+03  1.316809e+04  6.498542e+03  6.697823e+03
## [13185]  4.996514e+03  5.301205e+03  6.668396e+03  5.463602e+03
## [13189]  1.234598e+04  1.263956e+04  6.524565e+05  1.185601e+04
## [13193]  6.717244e+03  6.544885e+03  6.083409e+03  7.279686e+03
## [13197]  7.235627e+03  1.170050e+04  7.084209e+03  1.199858e+04
## [13201]  1.182021e+04  1.240119e+04  3.175228e+04  3.981154e+04
## [13205]  5.706799e+03  7.356211e+03  5.667387e+03  1.250176e+04
## [13209]  1.201496e+04  1.239614e+04  4.357233e+03  4.803644e+03
## [13213]  6.521910e+03  6.752725e+03  1.215957e+04  5.011131e+02
## [13217]  5.637750e+03  1.128482e+04  1.055585e+04  6.521910e+03
## [13221]  3.577906e+03  2.294629e+04 -9.049868e+02  2.397240e+04
## [13225]  3.306623e+03  1.815988e+03  1.730696e+04  1.299757e+04
## [13229]  1.314184e+04  1.485595e+04  5.661820e+03  6.656167e+03
## [13233]  6.901838e+03  1.217658e+04  5.912335e+03  5.874572e+03
## [13237]  6.386650e+03  6.673654e+03  7.554647e+03  1.993492e+04
## [13241]  1.826635e+04  1.371907e+04  4.724450e+03  1.223615e+04
## [13245]  6.311615e+03  7.969899e+03  6.502726e+03  1.048358e+04
## [13249]  6.117525e+03  1.278878e+04  7.000775e+03  7.370228e+03
## [13253]  7.915065e+03  1.157662e+04  6.200333e+03  6.342377e+03
## [13257]  1.166186e+04  1.458687e+04  4.229037e+03  7.241850e+03
## [13261]  1.339836e+04  6.475692e+03  2.119784e+05  1.030945e+04
## [13265]  7.168404e+03  7.598741e+03  6.113340e+03  6.369809e+03
## [13269]  6.905663e+03  4.599872e+02  1.160874e+04  1.355516e+04
## [13273]  5.600613e+03  6.380175e+03  1.290165e+04  8.160593e+03
## [13277]  5.866465e+03  1.488550e+04  7.142433e+03  4.675356e+03
## [13281]  5.682610e+03  4.882168e+03  1.237703e+04  5.368975e+03
## [13285]  9.845747e+03  7.602433e+03 -1.200682e+03  1.983279e+04
## [13289]  2.587870e+02  3.295231e+04  7.287271e+03  6.348393e+03
## [13293]  6.064726e+03  6.298746e+03  7.960526e+03  6.311615e+03
## [13297]  1.188109e+04  5.875370e+03  5.922156e+03  7.544120e+03
## [13301]  5.722852e+03  5.090175e+03  1.294953e+04  2.982480e+04
## [13305]  6.012829e+03  5.721890e+03  7.555320e+04  7.840194e+03
## [13309]  8.872079e+03  6.085045e+03  6.248478e+03  6.005111e+03
## [13313]  7.125723e+03  5.860522e+02  1.213697e+04  1.231419e+04
## [13317]  6.122028e+03  1.363602e+04  6.397296e+04  1.159143e+04
## [13321]  7.120094e+03  8.165946e+03  1.465699e+04  1.140378e+04
## [13325]  7.384492e+03  8.135497e+03  7.786404e+03  5.518419e+03
## [13329]  5.993922e+03  7.840141e+03  3.616918e+03  2.397236e+03
## [13333]  1.454831e+04  7.393933e+03  1.418506e+04  5.884692e+03
## [13337]  5.816948e+03 -3.530980e+02  7.107551e+03  6.654403e+03
## [13341]  2.183933e+05  6.116229e+03  1.434506e+04  3.390680e+05
## [13345]  1.815191e+04 -1.853333e+01  5.267279e+03  7.795551e+03
## [13349]  7.743520e+03  7.539140e+03  5.688833e+03  1.365320e+04
## [13353]  7.376244e+03  5.496012e+03  1.426022e+04  1.199748e+04
## [13357]  8.600021e+03  1.144957e+04  6.874747e+03  6.448327e+03
## [13361]  6.275803e+03  1.269249e+04  1.247035e+04  5.981060e+02
## [13365]  1.764313e+04  1.320813e+04  6.142113e+03  1.527277e+04
## [13369]  6.352489e+03  5.944090e+03  5.906676e+03  1.380643e+04
## [13373]  1.337797e+04  1.267979e+04  6.020144e+03  8.002826e+03
## [13377]  1.321513e+04  2.312033e+04  5.917449e+03  3.303309e+04
## [13381]  1.811835e+03  4.628108e+03  5.519292e+03  7.584083e+03
## [13385]  1.437251e+05  6.252149e+03  6.116702e+03  1.384246e+04
## [13389]  2.233799e+04  1.328471e+04  7.148501e+03  4.824148e+03
## [13393]  7.956962e+03  1.255919e+04  4.743301e+04  1.686884e+04
## [13397]  5.139814e+03  9.610143e+03  5.468393e+03  6.101139e+03
## [13401]  1.059293e+04  6.670803e+03  6.128733e+03  8.036679e+03
## [13405]  1.296004e+04  7.671511e+03  1.369245e+04  1.252941e+04
## [13409]  1.191695e+04  1.201113e+04  1.244828e+04  2.292677e+04
## [13413]  4.534284e+03  4.781004e+03  8.392488e+03  6.661757e+03
## [13417]  1.274976e+04  5.559489e+03  2.267494e+04  5.890450e+03
## [13421]  1.772270e+04  5.902203e+03  6.384380e+03  1.302872e+04
## [13425] -5.559771e+02 -5.878914e+02  1.443834e+04  6.189634e+03
## [13429]  5.616969e+03  4.992781e+03  7.142973e+03  6.935134e+03
## [13433]  1.205848e+04  7.399825e+03  1.259831e+04  1.135794e+04
## [13437]  7.692862e+03  1.324577e+03  6.682724e+03  8.296848e+03
```

```
## [13437]  7.692062e+03  1.324577e+03  6.692734e+03  8.386848e+03
## [13441]  6.168093e+03  6.960564e+03  1.250118e+04  3.706393e+03
## [13445]  4.845867e+04  6.567922e+03 -9.647563e+02  1.175846e+04
## [13449]  7.290426e+03  7.142973e+03  6.918908e+03  4.655948e+04
## [13453]  1.045520e+04  6.752725e+03  6.514317e+03  6.306133e+03
## [13457]  8.181647e+03  1.061572e+04  7.327840e+03 -5.126271e+02
## [13461]  5.106234e+03  6.366516e+03  6.628707e+03  1.314863e+04
## [13465]  6.291752e+03  1.226744e+04  1.217497e+04  6.038565e+03
## [13469]  1.298273e+04  1.254671e+04  1.025110e+04  8.585714e+03
## [13473]  7.189816e+03  4.923499e+03  1.302443e+04  6.882101e+03
## [13477]  7.850148e+03  1.260903e+04  5.953506e+03  6.951691e+03
## [13481]  6.872255e+03  2.254409e+04  6.690278e+03  5.066413e+03
## [13485]  1.102013e+04  7.797143e+03  5.763548e+03  5.140029e+03
## [13489]  7.737021e+03  7.779121e+03  1.008764e+04 -1.024029e+03
## [13493]  1.183081e+04  1.914773e+04  1.403845e+04  6.347786e+03
## [13497]  5.809185e+03  5.738475e+03  6.076273e+03  6.295389e+03
## [13501]  1.231820e+04  6.419957e+03  4.994519e+02  7.942240e+03
## [13505]  6.935134e+03  6.392307e+03  4.315577e+03  6.577179e+03
## [13509]  5.961577e+03  1.215555e+04  6.655498e+03 -1.337395e+03
## [13513]  1.455447e+05  8.346121e+03  5.538019e+03  5.268052e+03
## [13517]  7.061178e+03  2.794268e+04  1.759687e+04  3.691777e+04
## [13521]  7.065100e+03  5.247802e+03  8.978865e+03  7.364359e+03
## [13525]  1.316366e+04  6.916403e+03  5.272417e+03  6.169417e+03
## [13529]  1.381995e+04  7.113503e+03  5.943636e+03  6.936395e+03
## [13533]  7.814166e+03  5.683860e+03  1.257682e+04  2.525820e+04
## [13537]  1.710908e+03  6.997568e+03  3.444788e+04  1.278237e+04
## [13541]  6.618873e+03  6.825461e+03  1.384386e+04  5.010524e+03
## [13545] -9.029870e+02  1.301088e+04  2.405882e+04  7.581632e+03
## [13549]  5.743758e+02  7.768578e+03  5.077451e+03 -6.300023e+02
## [13553]  6.522609e+03  1.223902e+04  6.971304e+03  1.436651e+04
## [13557]  6.544885e+03  1.110022e+04  1.283675e+04  7.340388e+03
## [13561]  7.930935e+03  5.075317e+03  1.506805e+04  6.489984e+03
## [13565]  6.960564e+03 -2.116889e+02 -5.584207e+02  8.361557e+03
## [13569]  2.652481e+03 -1.068448e+04 -7.173256e+03 -8.597048e+03
## [13573] -8.898444e+03 -8.039870e+03 -1.554272e+04 -5.730959e+03
## [13577] -1.781112e+03 -3.925245e+03  3.412522e+03 -3.233416e+03
## [13581] -8.959412e+03 -5.896184e+03 -1.164980e+04 -2.612471e+03
## [13585] -1.125400e+04  5.990809e+04  2.054386e+03 -1.089683e+04
## [13589] -2.821204e+03  2.247721e+03 -9.860428e+03  7.176152e+03
## [13593] -5.325230e+03 -8.613390e+03 -5.090978e+03 -9.268520e+02
## [13597]  3.718400e+05  3.387221e+04  6.181108e+04 -7.502754e+03
## [13601] -4.493863e+03 -9.535073e+03 -1.627552e+04 -5.731624e+03
## [13605]  2.579674e+04 -8.816327e+03  8.101323e+04 -8.405550e+03
## [13609]  7.647930e+03  6.786425e+04 -1.065020e+04 -3.259641e+03
## [13613] -1.110016e+04 -9.635352e+03  2.791023e+04 -1.128455e+04
## [13617] -1.068539e+04 -1.040642e+04  2.018244e+04 -9.060873e+03
## [13621]  4.595667e+03 -2.618872e+03  3.603560e+04 -1.124406e+04
## [13625] -9.997024e+03  1.335507e+05 -1.026971e+04 -1.100121e+04
## [13629] -6.120570e+03 -9.286908e+03 -1.035180e+04 -9.854027e+03
## [13633] -9.997024e+03 -1.006187e+04  4.345303e+03  3.110212e+03
## [13637]  1.844930e+05 -7.710788e+03 -3.034322e+03 -1.068539e+04
## [13641] -8.701910e+03 -7.445255e+03 -2.811263e+03  9.209342e+03
## [13645] -9.029069e+03 -2.898522e+03 -1.603355e+03  2.266289e+03
## [13649] -9.646187e+03 -7.118145e+03 -4.483921e+03 -1.039171e+04
## [13653] -9.591286e+03 -9.444748e+03 -7.327779e+03 -8.597048e+03
## [13657] -1.591163e+04 -7.903426e+03 -7.689805e+03  1.265038e+03
## [13661]  1.848814e+04  1.530945e+04 -9.244725e+02 -7.758177e+03
## [13665] -7.911115e+03 -8.534634e+03 -7.647062e+03  2.512076e+03
## [13669]  1.341333e+05  2.487728e+03 -7.277655e+03  1.034566e+05
## [13673] -4.383431e+02 -8.589535e+03 -7.429667e+03 -9.294275e+02
## [13677] -2.009664e+03 -6.926818e+03 -1.375170e+03  3.002891e+02
## [13681]  1.634949e+03 -6.715438e+03 -9.771730e+03  2.272743e+04
## [13685]  9.253703e+04  6.983190e+02  2.151702e+03  5.728138e+03
## [13689] -1.216124e+02 -7.287596e+03 -7.126227e+03  3.798219e+05
## [13693] -8.109013e+03  8.115032e+03 -5.829178e+03  5.031786e+04
## [13697]  3.478613e+05 -7.383062e+03  1.531518e+04 -1.085407e+03
## [13701]  1.753385e+02 -6.293358e+03 -4.778767e+03  1.078084e+04
## [13705]  3.867204e+04  8.788424e+03 -6.933219e+03  6.336459e+04
## [13709] -4.535264e+03  4.459143e+04  6.857646e+03 -7.287596e+03
## [13713]  7.481857e+02 -2.634888e+02  1.845285e+04 -8.326794e+03
## [13717] -7.471083e+03  2.828807e+04  1.266282e+03  1.050113e+04
## [13721]  1.058256e+04  7.815729e+03 -5.822777e+03  9.852120e+03
## [13725] -7.965702e+03  4.782460e+02 -6.926818e+03 -8.458550e+03
## [13729] -9.116561e+03 -6.446296e+03 -7.123646e+03 -5.621338e+03
## [13733] -7.348898e+03 -6.644206e+03  1.742543e+03 -8.940371e+03
## [13737] -8.381695e+03 -7.201640e+03 -4.994667e+03  1.935626e+03
```

```
## [13737] 8.561093e+03  7.261843e+03  4.994887e+03  1.955525e+03
## [13741] -6.584642e+03 -9.149901e+03 -6.085518e+03 -1.345277e+04
## [13745]  9.433256e+03  1.827712e+03  2.679965e+03  1.134185e+04
## [13749] -8.170315e+03 -7.713217e+03 -1.042283e+04 -8.876155e+03
## [13753] -6.446296e+03 -8.742473e+03  3.069869e+04  1.150025e+04
## [13757] -8.173856e+03 -4.672465e+03 -7.242428e+03  3.228768e+04
## [13761] -1.156219e+04 -7.126227e+03  1.435518e+04 -6.891734e+03
## [13765] -8.498301e+03 -8.173856e+03 -7.342497e+03 -7.550337e+03
## [13769]  4.584882e+05  1.218790e+05  3.554278e+04  3.432496e+04
## [13773]  3.173147e+04  2.856566e+04  2.645667e+04  1.960196e+04
## [13777]  2.577477e+04  3.403675e+04  2.018187e+04  2.562958e+04
## [13781]  2.019913e+04  1.179579e+04  1.284926e+04  1.302514e+04
## [13785]  1.365012e+04  1.384357e+04  2.435497e+04  3.854188e+04
## [13789]  5.376395e+04  1.328152e+04  1.994244e+04  1.385796e+04
## [13793]  2.721633e+04  1.220536e+04  1.208167e+04  6.215372e+03
## [13797]  8.314627e+03  1.335632e+04  1.309875e+04  1.470920e+04
## [13801]  1.263819e+04  1.268606e+04  1.218085e+04  2.079663e+04
## [13805]  1.278690e+04  7.349747e+04  1.442511e+04  1.392347e+04
## [13809]  2.068718e+04  1.326170e+04  1.316704e+04  1.827350e+04
## [13813]  1.283663e+04  1.310880e+05  2.058647e+04  4.888618e+04
## [13817]  2.944801e+04  2.081146e+04  1.259653e+04  1.392909e+04
## [13821]  1.365012e+04  1.133119e+04  2.743648e+04  1.376075e+04
## [13825]  1.427364e+04  1.484079e+04  1.387815e+04  1.352445e+04
## [13829]  1.968673e+04  6.711396e+03  1.975205e+04  1.325067e+04
## [13833]  1.357660e+04  1.346954e+04  1.319035e+04  1.363762e+04
## [13837]  4.563078e+04  1.256706e+04  2.639759e+04  1.426733e+04
## [13841]  1.259428e+04  2.582756e+04  2.615340e+04  1.510980e+04
## [13845]  2.709340e+04  3.686815e+04  1.389145e+04  1.950434e+04
## [13849]  1.209424e+04  6.838891e+03  2.495024e+04  1.932595e+04
## [13853]  1.230192e+04  1.261092e+04  1.356613e+04  1.973571e+04
## [13857]  1.394013e+04  1.089184e+04  1.989650e+04  1.122717e+04
## [13861]  1.263133e+04  2.061093e+04  2.813125e+04  2.747989e+04
## [13865]  1.281438e+04  1.989023e+04  2.052907e+04  1.218188e+04
## [13869]  2.604229e+04  1.947889e+04  2.896886e+04  1.101431e+04
## [13873]  1.323297e+04  2.644677e+04  6.456378e+04  1.220220e+05
## [13877]  2.000463e+04  2.695529e+04  1.510980e+04  1.100838e+04
## [13881]  2.673495e+04  2.234888e+04  2.473524e+04  2.028448e+04
## [13885]  1.314956e+04  1.954470e+04  1.241931e+04  1.894111e+04
## [13889]  1.352782e+04  2.134138e+04  1.304725e+04  1.343268e+04
## [13893]  1.306316e+04  1.330526e+04  3.471894e+04  1.332692e+04
## [13897]  2.773712e+04  4.893879e+04  3.341884e+05  1.434318e+04
## [13901]  1.853036e+04  1.249410e+04  2.040493e+04  1.958491e+04
## [13905]  3.767505e+04  2.985314e+04  1.209794e+04  2.639155e+04
## [13909]  1.611395e+04  2.609157e+04  1.213495e+04  1.956341e+04
## [13913]  1.480931e+04  1.656433e+04  1.521958e+04  1.189868e+04
## [13917]  2.243771e+04  1.992306e+04  1.605272e+04  1.447074e+04
## [13921]  2.577709e+04  2.975565e+04  2.579986e+04  2.195941e+04
## [13925]  1.240627e+04  2.667536e+04  1.241900e+04  1.995876e+04
## [13929]  1.308224e+04  1.243210e+04  1.549782e+04  1.306549e+04
## [13933]  1.982365e+04  1.291022e+04  1.474282e+04  2.730792e+04
## [13937]  1.938080e+04  2.067261e+04  1.466358e+04  1.383319e+04
## [13941]  1.365795e+04  2.001459e+04  1.625517e+04  4.587726e+04
## [13945]  2.322019e+04  1.223242e+04  1.106191e+05  1.327100e+04
## [13949]  1.146068e+04  2.979073e+04  1.151143e+04  1.368597e+04
## [13953]  1.309742e+04  1.324411e+04  5.503124e+04  1.385765e+04
## [13957]  1.872509e+04  1.295555e+04  1.509509e+05  1.192273e+04
## [13961]  1.433014e+04  1.268174e+04  2.950423e+04  1.423907e+04
## [13965]  1.286391e+04  2.222157e+04  1.230901e+04  1.267587e+04
## [13969]  1.143386e+04  3.018218e+04  2.671143e+04  2.725687e+04
## [13973]  2.034319e+04  2.036120e+04  2.743426e+04  1.237309e+04
## [13977]  5.880890e+03  5.245171e+03  1.417677e+04  2.077704e+04
## [13981]  2.069742e+04  1.446016e+04  1.420647e+04  1.179548e+04
## [13985]  1.437015e+05  6.724556e+03  1.873274e+04  9.516390e+04
## [13989]  2.644645e+04  1.190647e+04  2.523811e+04  7.195974e+03
## [13993]  3.770527e+05  2.726401e+04  1.217749e+04  7.302545e+03
## [13997]  1.582619e+04  1.282676e+04  1.315822e+04  1.253426e+04
## [14001]  1.553659e+04  1.285532e+04  2.077688e+04  5.765116e+03
## [14005]  2.019308e+04  6.783680e+03  5.849365e+03  1.148843e+04
## [14009]  2.563591e+04  1.283468e+04  2.673535e+04  1.281354e+04
## [14013]  1.309844e+04  1.352751e+04  1.305576e+04  2.748565e+04
## [14017]  2.581320e+04  1.207903e+04  1.615690e+04  1.309751e+04
## [14021]  1.099457e+04  1.262684e+04  1.329898e+04  1.316712e+04
## [14025]  3.265084e+04  1.374859e+04  6.859215e+03  2.018887e+04
## [14029]  2.870487e+04  1.411416e+04  2.647097e+04  5.952322e+03
## [14033]  1.991679e+04  1.228724e+04  1.314609e+04  2.013271e+04
## [14037]  6.873511e+04  1.343719e+04  1.434446e+04  1.260474e+04
```

```
## [14041] 1.148486e+04 2.601222e+04 1.306601e+04 1.335525e+04
## [14045] 6.675831e+05 2.972140e+04 5.789635e+03 1.259187e+04
## [14049] 1.345820e+04 1.408172e+04 2.817318e+04 1.393085e+04
## [14053] 1.431289e+04 6.139138e+03 1.370094e+04 2.647149e+04
## [14057] 1.769607e+04 2.094975e+04 1.408172e+04 2.663537e+04
## [14061] 1.380244e+04 1.218304e+04 2.009108e+04 1.905597e+04
## [14065] 2.688486e+04 1.264748e+04 2.682047e+04 6.804314e+03
## [14069] 3.032788e+04 1.446673e+04 1.285532e+04 3.039904e+04
## [14073] 2.661160e+04 1.880011e+04 1.372094e+04 2.057873e+05
## [14077] 1.341860e+04 1.445154e+04 1.911416e+04 1.081135e+04
## [14081] 1.327100e+04 1.233537e+04 1.272146e+04 1.201788e+04
## [14085] 2.000059e+04 1.282659e+04 1.361555e+04 1.309742e+04
## [14089] 1.229371e+04 1.394959e+04 1.260471e+04 1.406740e+04
## [14093] 1.144800e+04 1.420593e+04 1.419742e+04 2.710200e+04
## [14097] 1.496730e+04 2.667494e+04 2.048541e+04 2.607594e+04
## [14101] 2.665429e+04 1.969602e+04 1.409598e+04 2.772592e+04
## [14105] 1.202396e+04 1.309844e+04 1.512852e+04 1.300086e+04
## [14109] 1.444159e+04 1.470578e+04 1.187103e+04 2.522061e+04
## [14113] 1.297953e+04 1.247936e+04 1.171179e+04 1.202883e+04
## [14117] 1.415635e+04 1.373535e+04 1.299861e+04 1.338130e+04
## [14121] 2.686213e+04 2.467586e+04 1.322596e+04 1.917643e+04
## [14125] 1.283910e+04 2.686213e+04 1.343049e+04 1.330526e+04
## [14129] 1.847044e+04 1.303460e+04 8.014492e+03 1.205822e+04
## [14133] 1.325869e+04 2.885055e+04 1.308310e+04 1.462923e+04
## [14137] 1.304252e+04 1.418631e+04 1.552037e+04 4.867321e+04
## [14141] 1.287473e+04 2.621760e+04 1.281367e+04 1.171826e+04
## [14145] 4.977650e+04 1.405114e+04 5.092233e+03 7.262586e+03
## [14149] 1.448931e+04 2.036049e+04 2.013271e+04 3.916245e+04
## [14153] 1.320475e+05 1.377507e+04 1.241900e+04 1.107072e+04
## [14157] 1.653855e+04 5.521845e+04 2.587309e+04 1.236828e+04
## [14161] 7.580075e+03 1.387830e+04 2.557665e+04 1.434446e+04
## [14165] 2.509023e+04 1.135124e+04 2.141364e+04 2.867579e+04
## [14169] 1.345820e+04 1.245289e+04 1.345820e+04 5.681484e+03
## [14173] 1.516608e+04 6.567744e+03 1.194033e+04 1.383887e+04
## [14177] 5.354215e+03 1.264748e+04 6.651543e+03 1.874059e+04
## [14181] 1.407363e+04 1.193104e+04 1.372640e+04 5.725313e+04
## [14185] 1.229518e+04 1.170290e+04 2.047117e+04 7.199359e+03
## [14189] 1.497782e+04 2.673418e+04 1.293825e+04 2.194974e+04
## [14193] 1.864911e+04 2.619135e+04 2.544715e+04 1.403449e+04
## [14197] 1.266393e+04 1.177384e+05 2.013271e+04 1.351128e+04
## [14201] 1.353180e+04 2.563574e+04 1.431069e+04 1.329600e+04
## [14205] 1.200332e+04 1.367704e+04 2.537300e+04 8.439924e+04
## [14209] 1.323219e+04 1.900988e+04 2.630623e+04 6.867930e+03
## [14213] 1.346262e+04 1.910676e+04 2.059287e+05 1.337457e+04
## [14217] 1.502004e+04 1.302033e+04 2.502326e+04 1.286919e+04
## [14221] 2.503534e+04 1.305263e+04 1.306316e+04 1.322265e+04
## [14225] 4.990663e+05 1.044132e+04 1.347479e+04 1.614374e+04
## [14229] 6.909306e+03 1.254557e+04 5.383248e+04 1.320645e+04
## [14233] 1.387388e+04 1.388439e+04 1.244574e+04 1.959083e+04
## [14237] 2.506089e+04 1.514237e+04 6.277650e+04 2.100481e+04
## [14241] 1.283468e+04 1.322184e+04 6.097163e+03 1.097730e+05
## [14245] 2.011009e+04 1.419226e+04 2.490721e+04 1.360510e+04
## [14249] 6.269450e+03 1.290829e+04 1.325463e+04 1.704000e+04
## [14253] 2.721502e+04 4.133690e+03 2.575312e+04 2.616479e+04
## [14257] 1.327709e+04 3.383200e+05 1.202368e+04 1.990995e+04
## [14261] 6.804862e+03 7.516230e+03 5.535197e+03 1.511269e+04
## [14265] 2.019372e+04 1.339061e+04 2.646073e+04 2.726168e+04
## [14269] 1.288958e+04 4.045622e+04 1.214612e+04 1.226606e+04
## [14273] 1.320217e+04 2.564184e+04 1.268783e+04 1.337251e+04
## [14277] 1.959694e+04 1.221725e+04 1.192651e+04 1.938299e+04
## [14281] 1.268783e+04 1.329618e+04 1.289567e+04 2.529547e+04
## [14285] 1.338066e+04 1.231196e+04 2.873799e+04 1.538793e+04
## [14289] 6.353081e+03 1.450791e+04 6.913986e+03 2.496210e+04
## [14293] 1.317282e+04 1.298562e+04 2.651496e+04 1.348555e+04
## [14297] 8.815747e+03 7.433837e+04 4.143159e+05 2.591899e+04
## [14301] 1.930746e+04 1.242509e+04 2.599978e+04 2.578738e+04
## [14305] 5.406624e+04 1.930746e+04 1.190164e+04 2.094207e+04
## [14309] 1.324227e+04 1.225220e+04 7.420962e+04 1.957020e+04
## [14313] 2.520552e+04 1.215233e+04 2.079724e+04 1.180157e+04
## [14317] 3.159990e+04 1.408599e+04 1.273782e+04 1.321546e+04
## [14321] 1.891241e+04 1.324022e+04 2.655360e+04 1.447133e+04
## [14325] 1.464020e+04 2.812040e+04 4.182653e+04 2.679727e+04
## [14329] 6.143629e+03 1.184856e+04 2.580412e+04 2.657676e+04
## [14333] 2.000651e+04 1.323278e+04 2.686823e+04 1.218852e+04
## [14337] 1.081118e+04 1.319346e+04 1.283740e+04 1.351919e+04
## [14341] 1.291632e+04 6.419245e+03 2.543039e+04 1.972314e+04
```

```
## [14341] 1.291632e+04 6.419243e+03 2.343039e+04 1.972314e+04
## [14345] 1.377570e+04 1.310351e+04 2.021435e+04 1.958474e+04
## [14349] 2.143893e+04 1.326479e+04 1.312494e+04 1.404934e+04
## [14353] 1.470951e+04 7.046421e+03 2.828146e+04 1.205962e+05
## [14357] 9.195142e+03 1.166698e+04 1.227219e+04 1.271850e+04
## [14361] 6.834924e+03 2.584375e+04 2.703442e+04 1.328580e+04
## [14365] 3.974046e+04 1.324853e+04 1.223180e+04 2.054640e+04
## [14369] 1.311806e+04 2.057443e+04 7.341300e+03 1.411481e+04
## [14373] 1.980556e+04 1.166928e+04 1.535651e+04 1.393487e+04
## [14377] 1.115160e+05 1.163346e+04 2.692433e+04 1.342705e+04
## [14381] 1.294939e+04 1.631232e+04 1.297241e+04 1.018115e+05
## [14385] 1.236210e+04 1.374767e+04 2.316693e+04 2.668490e+04
## [14389] 1.291648e+04 1.615830e+04 1.352738e+04 1.635848e+04
## [14393] 1.174342e+04 2.561429e+04 1.268783e+04 2.786733e+04
## [14397] 2.670292e+04 2.299294e+04 1.300695e+04 2.535054e+04
## [14401] 2.633665e+04 1.427464e+04 2.059025e+04 1.316407e+04
## [14405] 2.709773e+04 2.652301e+04 1.248831e+04 2.076674e+04
## [14409] 1.288958e+04 1.174120e+04 1.270848e+04 2.063314e+04
## [14413] 1.312951e+04 1.242509e+04 1.374144e+04 1.943167e+04
## [14417] 1.372758e+04 2.559370e+04 1.429565e+04 6.844672e+03
## [14421] 6.581932e+03 1.290113e+04 1.299813e+04 2.547891e+04
## [14425] 3.129846e+04 1.698672e+05 2.054959e+04 1.367213e+04
## [14429] 1.859136e+04 1.653294e+04 1.969441e+04 1.435336e+04
## [14433] 9.468004e+04 1.407972e+04 3.103832e+04 2.699261e+04
## [14437] 1.594018e+04 1.364442e+04 5.722867e+03 1.977804e+04
## [14441] 4.192678e+04 2.584358e+04 1.130969e+04 1.427626e+04
## [14445] 8.826511e+03 1.325689e+04 8.153646e+03 1.395568e+04
## [14449] 2.558756e+04 2.512815e+04 1.346091e+04 1.262484e+04
## [14453] 1.411131e+04 2.690378e+04 2.150480e+04 1.530121e+04
## [14457] 1.362239e+04 1.337873e+04 1.263293e+04 1.204432e+04
## [14461] 2.594834e+04 2.083889e+04 2.629181e+04 1.233058e+04
## [14465] 1.309844e+04 1.223790e+04 1.234654e+04 1.266066e+04
## [14469] 1.395654e+04 1.444712e+04 1.414271e+04 2.497747e+04
## [14473] 1.221725e+04 1.254961e+04 1.479050e+04 1.325645e+04
## [14477] 1.874008e+04 2.098090e+04 1.515437e+04 1.270950e+04
## [14481] 2.593149e+04 1.442987e+04 1.145551e+04 1.321316e+04
## [14485] 1.414592e+04 1.449920e+04 2.381736e+04 1.262021e+04
## [14489] 1.453847e+04 2.533200e+04 2.600262e+04 1.910730e+04
## [14493] 5.979058e+03 1.244574e+04 1.993485e+04 1.995548e+04
## [14497] 1.286141e+04 1.391616e+04 1.382089e+04 3.112874e+04
## [14501] 1.248101e+04 2.602587e+04 1.317282e+04 1.385896e+04
## [14505] 3.549862e+04 1.345820e+04 2.709478e+04 1.385896e+04
## [14509] 1.291022e+04 1.289724e+04 1.524506e+04 1.986004e+04
## [14513] 4.657437e+04 1.224660e+04 1.568014e+04 2.623535e+05
## [14517] 1.448726e+04 1.240408e+04 2.578230e+04 1.855405e+04
## [14521] 2.133809e+04 2.916441e+04 2.176701e+04 1.186193e+04
## [14525] 5.805474e+03 1.321479e+04 1.440024e+04 6.075264e+04
## [14529] 1.950720e+04 1.952984e+04 1.376609e+04 1.358058e+04
## [14533] 6.919279e+03 1.337798e+04 2.563574e+04 1.308628e+04
## [14537] 4.681587e+04 1.385896e+04 1.385896e+04 2.207500e+04
## [14541] 1.286141e+04 1.244574e+04 1.431629e+04 1.242509e+04
## [14545] 1.269072e+04 8.161024e+03 2.182529e+04 3.328001e+04
## [14549] 2.913428e+05 2.592613e+04 1.573882e+04 4.961893e+04
## [14553] 2.063058e+04 2.179543e+04 2.083164e+04 6.109858e+03
## [14557] 1.247999e+04 1.291438e+04 8.425223e+03 2.089349e+04
## [14561] 5.754154e+04 2.046579e+04 1.187729e+04 1.507726e+04
## [14565] 1.385124e+04 1.336965e+04 2.703216e+04 7.850107e+04
## [14569] 2.448320e+04 1.250775e+04 1.338066e+04 1.991245e+04
## [14573] 1.842504e+04 1.996546e+04 2.053142e+04 1.454830e+04
## [14577] 1.247999e+04 2.612984e+04 2.200146e+04 2.600262e+04
## [14581] 1.473197e+04 2.706997e+04 1.265357e+04 2.612072e+04
## [14585] 1.456902e+04 1.381698e+04 1.302760e+04 1.183546e+04
## [14589] 1.143288e+04 2.641220e+04 2.017269e+04 1.286141e+04
## [14593] 2.499768e+04 7.069715e+04 1.287466e+04 1.468093e+04
## [14597] 2.540675e+04 2.051116e+04 2.469702e+05 1.348364e+04
## [14601] 1.038032e+04 1.367096e+04 3.083286e+04 1.350945e+04
## [14605] 2.670429e+04 1.915452e+04 3.725716e+04 1.372568e+04
## [14609] 1.567166e+04 1.398049e+04 7.019621e+04 1.392240e+04
## [14613] 1.965405e+04 2.641830e+04 1.256343e+04 2.496951e+04
## [14617] 1.310351e+04 1.502431e+04 1.222167e+04 2.675035e+04
## [14621] 2.639252e+04 6.332436e+03 1.511768e+04 1.182222e+04
## [14625] 1.891241e+04 1.161438e+04 2.081818e+04 1.232423e+04
## [14629] 1.469962e+04 7.055887e+03 2.766534e+04 1.230249e+04
## [14633] 2.661976e+04 4.702675e+04 1.994939e+04 1.327748e+04
## [14637] 1.406680e+04 2.013271e+04 4.547199e+04 1.402482e+04
## [14641] 2.454814e+04 1.164863e+04 1.627146e+04 2.925827e+04
```

```
## [14645]  2.628380e+04  2.015206e+04  1.203006e+04  1.098477e+04
## [14649]  3.131027e+04  2.682853e+04  1.327514e+04  2.956433e+04
## [14653]  1.400471e+04  1.735967e+04  2.626637e+04  2.535846e+04
## [14657]  7.184440e+03  1.384405e+04  2.530034e+04  1.885177e+04
## [14661]  6.589096e+03  2.123851e+04  2.499191e+04  2.559478e+04
## [14665]  1.334872e+04  2.535569e+04  2.024733e+04  1.297160e+04
## [14669]  3.332560e+04  2.059369e+04  3.074370e+04  5.591544e+03
## [14673]  1.893428e+05  1.024990e+05  1.288162e+04  6.318124e+04
## [14677]  4.588438e+04  1.263147e+04  2.827638e+04  1.247865e+04
## [14681]  2.810120e+04  1.270645e+04  2.050336e+04  2.595262e+04
## [14685]  2.620172e+04  1.393252e+04  1.906293e+04  1.946759e+04
## [14689]  1.496874e+04  1.391631e+04  1.351582e+04  1.269329e+04
## [14693]  2.802726e+04  3.008812e+04  2.683058e+04  1.230371e+04
## [14697]  2.241722e+04  1.931792e+04  2.019033e+04  1.291541e+04
## [14701]  2.161483e+04  1.239636e+04  1.459222e+04  1.421479e+05
## [14705]  1.351919e+04  1.316387e+04  6.551388e+03  1.877473e+04
## [14709]  1.304861e+04  8.830957e+03  1.284644e+04  2.075895e+04
## [14713]  2.006662e+04  2.504579e+04  3.270378e+04  1.375131e+04
## [14717]  4.636011e+04  1.995441e+04  1.364442e+04  2.782316e+04
## [14721]  1.346973e+04  1.214833e+04  1.154035e+04  1.348725e+04
## [14725]  1.261350e+04  2.256134e+05  1.524409e+04  1.302534e+04
## [14729]  1.336799e+04  1.319105e+04  4.376740e+03  2.618371e+04
## [14733]  1.244574e+04  7.073325e+03  1.284252e+04  3.816129e+04
## [14737]  1.319009e+04  1.260420e+04  1.366875e+04  1.268446e+04
## [14741]  1.182454e+04  1.876684e+04  2.556019e+04  4.635194e+04
## [14745]  1.906478e+04  2.765923e+04  2.770473e+04  3.322531e+04
## [14749]  1.647604e+05  1.896099e+05  2.139681e+04  1.270999e+04
## [14753]  1.506595e+04  2.288881e+04  1.275105e+04  2.514678e+04
## [14757]  2.790089e+04  2.272377e+04  2.539583e+04  2.695480e+04
## [14761]  1.020257e+05  2.783208e+04  2.524794e+04  6.270986e+04
## [14765]  1.321055e+04  3.232193e+04  1.240457e+04  1.526894e+04
## [14769]  6.202270e+03  1.316944e+04  1.267947e+04  6.218877e+04
## [14773]  1.262956e+04  1.294800e+04  7.039980e+04  1.512810e+04
## [14777]  1.325877e+04  1.965405e+04  1.912104e+04  2.685893e+04
## [14781]  2.543078e+04  1.527205e+04  6.243312e+03  1.598376e+04
## [14785]  2.132198e+04  2.556630e+04  2.635037e+04  2.676829e+04
## [14789]  1.226878e+04  2.121014e+04  4.597711e+04  2.702432e+04
## [14793]  1.956826e+04  1.331152e+04  1.590286e+04  1.882878e+04
## [14797]  1.408576e+04  1.935725e+04  1.426711e+04  2.147752e+04
## [14801]  1.896655e+04  1.331099e+04  6.221154e+03  2.702982e+04
## [14805]  3.361066e+04  1.513453e+04  2.782721e+04  6.768760e+03
## [14809]  1.888984e+04  8.730480e+04  2.588635e+03 -4.340699e+03
## [14813]  1.975741e+03  1.354210e+04  2.838172e+03 -5.849300e+03
## [14817] -5.342593e+03  5.628682e+03 -4.344934e+03 -4.823464e+03
## [14821]  3.124323e+03 -5.585571e+03  1.928528e+03 -2.770402e+03
## [14825] -2.658803e+03 -6.998052e+03 -4.121765e+03 -4.014964e+03
## [14829] -5.322222e+03 -1.803599e+02  1.497448e+03 -3.077247e+03
## [14833]  1.718928e+04 -2.213937e+03  5.343713e+04 -3.316349e+03
## [14837] -2.819755e+03  9.914443e+02 -4.906390e+03  7.508015e+04
## [14841]  3.383109e+04  1.289608e+03  1.921525e+02 -5.467999e+03
## [14845]  5.133026e+05 -5.752575e+03  1.026176e+03 -3.403620e+03
## [14849] -5.329231e+03 -3.027595e+03 -4.344934e+03 -5.099590e+03
## [14853] -4.771433e+03  2.461722e+03  6.135041e+05 -1.054094e+04
## [14857] -4.290033e+03  1.688856e+04 -5.799812e+04 -5.177535e+03
## [14861] -3.210495e+03  1.928528e+03 -3.392539e+03 -5.069388e+03
## [14865] -9.656357e+03 -5.835235e+03 -4.844319e+03 -3.819600e+03
## [14869]  6.675730e+05 -1.120327e+04  1.055902e+03  9.619970e+02
## [14873] -5.059469e+03 -3.835455e+03 -2.081368e+03 -4.913552e+03
## [14877]  3.549164e+04 -5.819199e+03  4.065666e+03 -5.474457e+03
## [14881] -3.588499e+03  4.006233e+03 -5.140410e+03 -4.760614e+03
## [14885] -4.516416e+03  1.745749e+04 -1.371503e+04 -9.228491e+03
## [14889] -2.578336e+03 -4.723800e+02 -4.126275e+03  3.069926e+03
## [14893]  9.876113e+03 -3.498175e+03 -4.497873e+03 -3.217256e+03
## [14897]  1.543353e+03  3.844464e+03 -5.744910e+03  2.781582e+03
## [14901]  5.705100e+04 -5.592663e+03  3.750165e+03 -2.006764e+03
## [14905]  2.899009e+04 -7.661929e+03 -5.886379e+03 -5.920089e+03
## [14909] -4.067484e+03  4.044018e+03 -3.797030e+03  3.429665e+04
## [14913] -4.969145e+03  3.129977e+03 -5.683539e+03  9.307600e+00
## [14917] -5.808027e+03  2.112175e+04 -6.017526e+03 -4.233081e+03
## [14921] -2.169908e+03 -6.014780e+03 -4.135760e+03 -2.973723e+02
## [14925]  1.767210e+04 -1.075664e+04  2.720280e+03 -7.609757e+03
## [14929] -4.566136e+03  2.994841e+03  1.441845e+04  2.005545e+04
## [14933]  3.512400e+05 -1.943522e+04  4.045474e+03  1.310054e+03
## [14937] -1.685676e+03  1.351671e+03 -5.591972e+03 -3.858953e+03
## [14941]  2.427770e+04 -4.851629e+03 -3.706015e+03  1.675655e+04
```

```
## [14945] -6.424022e+03  2.288614e+03 -4.808365e+03 -7.371878e+03
## [14949]  2.151077e+03 -5.758273e+03 -3.629465e+03 -7.149294e+03
## [14953]  8.452614e+03 -5.099589e+03  1.569327e+02 -3.853486e+03
## [14957] -4.318216e+03 -3.826911e+03  3.876477e+05 -4.619255e+03
## [14961] -5.979389e+02 -3.382905e+03 -1.229702e+04  9.390041e+02
## [14965] -3.736674e+03 -2.358128e+03  1.915203e+03 -3.854189e+03
## [14969] -2.814991e+03 -3.271626e+03 -2.190769e+03 -3.646349e+03
## [14973] -1.131153e+03  4.848023e+03  2.080952e+03  3.369672e+03
## [14977] -4.575358e+03  2.914038e+03 -3.452774e+03 -3.475015e+03
## [14981] -4.655496e+03 -3.777316e+03 -2.182557e+03 -1.060753e+02
## [14985] -3.002364e+03 -2.200220e+03 -7.226859e+03 -1.431790e+03
## [14989]  2.805161e+04 -2.947462e+03 -4.186800e+03 -3.363141e+03
## [14993] -6.101401e+03  4.153499e+03  7.940587e+03 -4.318908e+03
## [14997]  3.910236e+03  1.839855e+03  4.957134e+03 -4.622835e+02
## [15001]  6.059923e+03 -2.191472e+03 -4.886986e+03 -2.273393e+03
## [15005] -4.390145e+03 -1.919936e+03  1.148234e+04  1.091833e+04
## [15009] -3.266093e+03 -2.704637e+03  7.192401e+01  2.751513e+02
## [15013]  3.737268e+03 -2.435692e+03 -3.847788e+03 -9.431482e+03
## [15017]  3.778952e+04 -4.006424e+03 -3.175065e+03 -5.565254e+03
## [15021]  3.820542e+03 -3.036193e+03 -1.020412e+04  4.035288e+04
## [15025] -1.167558e+03 -1.034439e+04 -3.701790e+03  7.074955e+03
## [15029] -7.616629e+02  4.645237e+03  8.677306e+03  1.376732e+05
## [15033] -4.422103e+03 -3.936000e+03  3.647495e+03 -3.229967e+03
## [15037] -4.097451e+03  2.629455e+03 -1.115846e+03 -4.373555e+03
## [15041] -3.681772e+03  1.076540e+04  8.792939e+02 -7.718292e+03
## [15045] -3.646349e+03 -1.139128e+04  3.529980e+03 -3.189131e+03
## [15049] -3.189131e+03  1.026672e+04  1.120281e+04 -1.497639e+03
## [15053]  8.198324e+03  6.434131e+04 -4.644008e+03  2.140947e+04
## [15057] -2.121158e+03 -4.062028e+03  4.937105e+03 -3.681772e+03
## [15061]  4.325915e+03  5.317912e+03  4.291469e+03 -3.432109e+03
## [15065]  2.759923e+03 -4.416406e+03 -2.918678e+03  2.620422e+03
## [15069]  3.729195e+03 -1.889037e+03  2.555240e+04 -1.153129e+03
## [15073]  1.168658e+04 -4.456073e+03  8.053396e+03 -4.152353e+03
## [15077]  3.358437e+03  1.091415e+04  6.002114e+03  1.060261e+04
## [15081] -4.360192e+03  1.747335e+04 -3.396971e+03 -2.191472e+03
## [15085] -2.191472e+03  3.592024e+03  9.450607e+02 -4.772499e+03
## [15089]  1.620071e+03  3.592581e+03  2.152831e+03  2.872044e+05
## [15093]  3.154121e+03  3.467917e+04 -6.661932e+03  3.383081e+04
## [15097]  6.381374e+03 -7.635584e+03 -7.070625e+03  3.343111e+05
## [15101]  2.612913e+04  5.404444e+04  3.084473e+05  3.615837e+04
## [15105]  2.841257e+04 -6.467131e+03  7.100358e+04  1.101444e+05
## [15109]  4.761559e+04 -6.756188e+03  6.366710e+03  2.476164e+04
## [15113]  1.897502e+05  4.482135e+03  3.809459e+05  2.449293e+04
## [15117]  2.377335e+04  3.629748e+04  8.404130e+04  1.536550e+03
## [15121]  5.950090e+05  5.767915e+05  6.913161e+05  3.621007e+05
## [15125]  5.010677e+05  1.237348e+06  1.035457e+06  3.476448e+05
## [15129]  1.393077e+05  6.307100e+05  7.419959e+04  7.382797e+03
## [15133]  4.279418e+05  1.271763e+03  2.495716e+03  2.176595e+03
## [15137]  1.000684e+03  3.331328e+04  1.365498e+04 -3.558355e+03
## [15141]  1.743987e+03  1.215310e+03 -4.458103e+01  8.310713e+03
## [15145]  5.652873e+02  1.028596e+04  8.741867e+03  1.314518e+04
## [15149]  3.148220e+03  5.569108e+03 -8.924343e+02  9.226647e+03
## [15153]  3.150931e+03  1.198585e+04  7.522808e+03  1.563234e+03
## [15157]  9.397157e+02  2.948196e+03 -2.004394e+04  3.760839e+05
## [15161]  1.607944e+03  2.549688e+04 -3.083188e+03  6.583528e+02
## [15165]  1.362984e+04  7.435189e+03  3.571540e+05  7.626061e+02
## [15169]  1.943325e+03  1.314617e+04  5.789378e+02  3.161968e+02
## [15173]  1.870603e+03 -4.992630e+03 -4.837990e+03  8.558707e+03
## [15177]  8.949375e+03  9.243195e+03  2.384401e+03  7.424453e+03
## [15181]  1.957771e+02  1.199195e+05  9.397157e+02  6.865944e+03
## [15185]  1.329779e+04  2.633385e+03 -4.547480e+03  1.699947e+03
## [15189]  3.079308e+01  9.292180e+03  1.581425e+03  1.563234e+03
## [15193]  2.739145e+03  1.592978e+03  9.968154e+03  2.363846e+03
## [15197]  1.513845e+04  3.374034e+03 -4.335599e+03  8.161259e+02
## [15201]  1.352464e+04  1.147555e+03  5.802515e+03  8.991618e+03
## [15205]  5.214342e+02  1.699947e+03  6.479373e+03 -5.339259e+03
## [15209]  7.236124e+03  1.962738e+04 -4.489481e+02  1.575369e+03
## [15213]  7.018807e+05  1.504950e+04  7.456149e+03  1.825975e+03
## [15217]  4.846981e+03  2.419939e+03  7.156345e+03  3.655224e+03
## [15221]  2.475778e+03  1.365653e+03  2.199998e+03  5.372814e+02
## [15225]  6.244439e+03  1.467638e+02  1.313739e+03  1.521578e+03
## [15229]  2.371535e+03  9.041266e+02  1.468154e+04  3.542975e+05
## [15233]  1.771074e+03 -5.541556e+02 -4.279091e+02  2.039882e+03
## [15237]  9.268823e+03  1.151596e+03  1.111966e+03  8.376045e+03
## [15241]  9.480731e+03  1.422398e+03  5.000382e+03  1.330984e+03
## [15245]  2.151164e+03  8.746559e+02 -5.194402e+03  1.547009e+03
```

```
## [15245] 2.151104e+03  8.746559e+02 -3.194482e+03  1.547009e+05
## [15249] 1.575510e+03  1.130610e+06  7.277582e+03  8.474361e+03
## [15253] 1.000684e+03 -4.915436e+03  2.752390e+03 -7.897839e+02
## [15257] 2.671605e+03  4.666431e+05  1.374707e+03  3.751391e+02
## [15261] 2.121694e+03  5.752419e+03  9.457830e+02  3.787747e+02
## [15265] -6.200491e+03  1.519734e+04  2.130216e+03  8.186532e+03
## [15269] 9.774575e+03  1.061646e+04  1.990851e+04  8.425460e+03
## [15273] 1.639163e+03  1.778231e+03  7.772101e+03  2.123670e+05
## [15277] 1.907787e+03  1.632586e+02  2.228003e+03  3.100823e+03
## [15281] 1.280584e+03  2.633326e+04  7.846200e+03 -4.713663e+03
## [15285] 2.036524e+03  2.093287e+04  1.644625e+02 -2.573072e+02
## [15289] 1.137527e+04  8.168496e+03  1.825975e+03  1.775115e+03
## [15293] 1.420896e+04  1.907787e+03  1.746812e+03  5.462173e+02
## [15297] 7.073809e+03  8.452319e+03  5.623929e+02  6.418572e+03
## [15301] 1.582925e+03  1.274766e+05  1.445712e+03  9.077650e+02
## [15305] 8.283618e+03  1.383202e+03  3.384907e+03  5.666445e+03
## [15309] 5.341447e+02  7.574411e+03  6.227419e+03 -2.322280e+02
## [15313] 6.801773e+03  7.295869e+03  1.779273e+03  5.686194e+02
## [15317] -6.529318e+03  6.072193e+04 -5.570541e+03  1.285611e+04
## [15321] 1.496899e+03  5.240364e+02  1.147555e+03  8.235587e+03
## [15325] 7.025428e+03  4.916148e+05  1.596304e+03  1.056335e+04
## [15329] 2.214534e+03  3.371618e+03  3.422575e+03  3.589166e+05
## [15333] 1.508388e+03  7.849901e+03  1.336636e+01  8.391476e+03
## [15337] 1.697467e+03  1.013952e+05  1.324648e+03  8.047972e+03
## [15341] 1.696263e+03  2.101158e+03  3.387807e+03  7.895034e+03
## [15345] 3.178012e+02 -8.639657e+01  6.520016e+03  8.560842e+02
## [15349] 8.766165e+03 -3.008542e+02  3.067580e+03  8.847594e+03
## [15353] 1.342858e+04  6.543119e+02  1.286115e+03  5.533849e+02
## [15357] 2.769604e+05  7.813946e+03  3.657835e+03  1.576357e+03
## [15361] 3.710982e+02  2.086105e+03  7.229736e+03  4.642384e+03
## [15365] -4.458103e+01 -1.253212e+03  1.208524e+03  1.141245e+03
## [15369] 1.607944e+03  1.331133e+03  2.352937e+03  7.699317e+03
## [15373] 7.931457e+03  1.962466e+04  1.498175e+03  5.013740e+03
## [15377] -4.626122e+03  9.457830e+02  7.424453e+03 -2.524206e+02
## [15381] 7.069743e+03  2.496284e+03  5.240364e+02 -1.018039e+03
## [15385] 9.854244e+03  8.102873e+03 -4.106370e+03  1.297340e+04
## [15389] 1.355395e+03  7.453801e+03  1.907973e+05  2.051832e+04
## [15393] -1.150460e+03 -9.341507e+01  1.167266e+04  3.222642e+02
## [15397] 8.903378e+03  8.428680e+03  8.644635e+03  6.391322e+03
## [15401] 6.962870e+02  9.397157e+02  8.870750e+02  7.113532e+04
## [15405] 9.155667e+04  1.234200e+03  1.739123e+03  8.214155e+03
## [15409] 7.136282e+03  5.421906e+03  1.024657e+04  9.397157e+02
## [15413] 6.176600e+03  1.674101e+04  8.155148e+03  1.776420e+04
## [15417] 1.323444e+03  1.208270e+04  6.353707e+03  7.287690e+03
## [15421] 9.995661e+03  1.397836e+04  1.704738e+03  2.151042e+03
## [15425] -7.013395e+01  4.697534e+02  1.521578e+03  1.839175e+03
## [15429] 1.482147e+03  5.862196e+03  1.410296e+03  1.229653e+04
## [15433] -9.341507e+01  7.928447e+02  3.389691e+03  2.062367e+05
## [15437] 1.400105e+03  1.355395e+03  2.563317e+03  8.076654e+03
## [15441] 6.360961e+03  6.801553e+03 -8.296449e+01 -1.601688e+03
## [15445] 7.455588e+03  8.840657e+02  2.039544e+01 -4.534554e+03
## [15449] 3.573245e+03  1.901350e+03  2.917320e+02 -7.125142e+02
## [15453] 3.481109e+03  2.979629e+03  9.738987e+03 -5.074441e+03
## [15457] 1.275636e+04  9.397157e+02  6.380964e+03  1.111966e+03
## [15461] 9.404351e+04  2.154803e+03 -6.620325e+02  9.813461e+03
## [15465] 2.126705e+05  3.003188e+03  1.590329e+03  1.725830e+03
## [15469] 1.563234e+03  1.153623e+03  1.040839e+03  7.451211e+02
## [15473] 7.008774e+03  7.630006e+02  8.683613e+03  1.726446e+04
## [15477] 1.968334e+03  8.074895e+03  1.632586e+02  1.593894e+04
## [15481] 7.628640e+03  2.307450e+03  7.605339e+03  6.039842e+03
## [15485] 7.485422e+03  3.097271e+03  1.423485e+05  7.379434e+02
## [15489] 7.928447e+02  3.154824e+03  7.515970e+02  4.580180e+03
## [15493] 9.062491e+03 -5.583601e+02  1.557128e+05  1.656696e+03
## [15497] 1.101405e+04  2.723129e+03  1.137364e+03  1.277831e+03
## [15501] -4.681458e+03  1.851558e+04  1.114401e+03  1.494839e+04
## [15505] 7.092133e+02  5.116918e+02  2.126152e+03  1.030576e+04
## [15509] 1.771074e+03  6.537272e+03  7.451211e+02  1.724269e+03
## [15513] 3.303052e+03  2.918242e+05  4.791127e+05  9.295573e+02
## [15517] -5.365912e+03 -4.864834e+03  3.180464e+03  8.051731e+02
## [15521] 2.099610e+03 -4.518890e+02  2.752390e+03  6.232808e+03
## [15525] 3.326820e+03  1.456414e+04  6.562937e+03  1.778751e+03
## [15529] 1.620518e+03  1.331133e+03  8.590403e+03 -4.954657e+03
## [15533] 7.867774e+02  5.058416e+02  7.752977e+03  1.401637e+04
## [15537] 2.408704e+03  7.722577e+03  1.629247e+03  3.710982e+02
## [15541] 8.579202e+03 -5.822344e+03  6.925142e+03  1.838110e+03
## [15545] 3.321008e+03  7.364534e+05 -4.771545e+03  9.859529e+03
```

```
## [15549]  2.830033e+03  2.084161e+03  2.635681e+02 -3.494657e+03
## [15553]  1.073758e+03  7.081865e+03  6.422836e+03  6.506896e+03
## [15557]  3.025130e+03  2.673509e+03  6.978027e+03  2.905328e+03
## [15561]  7.508703e+03  7.347165e+03  1.153623e+03  7.578299e+03
## [15565]  2.360256e+03  3.467130e+03  2.257830e+03  2.077239e+03
## [15569]  1.325873e+03  8.958489e+03 -4.921503e+03  1.978914e+03
## [15573] -4.371591e+03  7.779078e+04  1.305381e+02  1.850360e+04
## [15577]  1.906511e+03  8.185425e+03 -4.325696e+03  1.223592e+03
## [15581]  1.345237e+03  2.523414e+04  2.154033e+03 -2.314869e+01
## [15585]  2.115626e+03  8.232519e+03  6.385255e+03  1.202457e+03
## [15589]  7.895034e+03  2.352937e+03  1.270715e+04  6.492076e+03
## [15593]  1.962127e+04  8.054039e+03  1.415958e+03  1.487280e+03
## [15597]  2.451261e+03  8.231549e+03  1.809917e+03 -3.322201e+03
## [15601]  1.515225e+03  1.486073e+03  7.408678e+03  3.996623e+02
## [15605]  4.742165e+01  4.804442e+03 -4.921470e+03  6.356692e+03
## [15609]  5.791928e+03 -3.595306e+03  8.080681e+03  3.620892e+02
## [15613]  8.234372e+03  1.310342e+04  7.140222e+03  8.029530e+02
## [15617]  7.762568e+03  7.465924e+03  1.547176e+03  1.352669e+04
## [15621]  1.809481e+03  1.610550e+03  7.928116e+02 -7.410273e+01
## [15625]  3.175423e+03 -5.282281e+03  1.221736e+03  8.044320e+03
## [15629]  9.811811e+03  3.161968e+02  8.471328e+03  8.984773e+03
## [15633]  1.147555e+03  5.310716e+03  9.451034e+03  6.414603e+03
## [15637]  7.491477e+03  8.269056e+03  7.434073e+03  1.527645e+03
## [15641]  6.385255e+03 -5.396175e+03  1.538555e+03  1.595586e+03
## [15645]  2.322028e+03  3.087177e+04  7.559186e+03  1.206855e+04
## [15649]  1.377057e+02  3.161968e+02  6.686642e+03 -3.073220e+02
## [15653]  1.402050e+03  1.376316e+03  6.201465e+03  1.255747e+03
## [15657]  1.004327e+04  8.520683e+03  2.472575e+01  9.787304e+02
## [15661]  9.536970e+03  7.308122e+03  2.513724e+05  2.262530e+03
## [15665]  1.889248e+03  1.491666e+03  1.388804e+03  6.654063e+03
## [15669]  7.209648e+03  2.469711e+03  8.629834e+03  2.838954e+03
## [15673]  3.042369e+03  8.255811e+03 -1.023130e+03  7.853377e+03
## [15677]  9.076145e+03  9.815472e+03  6.482446e+02 -5.013506e+03
## [15681]  8.071713e+03  1.293076e+04 -5.624010e+02  2.723129e+03
## [15685]  6.783480e+03  1.177604e+04  2.576246e+03  2.035555e+04
## [15689]  2.374441e+03 -4.755320e+03  1.151815e+05  7.382637e+03
## [15693] -4.369078e+03  7.606106e+03  2.170528e+03  1.409981e+04
## [15697] -7.661997e+02  2.310961e+03  7.276819e+01 -4.076899e+03
## [15701]  8.747548e+03 -5.619387e+03  4.719082e+04  7.836326e+03
## [15705]  1.416364e+03  5.789378e+02  2.938037e+03  3.798560e+03
## [15709]  3.875124e+03  8.483718e+03  5.432265e+02  7.540899e+03
## [15713]  1.984981e+03  1.499172e+04  1.251347e+05  7.379434e+02
## [15717]  1.521293e+03  1.491279e+04 -4.257587e+03  1.580398e+03
## [15721]  9.081285e+02  4.982868e+05  2.185499e+04  1.063924e+03
## [15725]  6.446224e+03  2.769849e+03  1.946672e+03  1.290335e+03
## [15729] -1.261882e+02  2.854501e+02  5.240364e+02  1.423150e+03
## [15733]  6.126588e+04  2.115626e+03 -4.602603e+02 -1.167235e+04
## [15737]  1.355395e+03  1.661559e+03 -6.783966e+03  5.610505e+03
## [15741]  5.849153e+04  1.158271e+03  1.074640e+03  1.226791e+04
## [15745]  3.819817e+02  8.316056e+03  1.100750e+03  1.339169e+03
## [15749]  3.963121e+02  8.566975e+05 -5.074441e+03  1.033056e+04
## [15753]  6.967590e+03  6.587060e+03  1.018025e+04 -3.009481e+02
## [15757]  6.189538e+03  1.907787e+03  1.651854e+03  1.087116e+03
## [15761]  7.082033e+03  2.318035e+03  2.172232e+04 -3.916881e+03
## [15765]  9.214235e+04  9.089470e+03 -5.545022e+03  5.804831e+02
## [15769]  1.083572e+02  1.129360e+03  6.476696e+03  6.331594e+03
## [15773]  9.871062e+03  1.005309e+04  1.355395e+03  8.321306e+03
## [15777]  2.103122e+03  4.621455e+03  4.202841e+02  1.343895e+04
## [15781]  2.382979e+03  1.994384e+03  9.983379e+03  5.180022e+02
## [15785]  1.470383e+05 -3.063501e+03  1.739123e+03  2.281810e+03
## [15789] -5.697960e+03  2.031196e+04  7.646379e+03  2.384435e+03
## [15793]  1.576480e+03  1.479603e+03  7.424453e+03  7.197773e+02
## [15797]  1.355395e+03  1.463709e+04  9.198057e+02  1.521456e+03
## [15801]  1.310944e+03  2.323466e+03 -4.459450e+03  7.564279e+03
## [15805]  9.838343e+03  1.995838e+03  2.189574e+03  7.800737e+03
## [15809]  1.563234e+03  7.275582e+04  3.932254e+03 -4.972254e+03
## [15813]  1.664358e+03  2.232848e+03  7.574486e+03  2.274661e+03
## [15817]  3.034458e+03  9.473922e+02 -3.526000e+03 -1.044429e+00
## [15821]  4.176016e+03  1.165219e+03  8.601251e+02  1.771074e+03
## [15825]  8.129483e+03  9.629467e+02  3.287912e+04 -6.040532e+02
## [15829] -5.632627e+03  2.102720e+05  1.402648e+04 -6.144283e+03
## [15833] -4.493689e+03  8.695809e+03  9.726860e+03  7.869481e+03
## [15837]  6.920286e+03  1.891770e+03  4.378027e+02  9.123182e+03
## [15841]  4.343708e+02  5.753984e+03  3.101626e+02  9.812701e+03
## [15845]  2.321248e+03  4.094982e+03  3.710982e+02  1.600088e+02
## [15849]  1.123981e+02  3.227556e+03  3.218529e+03  1.861391e+03
```

```
## [15849] 1.123981e+02 3.227556e+03 3.218520e+03 1.861391e+03
## [15853] 2.080037e+03 1.771074e+03 9.475657e+04 9.397157e+02
## [15857] 4.535409e+02 7.049612e+03 1.248185e+04 -5.628179e+03
## [15861] 1.359114e+04 1.865058e+02 8.380020e+03 6.381448e+03
## [15865] 3.154824e+03 -4.505824e+03 1.323444e+03 6.521586e+03
## [15869] 9.821921e+03 1.492107e+03 6.059671e+04 2.515289e+03
## [15873] 1.529136e+03 1.974278e+03 7.301482e+03 2.712671e+04
## [15877] 1.426836e+04 -4.703555e+03 1.341646e+03 8.980593e+02
## [15881] 1.192265e+03 1.437730e+02 1.076428e+03 6.794900e+03
## [15885] -7.033596e+02 2.577913e+05 5.258382e+03 9.336815e+02
## [15889] 2.473752e+03 9.376863e+02 1.241017e+03 3.564596e+03
## [15893] 1.841389e+04 1.897826e+03 3.161968e+02 2.072375e+03
## [15897] 6.522855e+02 1.215159e+03 7.332085e+03 8.864756e+03
## [15901] 4.562912e+02 8.980593e+02 6.793231e+03 1.068509e+04
## [15905] 1.131330e+03 5.814292e+03 7.183459e+03 1.920106e+04
## [15909] -5.752861e+03 2.128132e+05 1.490235e+03 -4.351978e+03
## [15913] 1.899520e+03 3.955331e+03 1.580599e+03 1.129856e+04
## [15917] -4.100303e+03 2.196771e+03 5.180022e+02 1.027382e+04
## [15921] 6.448528e+03 2.552111e+02 -7.475447e+02 7.542627e+03
## [15925] 8.787801e+02 3.525990e+03 1.258870e+03 6.978027e+03
## [15929] 1.332730e+03 2.119476e+03 -3.667042e+03 6.621393e+03
## [15933] 1.505352e+03 2.095179e+03 1.203353e+03 7.074129e+04
## [15937] -9.341507e+01 9.279234e+03 1.729418e+03 -2.998362e+02
## [15941] 2.242295e+04 1.289790e+02 8.016021e+03 2.750898e+03
## [15945] 8.275623e+03 5.806210e+03 -5.904942e+01 1.895282e+03
## [15949] -7.530098e+03 -4.713837e+03 2.220831e+03 7.381255e+03
## [15953] -4.921503e+03 9.613183e+03 6.543119e+02 6.184956e+03
## [15957] 2.236673e+03 7.424453e+03 5.732637e+03 9.138323e+02
## [15961] 2.246146e+05 1.465006e+03 2.193602e+03 -4.450922e+03
## [15965] 6.919310e+03 8.134011e+04 2.728736e+03 1.160800e+03
## [15969] 2.101386e+03 1.225498e+03 7.830141e+03 1.313862e+04
## [15973] 1.927817e+03 7.716542e+03 1.353036e+04 -4.268636e+03
## [15977] 3.566041e+03 -6.200089e+03 9.146931e+03 1.738832e+03
## [15981] 9.109856e+02 4.030473e+05 7.691275e+03 3.072886e+03
## [15985] 1.671359e+05 7.084098e+02 1.618136e+03 1.739123e+03
## [15989] 8.376367e+03 -4.106370e+03 3.174137e+03 -3.882305e+03
## [15993] 7.187883e+03 5.211138e+02 9.224794e+03 6.861903e+03
## [15997] 3.594761e+03 9.912118e+02 -6.942551e+01 9.946170e+02
## [16001] 9.356246e+02 2.349106e+03 -5.784812e+03 1.978914e+03
## [16005] 2.092159e+03 4.766066e+04 1.444247e+04 1.210202e+03
## [16009] 9.367933e+02 2.105014e+05 8.214155e+03 8.845343e+03
## [16013] 8.418081e+03 6.020444e+05 1.754848e+03 1.250499e+05
## [16017] 1.257736e+05 7.245962e+03 2.531339e+03 -4.460003e+02
## [16021] 2.525271e+03 8.086133e+03 1.057890e+03 7.241981e+03
## [16025] 7.993759e+03 -6.936196e+02 2.915398e+03 1.684255e+03
## [16029] 1.689236e+03 -5.337149e+03 1.287667e+04 -4.713663e+03
## [16033] 2.960230e+03 -6.344232e+03 1.109738e+04 7.124509e+03
## [16037] 1.137397e+03 -4.618607e+03 6.699984e+02 3.396784e+02
## [16041] 1.041164e+04 2.406009e+03 4.977272e+03 1.139262e+05
## [16045] -9.948240e+01 1.209354e+04 1.210182e+03 2.045646e+04
## [16049] 1.982955e+03 -5.129342e+03 9.492975e+02 8.975335e+03
## [16053] 2.967019e+03 8.287247e+03 1.920660e+03 -8.481511e+02
## [16057] 6.709405e+02 9.275309e+02 1.078743e+03 3.344533e+03
## [16061] 1.147555e+03 1.080469e+03 2.398634e+03 1.083236e+03
## [16065] 7.318760e+02 -4.755320e+03 1.076428e+03 1.742540e+03
## [16069] -4.090144e+03 2.470160e+03 6.883784e+03 7.711451e+03
## [16073] 7.648104e+03 -3.831249e+02 1.294079e+04 3.710982e+02
## [16077] 5.065169e+03 5.614865e+03 1.567851e+03 1.639895e+02
## [16081] 7.310652e+03 1.358557e+03 6.675569e+02 5.987773e+03
## [16085] 1.658782e+05 3.721856e+05 3.206416e+03 6.708572e+02
## [16089] 1.447849e+03 3.746525e+05 7.534923e+02 1.901920e+03
## [16093] 1.978914e+03 -4.755320e+03 1.366555e+02 1.795066e+04
## [16097] 1.157599e+04 -3.834634e+01 6.469672e+03 8.929278e+03
## [16101] 1.178285e+03 7.216613e+03 1.031046e+03 2.199998e+03
## [16105] 2.384435e+03 9.397157e+02 1.316225e+04 2.930968e+03
## [16109] 9.986579e+02 6.920248e+03 1.422431e+03 2.860873e+03
## [16113] 1.542101e+03 8.167956e+04 7.249031e+04 1.386125e+03
## [16117] 8.671491e+03 1.160845e+03 6.982686e+03 1.202457e+03
## [16121] 4.835817e+03 3.556535e+02 6.356525e+03 1.355395e+03
## [16125] 2.778030e+03 7.867774e+02 1.563234e+03 1.387844e+04
## [16129] 1.127024e+04 1.354516e+03 8.621515e+02 7.395526e+02
## [16133] 1.423432e+03 5.598477e+03 9.057358e+02 1.748411e+03
## [16137] 1.744888e+03 1.481841e+04 5.538020e+03 1.071037e+04
## [16141] 1.083572e+02 7.332945e+02 6.156021e+02 -4.279091e+02
## [16145] 1.410296e+03 9.250758e+02 7.318760e+02 7.072893e+03
## [16149] 8.905285e+03 1.570251e+03 -4.759611e+03 2.613301e+03
```

```
## [16153] 6.346813e+04  6.356525e+03  1.354224e+04  7.010235e+03
## [16157] 3.830879e+02  3.168152e+02  6.124825e+03  1.537754e+03
## [16161] 1.175955e+03  1.836051e+03  1.149669e+04  7.285259e+03
## [16165] 3.277865e+05  1.159754e+03  9.542701e+02  4.082792e+05
## [16169] 1.760755e+04  4.994285e+02  1.412951e+04  1.063924e+03
## [16173] 2.670763e+04  7.220654e+03  4.235117e+04 -4.937902e+03
## [16177] 7.865500e+03  1.693259e+02  7.259061e+03 -6.317078e+02
## [16181] 7.379434e+02  1.330715e+03  3.079308e+01  5.240364e+02
## [16185] 2.576246e+03  7.530706e+03  4.792262e+05  9.460058e+02
## [16189] 7.124410e+04  6.892500e+03  1.313739e+03  8.045370e+03
## [16193] 4.766083e+04  9.698955e+03  8.817243e+02  1.202723e+05
## [16197] 9.611743e+03  1.370135e+04  1.370135e+04  2.311998e+03
## [16201] 1.147555e+03  8.360204e+03  1.159286e+04  8.980593e+02
## [16205] 2.586207e+03  1.490831e+03  1.202457e+03  2.257830e+03
## [16209] 6.269114e+03  1.907787e+03  7.722610e+03  6.529162e+03
## [16213] 7.245962e+03  2.128755e+03 -5.960701e+03  1.355395e+03
## [16217] 9.111529e+02  3.031742e+05  1.724645e+03  6.185497e+03
## [16221] -5.282281e+03  5.969576e+03  2.215738e+03  1.891770e+03
## [16225] 4.759437e+03  1.563234e+03  2.595905e+03  1.531284e+03
## [16229] 2.582280e+03 -1.831139e+02 -4.450922e+03  1.771074e+03
## [16233] 7.548661e+03  1.486199e+03  6.991253e+03  7.156130e+03
## [16237] 1.202457e+03  7.785849e+03  7.267538e+03  1.516460e+04
## [16241] 1.812110e+03  1.800423e+03  4.194354e+03  7.867774e+02
## [16245] 1.293271e+03  1.052254e+04  9.197924e+02  6.991682e+03
## [16249] 9.752624e+03  4.041232e+03  1.978914e+03  8.740627e+03
## [16253] 2.325654e+02  1.765810e+03 -4.522049e+03  1.943325e+03
## [16257] 7.595463e+03  5.130911e+02 -3.706511e+03  2.499538e+03
## [16261] 1.316483e+03  2.441655e+03  3.252223e+03  2.493470e+03
## [16265] -6.430441e+03  5.374058e+03  2.813432e+03  5.688527e+02
## [16269] -4.822626e+03  7.696834e+03  6.801346e+02  1.253208e+04
## [16273] 2.325812e+03  1.968829e+03  1.025386e+05  7.249631e+04
## [16277] 1.402416e+03  4.983763e+02  6.419764e+03  7.928924e+03
## [16281] 6.381594e+02 -3.220928e+03  7.674962e+03 -4.646832e+03
## [16285] 8.554644e+03  7.519312e+03  8.485905e+03  1.176313e+03
## [16289] 7.839354e+02 -4.428457e+02  9.845319e+02  1.746427e+03
## [16293] 6.742855e+03  1.931213e+03  1.785108e+03  1.228301e+04
## [16297] 1.481254e+04  1.222243e+04 -1.104280e+03  1.956811e+03
## [16301] -5.477094e+03  2.160442e+03  6.557990e+03  9.773306e+03
## [16305] 3.061117e+02  2.313381e+03  7.568146e+03  2.268830e+03
## [16309] 3.439881e+02  2.832538e+03  5.719833e+03  1.108740e+03
## [16313] 1.351377e+03 -5.199375e+03  1.576911e+04  8.475625e+03
## [16317] 1.927172e+03 -2.588117e+03  1.734998e+03  2.310805e+03
## [16321] 8.908546e+02  7.389546e+02  7.555705e+03  2.144426e+03
## [16325] 1.572462e+03  3.128723e+03  3.762911e+05  1.597588e+03
## [16329] 9.905661e+02  2.674118e+03 -5.177336e+03  2.487252e+03
## [16333] 2.017801e+03  1.311023e+04  3.661210e+03  1.986142e+03
## [16337] 2.023730e+03 -4.830487e+03 -4.493980e+02  1.287220e+03
## [16341] 1.145965e+04  9.720419e+03  2.351156e+03  2.028972e+04
## [16345] 2.521220e+03 -3.564538e+03  5.606499e+03  1.411910e+04
## [16349] 7.311473e+03  7.305406e+03 -6.215574e+03  7.643521e+03
## [16353] 1.255438e+03  1.566394e+03  1.947449e+03  1.396912e+03
## [16357] 9.500395e+02  1.735887e+04  7.846311e+03  2.383544e+03
## [16361] 3.015665e+03  8.631617e+03  2.210988e+03  1.965084e+03
## [16365] 2.145719e+03  1.285180e+04  1.380176e+04  2.189224e+04
## [16369] 3.216633e+04  1.737835e+03  7.775986e+03  8.514060e+03
## [16373] 1.242319e+04  1.069823e+03  8.273107e+03  8.448888e+03
## [16377] 1.732259e+03  1.553768e+03  6.552525e+02  1.540841e+03
## [16381] 1.767056e+03  1.885394e+03  3.758309e+03  1.790337e+03
## [16385] 1.689862e+03 -5.682714e+03  6.423124e+03  2.027771e+03
## [16389] 1.608051e+03  1.018895e+04  1.533408e+02 -6.069663e+03
## [16393] 7.078152e+03  2.704248e+03  1.648370e+04  5.854960e+03
## [16397] 9.538998e+02  6.860996e+03  3.161873e+03  1.258166e+03
## [16401] 7.404732e+03  3.088309e+03  3.109150e+03  1.096484e+04
## [16405] -3.874176e+03  2.342851e+03  2.384508e+03 -8.318188e+03
## [16409] 3.067300e+02  5.101566e+02 -5.466617e+01  2.223600e+04
## [16413] 4.722949e+02  8.454264e+03  1.015599e+03  5.789278e+02
## [16417] 1.568798e+03  9.866394e+03  3.351920e+03  7.221774e+03
## [16421] 1.774234e+03  1.559217e+03  1.382522e+05  1.199452e+03
## [16425] 2.480310e+03  1.790975e+03  5.763662e+03  7.417155e+03
## [16429] -2.952144e+02  2.821551e+03  5.014846e+05  1.351639e+03
## [16433] 8.926466e+03  1.049508e+03  8.460441e+03  5.312329e+05
## [16437] 2.496663e+03  6.321109e+03  9.163654e+03  1.560838e+03
## [16441] 1.335679e+04 -5.466617e+01  9.115334e+03  3.518762e+03
## [16445] 1.641768e+03  1.303531e+03  7.302708e+03 -3.351573e+03
## [16449] 1.104316e+03  1.368363e+03  1.387936e+04  1.340346e+03
```

```
## [16453]  3.513845e+03  2.609010e+03  7.081508e+03  4.797432e+04
## [16457] -4.756097e+02  6.944628e+03  8.934682e+03  7.026439e+03
## [16461]  1.934206e+03  3.610131e+02  2.569881e+03  9.417652e+02
## [16465]  4.301466e+02  3.219525e+04  3.031137e+04  1.928722e+04
## [16469] -4.727569e+03  1.251567e+05  7.448817e+03  2.975785e+03
## [16473]  1.272800e+03  2.105541e+03  7.922900e+03  8.682444e+03
## [16477]  2.176668e+03 -8.245646e+02  1.059721e+04  5.749200e+02
## [16481]  1.815890e+03  2.742305e+03  3.397377e+03  2.095831e+03
## [16485]  7.495586e+03  1.439991e+03  2.972098e+03  3.303855e+03
## [16489]  7.775986e+03  7.318651e+03 -4.975564e+03  7.088177e+03
## [16493]  7.845489e+03  7.555616e+03  1.147127e+04  2.901311e+03
## [16497]  1.937501e+03  2.144622e+03  6.100053e+05  7.360307e+03
## [16501]  7.482296e+03  6.736788e+03  8.130523e+03  6.708803e+02
## [16505]  1.068548e+04  5.688527e+02  5.227154e+04  1.059906e+03
## [16509]  1.007143e+04  1.311859e+03  6.116413e+03  2.023730e+03
## [16513]  1.345310e+03 -5.653984e+03  8.654892e+03  2.586553e+03
## [16517]  1.031783e+05  1.039623e+05  8.172180e+03 -5.208956e+03
## [16521]  9.150244e+03  9.271018e+03  1.196108e+02  3.109150e+03
## [16525]  1.531026e+03  7.074816e+03  3.487813e+03  1.615146e+04
## [16529]  1.166819e+03 -1.894356e+02  2.145719e+03  2.547709e+05
## [16533]  8.645708e+02  1.760989e+03  2.408062e+03  2.017489e+03
## [16537]  1.553149e+03  1.495395e+04  8.567371e+02  2.195406e+03
## [16541]  1.269975e+03  1.514170e+03  6.768734e+03  8.682223e+03
## [16545]  8.219064e+02  9.322480e+03  6.575130e+03  2.929213e+05
## [16549]  6.895794e+03  1.485763e+05  8.879742e+02  1.511225e+04
## [16553]  1.644423e+04  8.595037e+03  4.348824e+04  1.230533e+04
## [16557]  7.539190e+03  6.974143e+03  3.339578e+03  7.702733e+03
## [16561]  1.985359e+03  2.923899e+03  6.375244e+03  1.952603e+03
## [16565]  6.856346e+02 -6.071701e+03  1.743897e+03  1.101881e+03
## [16569]  6.296946e+03  8.551532e+03  1.677358e+03  5.369740e+02
## [16573]  1.358555e+03  2.735915e+04  1.542868e+04  1.095692e+03
## [16577]  8.728599e+04  1.301885e+03 -3.378481e+03 -3.227937e+02
## [16581]  1.983170e+03  2.576122e+03  1.754056e+03  1.553149e+03
## [16585]  1.143537e+03  7.209466e+03  2.521220e+03  2.135728e+03
## [16589] -4.559885e+03  4.347306e+03  3.610131e+02  8.142831e+03
## [16593]  3.793401e+03  5.222477e+02  8.553575e+03  8.522516e+03
## [16597]  8.901584e+03  2.729060e+03  1.012182e+03  4.028126e+02
## [16601] -3.991267e+03  9.340969e+02  2.908391e+03  1.940098e+03
## [16605]  1.968829e+03  1.377778e+03  5.301269e+02  2.768141e+03
## [16609]  1.062659e+03  2.945211e+03  3.903615e+02 -2.572903e+03
## [16613]  8.459991e+02  9.905992e+02  1.725388e+03  6.457558e+03
## [16617]  1.522788e+04 -3.659486e+03  8.595037e+03  2.798777e+03
## [16621]  6.956729e+03  9.378671e+03  1.214008e+04  2.534842e+03
## [16625]  3.936189e+03  9.684404e+03  1.676861e+03  8.442978e+03
## [16629]  2.348919e+03  7.901289e+02  1.823999e+03  1.450112e+03
## [16633]  2.586107e+03  7.032405e+03  7.429614e+03  1.163514e+04
## [16637]  2.216703e+03  2.270155e+03  1.740699e+03  2.749657e+03
## [16641]  1.136558e+04  1.201767e+03  2.731762e+03  1.734380e+03
## [16645]  2.926172e+03  1.119111e+04  1.027037e+02  4.879285e+03
## [16649]  1.161957e+04  7.775986e+03  8.326409e+03  1.849818e+05
## [16653]  1.000367e+04  1.885197e+03 -1.055266e+02  5.470046e+03
## [16657]  2.495837e+03  7.315856e+03  5.339735e+03  2.644517e+03
## [16661]  1.553149e+03  3.001197e+03  1.321229e+04  6.580300e+03
## [16665]  8.824580e+03  1.626978e+04 -4.975564e+03  1.029902e+05
## [16669]  1.889207e+03  2.519870e+03  6.985500e+03  8.384753e+02
## [16673]  7.993221e+03  1.599401e+03  6.261672e+04  1.003721e+04
## [16677] -6.465584e+02  1.866105e+04  7.789423e+03  1.447928e+05
## [16681]  7.367503e+03  1.178780e+04  6.752239e+03  1.430153e+04
## [16685] -2.530728e+03  7.106339e+03  8.605556e+03  1.474927e+03
## [16689]  3.581016e+03  7.439277e+02  1.042576e+03  8.356277e+03
## [16693] -7.679560e+02  1.005574e+04 -5.534786e+03 -3.110369e+03
## [16697]  9.522712e+02  1.203174e+03  3.115197e+05  8.915882e+04
## [16701]  3.524858e+03  8.089594e+03  3.220148e+04  6.389447e+03
## [16705]  1.825286e+03  1.320993e+04  1.183313e+03  1.207823e+03
## [16709]  1.507766e+03  7.993329e+02  2.903327e+03 -4.799985e+03
## [16713]  1.298076e+03  4.232862e+03  8.199622e+02  9.827208e+01
## [16717]  2.614988e+03  7.341392e+03  2.316196e+02  3.130948e+03
## [16721] -4.375673e+03 -8.313693e+02  1.399436e+03  6.403596e+03
## [16725]  2.183083e+03  2.179267e+04  7.722795e+03  1.767903e+03
## [16729]  7.761406e+03  1.854634e+03  5.782483e+02  7.993344e+03
## [16733] -4.962127e+03  1.256669e+03  6.568826e+02 -1.171845e+02
## [16737]  3.105102e+02 -1.071812e+04 -3.902648e+03  8.168510e+03
## [16741]  1.991469e+03  6.732952e+03  8.876786e+02  9.273315e+03
## [16745]  1.012044e+04  1.360037e+04  2.296034e+03  9.996749e+03
## [16749]  1.165183e+03  2.517774e+03  8.272166e+03  8.117739e+03
## [16753]  1.601221e+03  1.755302e+04  6.420427e+03  7.608933e+03
```

```
## [16753]  1.001221e+03  1.733302e+04 -6.420427e+03  7.808933e+03
## [16757]  5.218077e+03  1.125965e+04  1.057721e+03  7.221806e+03
## [16761] -5.446144e+03  1.970352e+01  7.464993e+03  1.786357e+03
## [16765] -4.374707e+03  3.334340e+03  7.369703e+03  1.876876e+03
## [16769]  7.606420e+03  1.367828e+03  8.596143e+03  1.428305e+04
## [16773]  6.454713e+03  2.545340e+03  1.048829e+03  2.656582e+03
## [16777]  9.261807e+03  3.290221e+03  1.754159e+03  5.271963e+02
## [16781]  9.432040e+03  1.592512e+03 -3.577210e+03  7.964404e+03
## [16785] -4.772178e+03  8.351019e+03  9.315544e+03  9.630856e+00
## [16789] -5.391243e+03  6.155622e+03  7.416371e+02  1.613310e+03
## [16793]  1.584253e+04  8.552312e+03  2.006205e+03 -2.253292e+02
## [16797] -5.742625e+03  1.645776e+04  1.204331e+04  1.026903e+04
## [16801]  8.862488e+03  1.809060e+03  3.644932e+03  1.484563e+04
## [16805]  2.595072e+03  2.436497e+03  1.515467e+03  2.150392e+04
## [16809]  1.926114e+04  2.548315e+03 -5.404510e+03  1.180985e+04
## [16813]  1.378645e+03  1.991347e+03  2.637660e+03  1.775218e+04
## [16817]  3.169808e+03  1.189582e+04 -5.700192e+03  7.815356e+03
## [16821]  3.988609e+03  9.454706e+03  2.614988e+03  2.644553e+02
## [16825]  2.193502e+03  1.617446e+03  2.928579e+03  9.540473e+02
## [16829]  2.166025e+03  7.601912e+03  1.201767e+03  9.384040e+03
## [16833]  3.248592e+03  7.722189e+03 -1.334564e+02  1.181489e+03
## [16837]  5.894552e+02  1.798192e+03 -3.092885e+01  3.422931e+03
## [16841]  9.722977e+03  3.613033e+03  6.441952e+03  2.506283e+03
## [16845]  3.284602e+03  6.704530e+05  4.173171e+05  7.558507e+04
## [16849]  8.577295e+03  9.172465e+03  9.444784e+03  1.100743e+04
## [16853]  1.078577e+04  1.088241e+04  1.065657e+04  1.439196e+04
## [16857]  4.800798e+03  1.055109e+04  8.979886e+03  9.690445e+03
## [16861]  9.613537e+03  1.047822e+04  1.003596e+04  2.840148e+04
## [16865]  2.524320e+04  9.323682e+03  3.580330e+03  1.356948e+04
## [16869]  3.756954e+03  2.328933e+04  2.895833e+05  9.674280e+03
## [16873]  2.208905e+04  2.324394e+04  3.847636e+04  1.394243e+04
## [16877]  1.060020e+04  1.009882e+04  1.578526e+05  1.244270e+04
## [16881]  1.556101e+04  1.645226e+04  1.000396e+04  1.042569e+04
## [16885]  1.102026e+04  1.156620e+04  2.563241e+04  1.508184e+04
## [16889]  5.539412e+04  2.262786e+04  1.088160e+05  2.192897e+04
## [16893]  1.047918e+04  1.625137e+04  1.378113e+04  2.246055e+04
## [16897]  9.569545e+03  1.724601e+04  1.207078e+04  1.161482e+04
## [16901]  9.452688e+03  9.094373e+03  1.123505e+04  1.423491e+04
## [16905]  1.134586e+04  9.554314e+03  9.687177e+03  1.362967e+05
## [16909]  4.178637e+03  1.527278e+04  1.133564e+04  2.119077e+04
## [16913]  9.449654e+03  9.653231e+03  9.161509e+03  1.173098e+04
## [16917]  4.190452e+05  1.676449e+04  1.009416e+04  1.354634e+04
## [16921]  9.408614e+03  2.309327e+04  8.899920e+03  1.955854e+04
## [16925]  1.328991e+04  1.140207e+04  1.084523e+04  2.240870e+04
## [16929]  9.223958e+03  1.023413e+04  8.792499e+03  2.081404e+04
## [16933]  2.358312e+04  2.053989e+04  1.134349e+04  2.469853e+04
## [16937]  1.631370e+04  1.016482e+04  2.768694e+04  4.918870e+03
## [16941]  2.301478e+04  3.358043e+03  1.774637e+04  1.148341e+04
## [16945]  1.007376e+04  8.347970e+03  9.383582e+03  2.180067e+04
## [16949]  1.137585e+04  1.784350e+04  1.079784e+04  9.974048e+03
## [16953]  1.717368e+04  3.751490e+03  1.538798e+04  1.051830e+04
## [16957]  1.112042e+04  1.001810e+04  2.309898e+04  4.003129e+04
## [16961]  9.260924e+03  2.132017e+04  1.091252e+04  5.021766e+04
## [16965]  2.287362e+04  2.391356e+04  2.189441e+05  3.388903e+05
## [16969]  1.072644e+04  1.024738e+04  2.158373e+04  2.131924e+04
## [16973]  5.457419e+03  9.732185e+03  1.156709e+04  9.610839e+03
## [16977]  9.252529e+03  8.442020e+03  4.515273e+04  1.791570e+05
## [16981]  9.195228e+03  2.076441e+04  5.290528e+04  3.796226e+04
## [16985]  8.576203e+03  2.631001e+04  1.405976e+04  2.382700e+04
## [16989]  1.988659e+04  1.425030e+04  2.544047e+04  1.735099e+05
## [16993]  9.841617e+03  2.377951e+04  1.148225e+04  6.833272e+04
## [16997]  2.227261e+04  1.972125e+04  1.193544e+04  8.673820e+03
## [17001]  4.746294e+03  1.401250e+04  2.146694e+04  1.049862e+04
## [17005]  1.587069e+04  4.168859e+03  1.047831e+04  2.797614e+03
## [17009]  1.110267e+04  2.216473e+04  1.079895e+04  1.977621e+05
## [17013]  2.235435e+04  9.903828e+03  1.003738e+04  1.145202e+04
## [17017]  2.309971e+04  1.658967e+04  1.183885e+04  5.560811e+04
## [17021]  1.132306e+04  1.800878e+04  1.021472e+04  1.238383e+04
## [17025]  1.015566e+04  2.238448e+04  9.499649e+03  2.170201e+04
## [17029]  8.961835e+03  2.269225e+04  1.351930e+04  6.355702e+04
## [17033]  1.611821e+04  2.256273e+04  1.526716e+04  8.971941e+03
## [17037]  5.655380e+03  1.243917e+05  2.395100e+04  1.011616e+04
## [17041]  1.021567e+04  2.103308e+04  9.395500e+03  1.991386e+04
## [17045] -1.236069e+03  1.528168e+04  2.480200e+04  6.662375e+03
## [17049]  8.889693e+03  9.637920e+03  2.065398e+04  1.667329e+04
## [17053]  1.459023e+04  9.900547e+03  1.026038e+04  1.156960e+04
```

```
## [17057] 2.164816e+04 3.567622e+03 1.544374e+04 2.201004e+04
## [17061] 1.015187e+04 2.135824e+04 1.011982e+04 1.609875e+04
## [17065] 1.010847e+04 2.284989e+04 8.648784e+03 1.147228e+04
## [17069] 1.699418e+04 3.577719e+05 2.054145e+04 5.118938e+03
## [17073] 2.005409e+04 1.086572e+04 2.226960e+04 1.410502e+05
## [17077] 1.688184e+04 1.057274e+04 1.069847e+05 1.108740e+05
## [17081] 1.094918e+04 3.491489e+04 9.722642e+03 1.435719e+05
## [17085] 1.149837e+04 9.951947e+03 1.515555e+05 6.206801e+04
## [17089] 1.032954e+04 8.675815e+03 1.065229e+04 1.338179e+04
## [17093] 1.552456e+04 1.063762e+04 1.550203e+04 1.172671e+04
## [17097] 1.012142e+04 1.285303e+05 2.291150e+04 9.411843e+03
## [17101] 2.266249e+04 9.718320e+03 1.386551e+05 1.041131e+04
## [17105] 1.750492e+04 2.175633e+04 9.058950e+03 2.265462e+04
## [17109] 9.247906e+03 1.104332e+04 4.227939e+03 5.060045e+04
## [17113] 8.726279e+03 8.493361e+03 1.575186e+04 1.206192e+04
## [17117] 1.629582e+04 2.730400e+04 1.361198e+04 6.467343e+04
## [17121] 2.222732e+04 2.486919e+04 2.484712e+04 8.714947e+03
## [17125] 1.029417e+04 1.863121e+04 1.100173e+04 8.430877e+03
## [17129] 4.888450e+04 9.181182e+03 1.950773e+04 8.629882e+03
## [17133] 1.005143e+04 9.274683e+03 1.156294e+04 1.143989e+04
## [17137] 8.239568e+03 9.129934e+03 2.226180e+04 2.369228e+04
## [17141] 8.289443e+03 1.046659e+04 1.652235e+04 2.573648e+04
## [17145] 2.060855e+04 9.317519e+03 8.836329e+03 1.070902e+04
## [17149] 5.123944e+03 2.388691e+04 2.315662e+04 1.001499e+04
## [17153] 2.329274e+04 1.792199e+04 4.355397e+05 1.136367e+04
## [17157] 1.027655e+04 3.009797e+04 1.015706e+04 1.008376e+04
## [17161] 1.468823e+04 9.439884e+03 9.091646e+03 9.499876e+03
## [17165] 1.756039e+04 1.092594e+04 1.077067e+04 1.062666e+04
## [17169] 8.974700e+03 1.024701e+04 9.095150e+03 1.762356e+04
## [17173] 2.101265e+04 2.212465e+04 2.081453e+04 2.721628e+04
## [17177] 1.721081e+04 1.528807e+04 1.103687e+04 1.550611e+04
## [17181] 1.313460e+04 8.949898e+03 1.650223e+04 1.117544e+04
## [17185] 2.262295e+04 1.165248e+04 8.784554e+03 7.766077e+03
## [17189] 2.152853e+04 1.747667e+04 1.000814e+04 9.063942e+03
## [17193] 1.093117e+04 2.209398e+04 9.151522e+03 1.101645e+04
## [17197] 1.069460e+04 1.109090e+04 3.349428e+04 2.799656e+04
## [17201] 1.209024e+04 1.025224e+04 2.034565e+04 6.559363e+04
## [17205] 1.013950e+04 1.352979e+04 1.330082e+04 2.378440e+04
## [17209] 2.549139e+04 2.061876e+04 3.872611e+04 3.688098e+05
## [17213] 2.288222e+04 9.329584e+03 8.643633e+05 1.062998e+04
## [17217] 1.002065e+04 2.075990e+04 1.074691e+04 9.536078e+03
## [17221] 1.153021e+04 1.995457e+04 1.128606e+04 1.636119e+04
## [17225] 1.464472e+04 1.162920e+04 2.062708e+04 1.220952e+04
## [17229] 1.128003e+04 9.461079e+03 1.026339e+04 1.071988e+04
## [17233] 9.850525e+03 2.324978e+04 8.707088e+03 2.859295e+04
## [17237] 1.180812e+04 9.477218e+03 9.894705e+03 1.361173e+05
## [17241] 1.347435e+05 9.782990e+03 1.062764e+04 9.877661e+03
## [17245] 2.792615e+04 1.024760e+04 1.004325e+04 1.460515e+04
## [17249] 2.130873e+04 1.071775e+04 9.070951e+03 1.101576e+04
## [17253] 1.026297e+04 3.795379e+05 7.294086e+05 8.360169e+05
## [17257] 3.484048e+03 1.152955e+04 1.637945e+04 5.097691e+04
## [17261] 1.096967e+04 2.064577e+04 2.908774e+04 9.225354e+03
## [17265] 1.135507e+04 1.151725e+04 3.923531e+03 1.336498e+04
## [17269] 6.087650e+03 1.641916e+04 1.967910e+04 2.226136e+04
## [17273] 1.061878e+04 1.596859e+04 1.565303e+04 1.521349e+04
## [17277] 1.053305e+04 7.889216e+03 9.003019e+03 1.065310e+04
## [17281] 9.260578e+03 1.962810e+04 1.018981e+04 1.614330e+04
## [17285] 1.113623e+04 1.053533e+04 4.876660e+03 9.924457e+03
## [17289] 9.876352e+03 1.088312e+04 2.394990e+04 9.318889e+03
## [17293] 9.920086e+03 1.115048e+05 7.929132e+03 2.164990e+04
## [17297] 1.005893e+04 1.114878e+05 2.124514e+04 8.624138e+03
## [17301] 1.086905e+04 2.195306e+04 9.002803e+03 3.657680e+04
## [17305] 8.689202e+03 1.060847e+04 1.581921e+04 1.101713e+04
## [17309] 1.029203e+04 5.014227e+04 4.349600e+03 1.032663e+04
## [17313] 6.222674e+05 2.560275e+04 2.048318e+04 2.539119e+04
## [17317] 3.228285e+04 1.369110e+04 2.180998e+04 1.951449e+04
## [17321] 1.117479e+04 2.264219e+04 1.146280e+04 1.080338e+04
## [17325] 1.403541e+04 1.103517e+04 1.609669e+04 9.718347e+03
## [17329] 1.107997e+04 2.648505e+04 1.053042e+04 1.075670e+04
## [17333] 1.078421e+04 6.771828e+04 2.328476e+04 5.530939e+04
## [17337] 1.560603e+04 9.920378e+03 2.062542e+04 1.086302e+04
## [17341] 8.114545e+03 1.252073e+04 9.283177e+03 7.104515e+03
## [17345] 1.106440e+04 1.037831e+04 1.417957e+04 1.103082e+04
## [17349] 1.101825e+04 1.659546e+04 1.055833e+04 9.404986e+03
## [17353] 5.569341e+03 1.536887e+04 5.548845e+04 2.119159e+04
## [17357] 2.159196e+04 3.216828e+04 1.706210e+04 2.015252e+03
```

```
## [17357] 2.158106e+04 2.216828e+04 1.706218e+04 3.915252e+03
## [17361] 1.081629e+04 9.376898e+03 3.092704e+03 1.542992e+04
## [17365] 9.464034e+03 1.420249e+04 2.202436e+04 5.554627e+03
## [17369] 2.279422e+03 1.095427e+04 2.061703e+04 4.750603e+04
## [17373] 2.116365e+04 1.529950e+04 1.031390e+04 2.347622e+04
## [17377] 2.083831e+04 2.789594e+04 2.342535e+04 1.088467e+04
## [17381] 1.114406e+04 1.033132e+04 2.193292e+04 1.673187e+04
## [17385] 9.902143e+03 4.139440e+04 1.047769e+04 1.685088e+05
## [17389] 1.010181e+05 4.943149e+04 2.530025e+04 1.030721e+04
## [17393] 2.089864e+04 2.187850e+04 1.378297e+04 2.969096e+04
## [17397] 9.239513e+03 1.653453e+04 1.141187e+04 2.342558e+04
## [17401] 9.322988e+03 4.589319e+03 2.071935e+04 1.058132e+04
## [17405] 8.833904e+03 1.124473e+04 1.047079e+04 5.914865e+04
## [17409] 1.638678e+04 7.003480e+04 9.652870e+03 1.356764e+04
## [17413] 2.152658e+04 1.143246e+04 2.355647e+04 1.027908e+04
## [17417] 2.955252e+04 1.090611e+04 4.052788e+05 1.340661e+04
## [17421] 1.646492e+04 1.225146e+04 9.319736e+03 2.814383e+04
## [17425] 9.807008e+03 1.084866e+04 2.011415e+04 1.676638e+04
## [17429] 1.471677e+04 3.500237e+03 1.065955e+04 9.847691e+03
## [17433] 9.800823e+03 1.853792e+04 2.254117e+04 9.359268e+03
## [17437] 2.087829e+05 2.674328e+05 1.436666e+04 1.102873e+04
## [17441] 1.038545e+04 1.701028e+04 9.707690e+03 4.296373e+03
## [17445] 1.176301e+04 1.102730e+04 5.649186e+03 1.091555e+04
## [17449] 7.816908e+04 8.432865e+03 1.075772e+04 2.799234e+04
## [17453] 4.503533e+03 1.705253e+04 3.018094e+04 9.471739e+03
## [17457] 1.067822e+04 1.255195e+04 1.002629e+04 9.285713e+03
## [17461] 1.064756e+04 1.096808e+04 1.003424e+04 1.024487e+04
## [17465] 9.263899e+03 2.629127e+04 9.802138e+03 2.327471e+04
## [17469] 2.185098e+04 1.120952e+04 9.975986e+03 9.448356e+03
## [17473] 8.346883e+03 2.135025e+04 2.129184e+04 1.020840e+04
## [17477] 8.571652e+03 1.631793e+04 2.967371e+04 1.158005e+04
## [17481] 9.073323e+03 9.757067e+03 9.741563e+03 1.237939e+04
## [17485] 1.582644e+04 2.143681e+04 6.990928e+04 9.438900e+04
## [17489] 9.595947e+03 2.608808e+04 3.803344e+03 2.175118e+04
## [17493] 2.608448e+04 1.167050e+04 9.278919e+03 3.695940e+04
## [17497] 1.241979e+04 1.179813e+04 2.253430e+04 4.549472e+04
## [17501] 1.485046e+04 9.621559e+03 3.957570e+03 1.016318e+04
## [17505] 1.025035e+04 2.121842e+04 9.889149e+03 9.848939e+03
## [17509] 1.146169e+04 1.227501e+05 1.027354e+04 8.386399e+03
## [17513] 3.310336e+04 9.693823e+03 8.924548e+03 9.160326e+03
## [17517] 9.265760e+03 2.250817e+04 1.051450e+04 1.042394e+04
## [17521] 8.467556e+03 2.750429e+04 2.329510e+04 1.686727e+05
## [17525] 2.602909e+05 9.168034e+03 1.331266e+04 9.713752e+03
## [17529] 1.900321e+04 9.894607e+03 2.751398e+04 9.442170e+03
## [17533] 1.199393e+04 1.048930e+04 8.947003e+03 1.203572e+04
## [17537] 1.570292e+04 8.866474e+03 1.012585e+04 1.029203e+04
## [17541] 1.535790e+04 2.282815e+04 1.673797e+04 2.777230e+04
## [17545] 1.004896e+04 1.433653e+05 1.737303e+04 2.995770e+04
## [17549] 5.342085e+04 3.815736e+04 1.589241e+04 8.657062e+03
## [17553] 2.707627e+04 1.515792e+04 1.149878e+04 1.022120e+04
## [17557] 1.111638e+04 1.277970e+04 1.594394e+04 9.601909e+03
## [17561] 7.347383e+04 1.608331e+04 8.141169e+04 1.631959e+04
## [17565] 1.091387e+04 1.069205e+04 2.315346e+04 8.156450e+05
## [17569] 2.317344e+04 8.688503e+03 1.055477e+04 9.729719e+03
## [17573] 2.158413e+04 9.864615e+03 3.764067e+04 2.213718e+04
## [17577] 1.094013e+04 8.419119e+03 1.620023e+04 9.182001e+03
## [17581] 1.078546e+04 5.066732e+04 1.088734e+04 1.018190e+04
## [17585] 9.979752e+03 9.710383e+03 9.547802e+03 8.466387e+03
## [17589] 2.084636e+04 9.152475e+03 1.205546e+04 2.423484e+04
## [17593] 2.243745e+04 2.101839e+04 2.190490e+04 2.599655e+04
## [17597] 1.025673e+04 1.637922e+04 1.086115e+04 9.260984e+03
## [17601] 3.143034e+04 3.573977e+03 2.093989e+04 2.303283e+04
## [17605] 1.031760e+04 2.163394e+04 1.079752e+04 9.769239e+03
## [17609] 9.517859e+03 9.068075e+03 1.180868e+04 3.591436e+03
## [17613] 1.005400e+04 1.664971e+04 2.072293e+04 1.067751e+04
## [17617] 9.056418e+03 2.105080e+04 3.096465e+04 2.458912e+05
## [17621] 1.649637e+04 2.014592e+04 1.377929e+04 1.345624e+04
## [17625] 1.181435e+04 1.035915e+04 2.021527e+04 1.552961e+04
## [17629] 1.748469e+04 9.533429e+03 1.117558e+04 9.541305e+03
## [17633] 4.442128e+04 1.566749e+04 1.528086e+04 8.878810e+03
## [17637] 1.091033e+05 1.221982e+04 2.635383e+04 1.221059e+04
## [17641] 9.792275e+03 1.033777e+04 3.344915e+03 1.045544e+04
## [17645] 1.550360e+05 1.326104e+04 9.647611e+03 9.473336e+03
## [17649] 4.648073e+05 8.279308e+03 2.281154e+04 8.959082e+03
## [17653] 1.010433e+04 2.439915e+04 8.779087e+03 1.584438e+04
## [17657] 2.303039e+04 1.160530e+04 1.000401e+04 9.093932e+03
```

```
## [17657] 2.383089e+04  1.188580e+04  1.600401e+04  9.595925e+03
## [17661] 1.191007e+04  2.690216e+03  1.070377e+04  1.139285e+04
## [17665] 9.953750e+03  2.446801e+04  1.315884e+04  2.102733e+04
## [17669] 2.024866e+04  2.108002e+04  9.968255e+03  1.086331e+04
## [17673] 9.629959e+03  1.084476e+04  1.108008e+04  1.189036e+04
## [17677] 2.184347e+04  1.160070e+04  1.556644e+04  1.606369e+04
## [17681] 2.243003e+04  3.250915e+04  1.119299e+04  1.016007e+04
## [17685] 1.405063e+04  8.684661e+03  4.764497e+03  2.175399e+04
## [17689] 1.031029e+04  1.578258e+04  1.405526e+05  8.949471e+04
## [17693] 2.100039e+04  9.711420e+03  2.318595e+04  1.846724e+04
## [17697] 1.126407e+04  1.934069e+04  9.545460e+03  1.035488e+04
## [17701] 1.086993e+04  1.798568e+04  4.987908e+04  1.120001e+04
## [17705] 1.353816e+04  1.062793e+04  1.006623e+04  2.235146e+04
## [17709] 2.216805e+04  1.949290e+04  6.025726e+04  9.306804e+03
## [17713] 2.018297e+04  6.901898e+04  6.959720e+04  3.992243e+04
## [17717] 4.270386e+04  4.291565e+03  9.356274e+03  1.671654e+05
## [17721] 1.763076e+04  1.074539e+04  1.066282e+04  1.597539e+04
## [17725] 1.096047e+04  6.806436e+04  3.304652e+03  2.239334e+04
## [17729] 9.471444e+03  3.407114e+03  9.361910e+03  9.430133e+04
## [17733] 1.176189e+04  9.942454e+03  1.098975e+04  9.702826e+03
## [17737] 8.238806e+03  9.546102e+03  8.585479e+03  1.102084e+04
## [17741] 2.216349e+04  1.227833e+04  9.141766e+03  2.814677e+04
## [17745] 1.080625e+04  1.198409e+04  8.571792e+03  1.077494e+04
## [17749] 8.807250e+03  8.509323e+03  2.014382e+04  8.312288e+04
## [17753] 9.148000e+03  2.623986e+04  1.827536e+04  9.719449e+03
## [17757] 1.135370e+04  2.044304e+04  1.632553e+04  3.338899e+05
## [17761] 1.594033e+05  4.266181e+04  9.824115e+03  9.117177e+03
## [17765] 1.317061e+04  2.146282e+04  9.106344e+03  1.052425e+04
## [17769] 1.440882e+04  3.152276e+05  2.916695e+05  1.039274e+04
## [17773] 5.997609e+05  1.075389e+04  2.720364e+04  9.887124e+03
## [17777] 1.693287e+04  1.280721e+04  2.434075e+04  2.853800e+04
## [17781] 8.851705e+03  1.322895e+04  1.097073e+04  1.266049e+04
## [17785] 9.698627e+03  1.075074e+04  2.223062e+04  2.390272e+04
## [17789] 1.164432e+04  2.805094e+04  1.046085e+04  2.080410e+04
## [17793] 1.401275e+04  3.320669e+03  1.035472e+04  3.165745e+04
## [17797] 1.202242e+04  1.003628e+04  1.194403e+04  9.626520e+03
## [17801] 1.022333e+04  2.408217e+04  1.021947e+04  2.362229e+04
## [17805] 1.041029e+04  1.034563e+04  1.149872e+04  9.135666e+03
## [17809] 5.324148e+04  9.883392e+03  2.942828e+03  8.671185e+03
## [17813] 2.353376e+04  8.529204e+03  2.261536e+04  1.098323e+04
## [17817] 2.935534e+04  4.510429e+05  2.877225e+04  9.343532e+03
## [17821] 2.154145e+04  7.923315e+03  2.707427e+04  4.444865e+03
## [17825] 1.109236e+04  1.111180e+04  8.630886e+03  2.342488e+04
## [17829] 3.930894e+04  9.630329e+03  4.182722e+03  1.629827e+04
## [17833] 2.609445e+04  5.417354e+03  2.430272e+04  1.308323e+04
## [17837] 1.124814e+04  9.376053e+03  1.102175e+04  8.702095e+03
## [17841] 1.466873e+04  9.579166e+03  1.050009e+04  3.620394e+03
## [17845] 1.639469e+04  1.950997e+04  9.907452e+03  8.946826e+03
## [17849] 1.514489e+05  8.341293e+03  8.094773e+03  2.159326e+04
## [17853] 5.218796e+03  5.990961e+04  1.485271e+04  1.031475e+04
## [17857] 1.737814e+04  1.006827e+04  1.887993e+05  1.085549e+04
## [17861] 9.863616e+03  2.290062e+04  1.182901e+04  1.143130e+04
## [17865] 1.198530e+04  1.560288e+05  1.105243e+04  2.395595e+04
## [17869] 9.185685e+04  2.091172e+04  2.645406e+05  2.672869e+05
## [17873] 1.474619e+04  1.017449e+04  1.033075e+04  1.004251e+04
## [17877] 8.686690e+03  8.578018e+03  2.484531e+03  9.838848e+03
## [17881] 9.825557e+03  1.270203e+04  8.906622e+03  2.316998e+04
## [17885] 1.397083e+04  2.234776e+04  1.276979e+04  1.095212e+04
## [17889] 1.017772e+04  2.335217e+04  1.002959e+04  5.395240e+03
## [17893] 1.175172e+04  2.946634e+04  1.007124e+04  9.979182e+03
## [17897] 2.067372e+04  9.942025e+03  9.526346e+03  2.949056e+04
## [17901] 9.738790e+03  2.292128e+04  1.618194e+04  6.650328e+04
## [17905] 9.827269e+03  1.066388e+04  2.309274e+04  1.651105e+04
## [17909] 6.484123e+03  2.203597e+04  1.337312e+04  1.163407e+04
## [17913] 8.695651e+03  1.010395e+04  1.124791e+04  1.227729e+04
## [17917] 2.728805e+04  1.089756e+04  5.481680e+03  2.197863e+04
## [17921] 2.186833e+04  2.265610e+04  8.736651e+03  2.152011e+04
## [17925] 8.764258e+03  2.361140e+04  9.447723e+03  1.047772e+04
## [17929] 1.305701e+04  1.620873e+04  2.179342e+04  3.973534e+04
## [17933] 2.125968e+04  3.492585e+03  8.988462e+03  2.193712e+04
## [17937] 1.077234e+05  1.070076e+04  1.335477e+04  7.027625e+03
## [17941] 4.088363e+04  1.058964e+04  2.196050e+04  2.064218e+04
## [17945] 1.468632e+04  1.152436e+05  8.713564e+03  1.334089e+04
## [17949] 4.242664e+04  1.673294e+04  2.064916e+04  2.217966e+05
## [17953] 8.210636e+03  1.037244e+04  2.303813e+04  1.384328e+04
## [17957] 1.047773e+04  2.017017e+04  1.019061e+04  2.411335e+04
```

```
## [17961] 4.196280e+03 1.047079e+04 2.167050e+04 1.050221e+04
## [17965] 3.913204e+05 1.389664e+04 1.050671e+04 5.664458e+04
## [17969] 2.327379e+04 1.451364e+04 1.081916e+04 1.044219e+04
## [17973] 8.051088e+03 9.692609e+03 2.225308e+04 1.961670e+04
## [17977] 5.663439e+04 2.263730e+04 1.399024e+04 9.866559e+03
## [17981] 1.001323e+04 2.261421e+04 5.888268e+04 1.066462e+04
## [17985] 9.086650e+03 2.175779e+04 1.060758e+04 9.206750e+03
## [17989] 2.597660e+04 2.124503e+04 2.222328e+04 3.116962e+04
## [17993] 5.558827e+04 4.839814e+03 1.085121e+04 2.154715e+04
## [17997] 9.449436e+03 9.659084e+03 2.731872e+04 1.050802e+04
## [18001] 1.313437e+04 2.021387e+04 1.207399e+04 1.618780e+04
## [18005] 9.834592e+03 2.302353e+04 1.937318e+04 1.690709e+04
## [18009] 1.115069e+04 9.481037e+03 1.737692e+04 8.996619e+03
## [18013] 1.512841e+05 9.271799e+03 1.156422e+04 1.357892e+04
## [18017] 2.084963e+04 1.518976e+04 1.123606e+04 1.028680e+04
## [18021] 1.066478e+04 1.843018e+04 1.664464e+04 1.141355e+04
## [18025] 1.498193e+04 9.024559e+03 1.056148e+04 9.602101e+03
## [18029] 1.578426e+04 2.641155e+05 1.992465e+04 1.198812e+04
## [18033] 8.772821e+03 1.110940e+04 9.783201e+03 1.104435e+04
## [18037] 6.590042e+03 2.267415e+04 2.235989e+04 1.095904e+04
## [18041] 1.333896e+04 1.546162e+04 1.088536e+04 8.463346e+03
## [18045] 1.061697e+04 2.075252e+04 9.214897e+03 2.876624e+04
## [18049] 1.015695e+04 1.158549e+04 1.157503e+04 1.025121e+04
## [18053] 1.547143e+04 9.502329e+03 1.093064e+04 9.552730e+03
## [18057] 2.287238e+04 9.645356e+03 2.027788e+04 1.991922e+04
## [18061] 1.655910e+04 1.829384e+04 1.552237e+04 9.853732e+03
## [18065] 1.990621e+04 1.289006e+04 9.052941e+03 9.338884e+03
## [18069] 6.759001e+03 1.632229e+04 1.063688e+04 1.618731e+04
## [18073] 1.153787e+04 1.025651e+04 1.214116e+04 2.150387e+04
## [18077] 7.835506e+03 2.284034e+04 1.177280e+04 8.688828e+03
## [18081] 2.372742e+04 1.570147e+04 1.313871e+04 8.462571e+03
## [18085] 1.092437e+04 1.573610e+04 2.140445e+04 2.114053e+04
## [18089] 2.153774e+04 1.026591e+04 1.021917e+04 1.099486e+04
## [18093] 9.160343e+03 2.242580e+04 1.008950e+04 1.035740e+04
## [18097] 9.625151e+03 1.007718e+04 3.629285e+03 2.472206e+04
## [18101] 2.072396e+04 6.017374e+04 2.502432e+04 1.145808e+04
## [18105] 9.978528e+03 8.125506e+04 9.921059e+03 1.010924e+04
## [18109] 9.573597e+03 1.525076e+04 2.174875e+04 1.099961e+04
## [18113] 2.841685e+04 3.917051e+03 2.156469e+04 3.993431e+03
## [18117] 1.489082e+04 2.075957e+04 2.165308e+04 8.892055e+03
## [18121] 1.113701e+04 8.654673e+03 2.861598e+04 1.183927e+04
## [18125] 1.087150e+04 2.204137e+04 3.742300e+03 2.261519e+04
## [18129] 1.075112e+04 9.720131e+03 1.048340e+04 2.909293e+03
## [18133] 1.034043e+04 2.086435e+04 2.451714e+04 1.612050e+04
## [18137] 9.494044e+03 1.107392e+04 1.223717e+04 1.227880e+04
## [18141] 2.301617e+04 1.051220e+04 1.617873e+04 2.006765e+04
## [18145] 9.886076e+03 9.020557e+03 4.249566e+03 3.221560e+03
## [18149] 2.549047e+04 9.447723e+03 8.902827e+03 1.276314e+04
## [18153] 1.526231e+04 2.185696e+04 6.468552e+04 1.648691e+04
## [18157] 2.215633e+04 1.034968e+04 2.398162e+04 7.961641e+03
## [18161] 1.449586e+04 1.478001e+04 1.130019e+04 2.127128e+04
## [18165] 1.572080e+04 1.123054e+04 1.427216e+04 2.398054e+04
## [18169] 9.610578e+03 9.599881e+03 3.252367e+03 2.074226e+04
## [18173] 9.424326e+03 2.108647e+04 8.850080e+03 1.053028e+04
## [18177] 2.825490e+04 1.650139e+04 2.338736e+04 1.068515e+04
## [18181] 2.184984e+04 2.160283e+04 1.045668e+04 9.045988e+03
## [18185] 2.265628e+04 1.348474e+04 1.072230e+04 1.574290e+04
## [18189] 3.369140e+04 2.185675e+04 1.197256e+04 3.257329e+04
## [18193] 1.136798e+04 2.502606e+04 1.144480e+04 8.805501e+03
## [18197] 9.837013e+03 1.000788e+04 1.843500e+04 1.076538e+04
## [18201] 2.791226e+04 1.046158e+04 3.720520e+04 9.569228e+03
## [18205] 8.549132e+03 6.562493e+03 2.830280e+04 2.465964e+04
## [18209] 8.024911e+03 1.659630e+04 9.951312e+03 9.870898e+03
## [18213] 6.464745e+04 9.147399e+03 2.251733e+04 9.006544e+03
## [18217] 2.446414e+04 4.632246e+04 1.005016e+04 2.396407e+04
## [18221] 1.220694e+04 7.595833e+04 1.101347e+04 9.610051e+03
## [18225] 1.203172e+04 1.684985e+04 9.029016e+03 1.068900e+04
## [18229] 2.277571e+04 2.323427e+04 1.427557e+04 1.049099e+04
## [18233] 1.310070e+04 2.031886e+04 8.857165e+03 2.360162e+04
## [18237] 1.998924e+04 2.459428e+04 1.022655e+04 1.480351e+04
## [18241] 9.947873e+03 8.246912e+03 2.103335e+04 2.747560e+04
## [18245] 4.139763e+04 8.300574e+03 1.704733e+04 1.077752e+04
## [18249] 6.685005e+03 6.674376e+04 1.012319e+04 9.957118e+03
## [18253] 1.066595e+04 4.067332e+03 8.670971e+03 2.293649e+04
## [18257] 1.309903e+04 1.419228e+04 1.023775e+04 1.048692e+04
## [18261] 1.083543e+04 1.624221e+04 1.055408e+04 1.234103e+04
```

```
## [18261] 1.082342e+04  1.624221e+04  1.053408e+04  1.224105e+04
## [18265] 1.071686e+04  1.539267e+04  1.615992e+04  1.316776e+04
## [18269] -5.774201e+03  1.877452e+04  2.485221e+04  1.360470e+04
## [18273] 2.636059e+04  1.768446e+04  1.616869e+04  9.962668e+04
## [18277] 8.522859e+03  3.740545e+04  8.220498e+03  -6.252294e+02
## [18281] 6.830377e+04  1.535600e+04  7.467162e+03  1.846053e+04
## [18285] 8.523163e+04  2.743527e+04  1.672631e+04  1.129997e+04
## [18289] 5.241678e+04  1.287548e+04  2.759630e+04  2.859091e+03
## [18293] 7.476269e+04  8.623917e+03  3.836584e+03  1.771568e+05
## [18297] 1.227316e+04  4.811934e+03  2.587949e+04  4.013714e+04
## [18301] 2.666656e+04  1.302668e+04  9.721433e+03  1.712429e+04
## [18305] 1.002417e+04  2.259644e+03  1.096460e+04  9.658806e+03
## [18309] 1.733381e+03  1.017299e+04  1.166939e+04  2.472641e+04
## [18313] 2.106706e+04  2.060825e+04  8.308251e+03  8.847964e+03
## [18317] 9.085316e+03  1.099111e+04  9.529710e+03  9.977099e+03
## [18321] 9.774278e+03  2.736200e+04  9.802166e+03  9.891842e+04
## [18325] 9.135225e+03  3.154510e+03  1.074425e+04  9.648287e+03
## [18329] 1.077298e+04  9.344973e+03  8.883980e+02  1.732881e+04
## [18333] 8.341984e+03  8.877476e+03  8.385451e+05  1.774843e+04
## [18337] 9.455937e+03  8.871055e+03  7.678141e+03  7.918128e+03
## [18341] 9.556169e+03  2.002662e+05  1.089577e+04  -1.646946e+03
## [18345] 1.016271e+04  1.076422e+04  5.725218e+04  2.513466e+04
## [18349] 8.915670e+03  1.094445e+04  8.959310e+03  2.330967e+03
## [18353] 9.454817e+03  9.580845e+03  1.102214e+04  9.162464e+03
## [18357] 9.747384e+03  9.191545e+03  1.118207e+04  1.038018e+04
## [18361] 1.673499e+04  1.612910e+04  3.008883e+03  1.093636e+04
## [18365] 1.090434e+04  1.097288e+04  1.146264e+04  8.725648e+03
## [18369] 9.169493e+03  7.853297e+04  2.234401e+05  1.964263e+04
## [18373] 9.715002e+03  2.344524e+04  1.041468e+04  1.135983e+04
## [18377] 9.421867e+03  1.032381e+05  2.109355e+03  1.742607e+03
## [18381] 9.426522e+03  1.056500e+04  1.244065e+04  1.533794e+04
## [18385] 1.553986e+05  5.840182e+04  9.554951e+03  2.421039e+03
## [18389] 9.759229e+03  2.671678e+04  5.929937e+04  1.305572e+03
## [18393] 1.022724e+04  5.551597e+04  2.596949e+04  1.037524e+04
## [18397] 2.498351e+04  9.621909e+03  2.138412e+03  1.063392e+04
## [18401] 6.581370e+04  1.079997e+04  3.295413e+03  1.101080e+04
## [18405] 9.331705e+03  9.177543e+03  1.805541e+04  2.632421e+04
## [18409] 1.025141e+04  2.100284e+03  1.079583e+04  6.155602e+04
## [18413] 1.000000e+04  8.641328e+03  9.528920e+03  8.541459e+03
## [18417] 2.372016e+04  1.031077e+04  1.113023e+04  8.696163e+02
## [18421] 2.490440e+04  1.756285e+04  9.760162e+03  7.760125e+03
## [18425] 2.045836e+03  8.555434e+03  2.025830e+03  8.801727e+03
## [18429] 1.675424e+05  1.161703e+04  3.041799e+04  1.127706e+04
## [18433] 1.035696e+04  2.721474e+04  2.456788e+04  1.911695e+04
## [18437] 1.050256e+04  3.770130e+05  1.092904e+04  2.206190e+04
## [18441] 2.840747e+03  1.741312e+04  4.477804e+05  1.001957e+04
## [18445] 8.902206e+03  2.118172e+03  1.083099e+04  2.708105e+04
## [18449] 9.785510e+03  1.872485e+04  1.006345e+04  1.243487e+03
## [18453] 1.030557e+04  1.059438e+04  9.960587e+03  9.763283e+03
## [18457] 1.744405e+04  1.349825e+02  3.982009e+03  9.815481e+03
## [18461] 2.810650e+03  9.636990e+03  1.107924e+04  2.592645e+04
## [18465] 2.669936e+04  9.151782e+03  2.448869e+03  9.763871e+03
## [18469] 1.084064e+04  1.166991e+04  9.230452e+03  1.819978e+04
## [18473] 1.823192e+04  9.938236e+03  2.448540e+04  9.903264e+03
## [18477] 1.025927e+04  2.221975e+04  9.778341e+03  9.923008e+03
## [18481] 2.551712e+04  9.169864e+03  1.045438e+04  1.780779e+04
## [18485] 9.758538e+03  1.033145e+04  2.324661e+03  2.615782e+04
## [18489] 3.939181e+05  1.634241e+03  9.481526e+03  1.568867e+04
## [18493] 2.869279e+04  1.181975e+05  2.518999e+03  1.011308e+04
## [18497] 1.044978e+04  1.936620e+04  1.818441e+04  8.796584e+03
## [18501] 2.578285e+04  1.136102e+05  1.998453e+04  9.524010e+03
## [18505] 9.607140e+03  9.883924e+03  1.215683e+04  1.136412e+04
## [18509] 1.073666e+04  1.216075e+04  2.583736e+04  9.981664e+03
## [18513] 1.018575e+04  8.851799e+03  5.873790e+05  1.116324e+04
## [18517] 1.000177e+04  1.017111e+04  9.600191e+03  8.364471e+03
## [18521] 2.573771e+04  9.452813e+03  1.087213e+04  1.084868e+04
## [18525] 2.570842e+04  1.126130e+04  1.028623e+04  1.749573e+04
## [18529] 9.707271e+03  1.744708e+04  5.982381e+03  1.864659e+04
## [18533] 2.536920e+04  9.964664e+03  1.148583e+04  1.040705e+04
## [18537] 9.775301e+03  1.870772e+04  8.736541e+03  1.001957e+04
## [18541] 9.839377e+03  9.164488e+03  1.785518e+04  2.630773e+04
## [18545] 9.635753e+03  4.970328e+03  5.924639e+03  2.601141e+03
## [18549] 3.146971e+05  1.077105e+04  8.453218e+03  9.457258e+03
## [18553] 7.954834e+03  1.010513e+04  8.924795e+03  1.734428e+04
## [18557] 9.419079e+03  9.154021e+03  1.124065e+04  2.463716e+04
## [18561] 9.341146e+03  2.547914e+04  1.013602e+04  9.017879e+03
```

```
## [18565] 1.046784e+04  1.013085e+04 -3.931959e+03  9.151223e+03
## [18569] 2.781996e+03  1.017392e+04  9.952288e+03  4.212899e+04
## [18573] 8.112584e+03  7.450130e+03  1.036797e+04  1.926672e+04
## [18577] 2.584075e+03  9.319725e+03  1.909988e+04  1.738452e+04
## [18581] 8.990551e+03  1.678994e+04  9.042746e+03  9.016238e+03
## [18585] 8.889595e+03  9.138479e+03  1.038034e+04  1.762492e+04
## [18589] 1.113812e+04  8.728386e+03  9.811726e+03  1.979423e+04
## [18593] 1.022659e+04  9.955530e+03  9.114396e+02  2.593495e+05
## [18597] 3.696225e+03  9.301950e+03  9.414523e+03  9.335853e+03
## [18601] 6.335149e+03  9.239787e+03  8.639860e+03  1.802873e+03
## [18605] 8.376744e+03  2.217785e+05  1.967799e+04  1.008768e+04
## [18609] 1.016199e+04  7.897570e+04  1.348308e+04  1.312643e+04
## [18613] 9.158493e+03  8.437390e+03  1.657959e+04  8.986232e+03
## [18617] 9.311354e+03  9.525428e+03  1.049951e+04  7.690827e+03
## [18621] 1.300713e+03  9.402641e+03  2.692776e+05  1.003878e+04
## [18625] 9.811726e+03  1.887366e+04  1.010850e+04  8.984102e+03
## [18629] 1.349821e+05  1.690460e+04  3.434803e+03  1.178853e+03
## [18633] 9.889889e+03  2.781996e+03  9.912013e+03  1.114442e+04
## [18637] 1.814860e+04  9.687857e+03  1.017250e+04  1.043904e+04
## [18641] 8.301947e+03  1.884751e+04  1.849228e+04  2.968114e+03
## [18645] 9.245861e+03  1.836004e+04  1.057196e+04  1.853472e+04
## [18649] 1.032769e+04  1.060285e+04  9.552740e+03  2.695829e+04
## [18653] 9.170246e+03  1.037498e+04  1.540955e+04  1.706185e+04
## [18657] 1.091628e+04  1.826693e+04  9.660817e+03  1.064450e+04
## [18661] 3.117925e+04  4.020110e+04  1.007808e+04  1.056465e+04
## [18665] 9.748191e+03  3.374306e+03  1.161760e+04  2.624531e+04
## [18669] 1.074294e+04  1.952737e+04  2.065653e+04  1.693949e+04
## [18673] 1.250168e+04  1.767266e+04  9.756825e+03  1.166185e+04
## [18677] 1.788592e+04  2.142592e+04  9.080441e+03  1.018948e+04
## [18681] 2.139373e+04  1.657303e+03  8.457483e+03  1.027320e+04
## [18685] 1.098525e+04  9.788546e+03  2.603505e+03  1.064511e+04
## [18689] 3.843447e+05  8.987752e+04  1.181539e+04  8.289738e+03
## [18693] 9.580141e+03  7.543123e+03  9.864977e+03  2.777318e+04
## [18697] 8.872852e+03  9.514799e+03  8.404267e+03  1.844927e+04
## [18701] 1.933123e+04  9.248961e+03  1.011848e+04  2.216486e+03
## [18705] 1.187514e+04  1.721537e+04  1.093429e+04  8.719979e+04
## [18709] 2.078601e+03  6.240618e+05  1.022741e+04  3.917669e+03
## [18713] 1.609900e+04  3.753039e+03  1.923942e+04  1.178853e+03
## [18717] 2.673828e+04  2.553925e+04  8.182113e+03  2.886967e+04
## [18721] 2.437085e+04  1.216661e+04  1.002424e+04  9.153549e+03
## [18725] 8.807730e+03  3.014856e+04  1.246284e+04  2.012133e+03
## [18729] 9.165027e+03  1.004180e+04  2.157460e+04  1.144555e+04
## [18733] 1.064776e+04  1.842116e+04  9.601836e+03  1.157337e+04
## [18737] 2.574156e+03  1.802371e+03  6.119491e+04  1.683080e+04
## [18741] 1.071239e+04  9.740356e+03  1.020564e+04  9.217512e+03
## [18745] 9.871898e+03  1.058588e+04  1.139636e+04  8.917503e+03
## [18749] 2.771366e+04  9.885927e+03  1.071252e+04  1.010148e+04
## [18753] 1.416709e+03  2.749674e+03  9.565484e+03  1.158265e+04
## [18757] 2.594061e+04  1.972387e+04  2.368930e+04  3.290971e+03
## [18761] 2.428022e+04  5.124500e+05  1.939870e+04  1.600453e+04
## [18765] 1.621237e+04  1.373444e+05  6.297829e+04  8.474609e+03
## [18769] 6.888683e+04  1.091858e+04  1.113986e+04  1.038410e+04
## [18773] 9.319384e+03  7.714141e+03  1.058811e+04  1.049913e+04
## [18777] 9.749610e+03  9.726632e+03  1.010664e+04  1.108301e+04
## [18781] 6.167963e+04  1.030126e+04  1.157117e+04  9.760697e+03
## [18785] 3.245318e+04  9.416482e+03  1.022585e+04  1.954392e+03
## [18789] 1.763051e+03  1.098210e+04  9.719602e+03  1.275624e+04
## [18793] 1.065533e+04  1.643527e+03  9.122459e+03  9.114230e+03
## [18797] 1.544602e+03  2.738031e+04  9.677886e+03  9.694432e+03
## [18801] 1.101244e+04  5.667827e+04  2.514801e+03  1.106235e+04
## [18805] 1.824333e+04  1.900954e+04  8.771169e+03  1.966239e+03
## [18809] 3.133547e+04  1.013554e+04  1.003992e+04  8.924107e+03
## [18813] 9.965544e+03  1.698495e+04  1.600003e+04  1.015876e+04
## [18817] 3.858965e+03  1.154405e+04  9.810367e+03  9.802511e+03
## [18821] 9.256155e+03  1.740832e+04  9.725559e+03  1.674149e+03
## [18825] 1.892965e+04  8.665477e+03  2.410672e+04  2.446395e+04
## [18829] 1.753071e+03  1.735769e+04  1.012949e+04  9.154108e+03
## [18833] 9.253160e+03  1.061310e+04  9.404149e+03  1.762375e+04
## [18837] 1.191211e+04  2.805044e+05  1.912780e+04  3.704579e+03
## [18841] 9.682848e+03  2.400937e+04  1.736908e+04  1.699304e+04
## [18845] 9.325312e+03  9.296517e+03  9.219344e+03  1.946316e+04
## [18849] 2.013121e+03  9.491373e+03  1.269648e+04  1.812201e+04
## [18853] 2.626565e+04  2.498202e+04  2.517299e+04  6.909461e+03
## [18857] 5.321626e+04  1.028305e+04  2.502909e+04  2.317387e+04
## [18861] 3.281002e+04  1.061172e+04  1.069359e+04  1.745146e+04
```

```
## [18865] 9.347997e+03 9.689091e+03 1.925388e+05 8.355490e+03
## [18869] 1.137417e+04 9.474891e+03 1.491943e+03 1.647641e+04
## [18873] 1.101900e+04 9.659656e+03 1.861798e+04 9.813621e+03
## [18877] 1.098803e+04 1.670778e+04 1.044571e+04 1.058682e+04
## [18881] 1.723022e+04 9.156571e+03 9.737917e+03 1.564551e+03
## [18885] 8.929271e+03 8.563497e+03 1.588501e+03 2.110384e+04
## [18889] 2.009087e+04 1.252169e+04 9.076826e+03 8.245562e+03
## [18893] 3.107976e+04 8.374627e+02 1.829918e+04 4.066981e+03
## [18897] 8.771169e+03 9.869219e+03 -4.772235e+03 1.042178e+04
## [18901] 9.878299e+03 1.237423e+05 1.775710e+04 1.025275e+04
## [18905] 2.684266e+04 4.752988e+04 1.091887e+04 1.852902e+04
## [18909] 9.973239e+03 9.325312e+03 9.984020e+03 3.561910e+04
## [18913] 2.865056e+03 1.122307e+04 9.764637e+03 9.502031e+03
## [18917] 1.013545e+04 3.991220e+05 9.571276e+03 3.870013e+02
## [18921] 9.294896e+03 1.801241e+04 2.780372e+04 9.882594e+03
## [18925] 9.413152e+03 9.816673e+03 1.026653e+04 3.408182e+04
## [18929] 1.007379e+05 1.043240e+04 6.234170e+04 1.019972e+04
## [18933] 1.012995e+04 1.068432e+04 9.798944e+03 9.892976e+03
## [18937] 1.603610e+04 1.818564e+04 1.010690e+04 1.735686e+04
## [18941] 1.757524e+04 1.805194e+04 5.860323e+04 1.727076e+04
## [18945] 1.029068e+04 3.453289e+03 8.841119e+03 8.813918e+03
## [18949] 1.119694e+04 1.010082e+04 1.819781e+04 1.756212e+04
## [18953] 2.478413e+04 1.072784e+04 9.089163e+03 1.076964e+04
## [18957] 2.509318e+04 1.064633e+04 1.022853e+04 9.883841e+03
## [18961] 9.562683e+03 9.948045e+03 8.648780e+03 2.416235e+04
## [18965] 1.006825e+04 8.307906e+03 2.524865e+04 1.003489e+04
## [18969] 1.007068e+04 4.120144e+04 4.037008e+04 2.458816e+03
## [18973] 1.307135e+05 1.042521e+04 9.474888e+03 9.186505e+03
## [18977] 1.796352e+04 1.059562e+04 1.374099e+04 2.875318e+03
## [18981] 1.181933e+05 2.655429e+04 2.687052e+04 1.851737e+04
## [18985] 2.666222e+04 1.136004e+04 1.738468e+04 2.976517e+03
## [18989] 2.080476e+04 1.841933e+04 7.310249e+02 1.563934e+05
## [18993] 1.001495e+04 2.617124e+04 3.457011e+03 1.848783e+04
## [18997] 1.041666e+04 1.805288e+04 1.691517e+03 1.126490e+04
## [19001] 9.843150e+03 2.413088e+03 2.742558e+04 9.148050e+03
## [19005] 2.565871e+04 2.483481e+04 1.133671e+04 1.134848e+04
## [19009] 8.276306e+03 1.191114e+04 2.596340e+04 3.283107e+03
## [19013] 2.739150e+04 2.072520e+03 7.835972e+03 2.523667e+04
## [19017] 7.220141e+03 1.101405e+04 1.837734e+04 1.008657e+04
## [19021] 9.964640e+03 2.425632e+04 6.227085e+04 1.096996e+04
## [19025] 1.895542e+04 9.186505e+03 -2.930827e+03 1.536476e+05
## [19029] 1.042520e+04 1.019164e+04 1.468691e+04 1.025204e+04
## [19033] 1.078545e+04 2.522214e+04 1.033563e+04 1.190241e+04
## [19037] 1.233075e+04 1.030442e+04 2.554640e+04 1.067465e+04
## [19041] 2.702737e+04 2.574961e+04 1.849671e+04 1.118023e+04
## [19045] 8.795595e+03 2.094777e+04 9.997934e+03 1.734045e+03
## [19049] 1.317773e+04 1.197621e+04 2.641672e+04 9.829338e+03
## [19053] 1.599370e+04 1.029457e+04 9.359668e+03 2.536867e+03
## [19057] 1.020948e+04 2.527437e+04 1.315684e+04 3.238365e+04
## [19061] 2.606889e+04 1.094235e+04 2.389819e+03 8.770825e+03
## [19065] 1.190241e+04 8.770825e+03 9.503364e+03 1.062450e+04
## [19069] 9.670454e+03 1.789419e+04 3.146394e+03 1.403897e+04
## [19073] 2.609752e+04 1.895084e+04 1.190241e+04 9.474016e+03
## [19077] 1.014996e+04 8.736149e+03 2.536282e+04 9.681855e+03
## [19081] 1.014405e+04 2.755012e+04 9.983975e+03 1.067160e+04
## [19085] 9.094569e+03 1.859117e+04 1.030537e+04 9.236078e+03
## [19089] 3.463882e+03 9.864925e+03 1.338368e+04 9.227822e+03
## [19093] 9.290193e+03 1.111803e+04 1.023425e+04 1.045427e+04
## [19097] 9.003435e+03 1.011209e+04 1.015466e+04 2.081020e+03
## [19101] 1.102238e+04 9.504667e+03 1.038203e+04 3.680366e+04
## [19105] 1.025443e+04 1.843454e+04 9.934232e+03 1.014620e+04
## [19109] 1.226303e+04 1.808614e+04 1.028060e+04 9.359668e+03
## [19113] 1.016684e+04 2.816425e+04 9.593848e+03 1.039189e+04
## [19117] 1.797124e+04 8.825727e+03 1.046059e+04 1.112577e+04
## [19121] 2.751056e+04 1.216985e+04 1.790178e+04 9.463048e+03
## [19125] 1.043354e+04 1.863460e+04 1.145817e+04 1.788687e+04
## [19129] 1.028135e+04 1.750559e+04 1.172315e+04 1.076976e+04
## [19133] 9.152447e+03 1.050225e+04 1.016684e+04 1.089518e+04
## [19137] 1.132370e+04 1.121489e+04 1.306078e+04 5.163173e+04
## [19141] 1.891021e+03 1.128967e+04 9.775347e+03 1.132844e+04
## [19145] 1.048844e+04 9.746617e+03 9.397242e+03 1.077289e+04
## [19149] 1.121400e+04 9.414737e+03 9.449246e+03 9.615429e+03
## [19153] 3.383495e+03 9.941530e+03 1.195669e+04 1.928134e+04
## [19157] 1.762323e+05 1.160642e+04 9.187123e+03 1.210792e+04
## [19161] 1.058461e+04 1.052307e+04 7.120372e+04 1.812803e+04
## [19165] 1.400046e+03 9.945003e+03 2.785616e+03 1.055598e+04
```

```
## [19165] 1.400040e+03 9.943003e+03 2.703010e+03 1.033390e+04
## [19169] 2.647084e+03 9.602184e+03 1.735712e+04 8.723694e+03
## [19173] 2.635815e+04 1.942387e+04 1.107351e+04 9.663155e+03
## [19177] 2.369937e+03 2.342084e+03 9.657085e+03 9.983106e+03
## [19181] 1.034837e+05 1.124264e+04 2.147127e+04 1.028060e+04
## [19185] 7.908526e+03 1.275838e+03 9.213722e+03 1.872107e+04
## [19189] 1.153312e+04 8.642657e+03 8.638334e+03 1.041666e+04
## [19193] 2.510064e+04 7.785752e+03 1.084922e+04 2.512672e+04
## [19197] 1.006046e+04 1.077277e+04 3.587610e+04 2.653750e+04
## [19201] 9.179313e+03 3.095384e+03 4.313664e+04 3.906626e+03
## [19205] 1.104084e+04 9.295524e+03 1.330739e+03 2.627589e+04
## [19209] 1.483677e+03 8.855166e+03 1.051609e+04 1.030167e+04
## [19213] 2.912378e+03 1.154764e+04 1.027437e+04 2.578780e+04
## [19217] 1.040400e+04 3.146394e+03 1.977006e+04 9.436938e+03
## [19221] 9.178169e+03 9.747410e+03 1.041516e+04 2.603563e+04
## [19225] -2.732071e+03 5.897863e+04 2.393881e+04 1.886358e+04
## [19229] 3.152675e+04 9.810023e+03 1.806524e+04 1.805274e+04
## [19233] 3.241503e+05 1.649388e+04 1.087957e+04 1.707999e+04
## [19237] 2.728701e+04 2.371476e+04 1.162367e+04 1.144263e+04
## [19241] 2.865488e+04 1.064138e+04 9.626954e+03 1.856954e+03
## [19245] 9.669028e+03 9.951425e+03 2.004355e+04 1.067541e+04
## [19249] 1.692336e+04 9.563727e+03 1.021078e+04 2.629735e+04
## [19253] 1.160425e+04 3.028879e+03 2.938555e+03 1.177197e+04
## [19257] 1.213599e+04 1.870148e+03 1.159079e+04 9.392119e+03
## [19261] 1.022570e+04 9.196347e+03 1.679157e+04 9.810023e+03
## [19265] 1.020605e+04 1.000797e+04 1.162590e+04 1.160529e+04
## [19269] 9.552192e+03 1.018269e+04 9.925347e+03 4.152507e+03
## [19273] 1.812874e+04 9.325475e+03 2.030691e+05 3.394660e+04
## [19277] 1.464258e+04 1.487177e+05 1.053049e+04 2.634487e+04
## [19281] 6.553017e+04 1.751118e+04 1.363834e+04 2.736339e+03
## [19285] 1.593032e+04 2.645826e+04 2.816687e+04 1.081049e+04
## [19289] 9.245682e+03 1.102317e+04 2.543168e+04 1.940517e+04
## [19293] 9.475316e+03 1.235962e+04 1.212995e+04 2.677069e+04
## [19297] 9.058336e+03 8.809991e+03 3.116075e+05 1.951491e+04
## [19301] 1.011292e+04 3.316953e+04 1.755499e+04 2.632963e+04
## [19305] 9.499536e+03 8.801941e+02 1.064138e+04 9.225318e+03
## [19309] 1.088458e+04 9.609493e+03 1.237959e+04 9.839372e+03
## [19313] 1.043354e+04 2.162098e+03 1.078598e+04 1.957205e+04
## [19317] 1.962468e+04 3.007259e+03 2.452058e+04 1.048777e+04
## [19321] 1.025089e+04 1.161409e+04 1.037510e+04 1.004263e+04
## [19325] 1.012779e+04 1.737934e+04 1.890449e+04 1.019103e+04
## [19329] 1.671084e+04 1.709837e+04 9.302377e+03 1.133317e+04
## [19333] 9.408026e+03 1.138970e+04 9.858817e+03 1.057100e+04
## [19337] 1.226016e+04 1.954516e+04 1.074870e+04 9.971451e+03
## [19341] 2.738885e+04 2.920922e+04 1.055046e+04 1.831500e+04
## [19345] 3.443766e+03 1.119707e+04 1.849467e+04 1.884942e+04
## [19349] 1.021807e+04 1.913391e+04 4.069142e+03 9.763977e+03
## [19353] 9.888345e+03 2.418645e+04 2.374143e+04 1.182290e+04
## [19357] 1.072393e+04 1.879341e+04 8.864299e+03 2.662517e+04
## [19361] 1.062022e+04 3.133463e+03 8.326416e+03 1.048844e+04
## [19365] 9.877387e+03 1.055671e+04 1.057025e+04 1.020057e+04
## [19369] 2.548300e+04 1.091470e+04 1.795333e+04 2.424480e+05
## [19373] 1.607621e+04 9.602184e+03 1.059832e+04 2.105791e+03
## [19377] 1.083300e+04 1.080525e+04 1.882072e+04 1.627743e+05
## [19381] 1.969419e+04 1.801841e+04 1.786829e+04 1.007276e+04
## [19385] 9.804696e+03 1.010041e+04 1.114285e+05 9.369376e+04
## [19389] 5.890152e+04 9.657085e+03 1.009134e+04 1.377095e+04
## [19393] 1.102574e+04 9.712110e+03 1.752900e+04 1.734760e+04
## [19397] 9.946736e+03 2.278991e+03 9.036616e+03 1.138152e+04
## [19401] 2.603675e+04 9.407707e+03 1.892607e+04 9.567508e+03
## [19405] 2.637908e+04 2.131691e+04 9.023816e+03 2.864991e+04
## [19409] 9.963153e+03 1.115278e+04 1.985350e+04 1.050181e+04
## [19413] 9.878728e+03 1.836120e+03 1.063820e+04 9.116118e+03
## [19417] 2.750492e+04 6.236462e+04 1.022645e+04 9.826470e+03
## [19421] 9.682584e+03 7.052052e+04 2.620397e+04 1.027585e+04
## [19425] 1.078066e+04 9.657085e+03 1.243978e+04 2.986430e+04
## [19429] 1.610888e+05 8.943989e+03 2.671073e+04 1.056982e+05
## [19433] 9.419114e+03 1.507994e+03 9.934232e+03 1.055671e+04
## [19437] 1.804615e+04 1.260435e+04 1.920200e+04 1.130719e+04
## [19441] 1.738817e+04 1.018405e+04 1.788687e+04 8.383871e+03
## [19445] 9.935948e+03 8.749700e+03 1.091122e+04 4.191987e+04
## [19449] 1.853582e+04 1.897319e+04 9.261288e+03 1.924457e+04
## [19453] 2.544829e+04 1.142324e+04 1.007276e+04 1.018172e+04
## [19457] 9.861150e+03 2.488199e+03 9.878728e+03 8.596495e+03
## [19461] 9.386716e+03 1.129195e+04 2.955374e+04 1.029441e+04
## [19465] 1.009753e+04 2.687006e+04 1.014937e+04 2.662878e+04
```

```
## [19469] 1.839789e+04 3.179097e+04 1.050790e+04 3.804469e+04
## [19473] 1.058480e+04 1.780205e+04 8.551615e+03 1.842676e+04
## [19477] 2.192949e+03 9.647191e+03 2.527301e+04 1.903643e+04
## [19481] 1.370536e+04 1.096998e+04 1.808249e+04 1.005189e+04
## [19485] 9.864925e+03 7.260101e+03 9.176610e+03 1.080286e+04
## [19489] 9.008013e+03 2.010003e+04 1.248383e+04 2.039363e+03
## [19493] 1.042521e+04 2.641756e+03 3.104738e+03 1.732146e+04
## [19497] 1.024373e+04 1.551882e+04 1.005898e+04 7.413086e+03
## [19501] 1.034615e+04 1.765351e+04 9.780814e+03 1.286640e+04
## [19505] 1.833658e+04 1.149707e+04 9.449246e+03 1.129515e+04
## [19509] 1.191521e+04 3.665767e+03 3.248642e+03 6.955336e+05
## [19513] 9.680229e+05 3.789510e+05 3.902986e+05 4.605608e+05
## [19517] 6.663087e+05 1.044379e+06 2.458452e+05 8.286126e+05
## [19521] 2.635793e+05 1.075350e+06 4.197504e+05 1.019151e+06
## [19525] 1.366258e+05 3.073241e+05 5.143153e+05 2.384324e+04
## [19529] 2.786397e+04 2.013648e+04 2.511202e+04 2.733252e+04
## [19533] 1.421049e+04 2.831072e+04 2.049973e+04 1.571245e+04
## [19537] 7.095118e+04 1.634222e+04 3.588155e+04 2.062486e+04
## [19541] 3.028303e+04 2.160664e+04 2.133122e+04 2.894994e+05
## [19545] 1.538634e+04 1.464513e+04 1.572261e+04 2.620954e+04
## [19549] 1.429889e+04 2.115789e+04 1.906856e+04 1.968059e+04
## [19553] 1.492072e+04 1.764756e+05 1.659103e+04 1.507486e+04
## [19557] 3.327085e+04 1.519907e+04 2.053960e+05 1.505270e+04
## [19561] 2.469828e+04 2.589892e+04 5.625917e+04 1.437588e+04
## [19565] 1.539720e+04 2.197537e+04 1.607942e+04 1.425436e+04
## [19569] 1.647838e+04 6.387187e+04 2.755181e+04 1.712109e+04
## [19573] 4.363254e+05 1.461042e+04 1.410786e+04 3.128125e+04
## [19577] 2.082033e+04 6.448226e+04 4.104996e+04 1.463862e+04
## [19581] 1.410041e+04 1.484646e+04 1.972753e+04 1.669060e+04
## [19585] 5.362433e+05 4.323027e+04 2.171304e+04 3.807127e+04
## [19589] 9.080480e+04 2.157136e+04 2.818231e+04 9.003200e+05
## [19593] 3.761772e+05 1.451351e+04 2.840351e+04 2.786186e+05
## [19597] 1.583918e+04 1.737772e+04 6.565953e+04 1.501860e+04
## [19601] 1.340586e+05 1.436596e+04 1.498596e+04 2.179146e+04
## [19605] 1.603166e+04 2.668602e+04 1.521809e+04 1.512217e+04
## [19609] 1.504589e+04 3.362447e+05 2.770388e+04 2.173628e+04
## [19613] 1.550780e+04 1.538135e+04 1.465988e+04 2.057971e+04
## [19617] 2.560165e+04 2.264373e+04 1.516558e+04 1.447697e+04
## [19621] 2.124851e+04 1.402043e+04 1.421594e+04 2.041607e+04
## [19625] 1.772456e+04 2.073953e+04 3.974366e+04 4.623444e+05
## [19629] 2.230527e+04 1.676508e+04 2.753085e+04 2.256899e+04
## [19633] 2.481490e+04 2.344949e+04 2.304067e+04 1.603729e+04
## [19637] 1.590399e+04 1.480498e+04 1.402546e+05 1.486702e+04
## [19641] 1.559287e+04 1.443278e+04 2.378645e+04 3.011497e+05
## [19645] 2.456043e+04 6.542771e+04 3.346487e+04 2.014188e+04
## [19649] 1.646752e+04 1.972720e+04 2.177295e+04 2.060221e+04
## [19653] 2.854588e+05 7.501032e+04 1.510052e+04 6.401928e+04
## [19657] 1.500421e+04 1.596582e+04 6.184053e+05 2.079092e+04
## [19661] 2.247336e+04 1.522780e+04 1.581964e+04 2.565794e+04
## [19665] 2.303749e+04 2.414896e+04 1.371258e+04 1.400368e+04
## [19669] 1.768920e+04 1.517270e+04 2.083564e+04 1.417214e+04
## [19673] 1.842698e+04 2.217384e+04 3.927811e+04 7.801579e+04
## [19677] 1.516860e+04 3.409617e+04 2.571599e+04 1.512279e+04
## [19681] 2.063996e+04 1.668956e+04 2.449593e+04 1.558104e+04
## [19685] 1.581588e+04 2.446908e+04 2.114894e+04 1.054415e+05
## [19689] 1.716579e+04 5.197231e+04 1.463363e+04 2.039040e+04
## [19693] 1.409538e+04 6.374973e+05 2.434896e+04 2.797291e+04
## [19697] 1.512525e+04 1.668937e+04 1.803783e+04 1.429974e+04
## [19701] 2.223580e+05 9.212697e+03 2.461095e+04 1.722875e+05
## [19705] 2.398645e+04 1.638292e+04 1.507486e+04 1.561475e+04
## [19709] 2.516996e+04 2.749394e+04 2.179072e+05 2.110026e+04
## [19713] 7.641416e+05 1.400472e+04 2.127372e+04 2.123941e+04
## [19717] 1.400754e+04 1.522585e+04 1.894694e+04 1.559712e+04
## [19721] 4.669016e+05 2.834062e+04 2.171986e+04 1.694375e+04
## [19725] 1.637306e+04 1.476314e+04 1.653340e+04 1.801163e+04
## [19729] 1.338037e+04 1.633108e+04 4.387854e+04 1.470694e+04
## [19733] 2.106554e+04 1.448091e+04 1.585132e+04 1.446029e+04
## [19737] 2.333056e+04 1.835629e+04 6.422244e+04 1.465200e+04
## [19741] 1.317190e+04 1.480790e+04 1.517706e+04 2.349079e+04
## [19745] 1.476662e+04 2.085477e+04 1.558773e+04 5.231397e+05
## [19749] 2.189097e+04 1.098070e+04 1.458410e+04 1.526214e+04
## [19753] 1.388907e+04 1.427151e+05 2.113143e+04 1.528270e+04
## [19757] 1.676452e+04 7.296227e+04 2.565914e+04 2.148656e+04
## [19761] 3.394022e+04 1.455570e+04 2.636019e+05 2.678450e+04
## [19765] 2.583715e+05 1.686847e+04 1.458347e+04 3.300249e+04
## [19769] 1.692434e+04 2.014124e+04 1.374436e+04 1.335996e+04
```

```
## [19769] 1.602434e+04 2.014124e+04 1.374436e+04 1.335006e+04
## [19773] 2.775107e+04 1.257596e+04 1.458434e+04 9.304699e+03
## [19777] 2.067758e+04 7.376149e+05 9.287042e+05 1.500403e+04
## [19781] 2.980759e+05 1.455515e+04 1.425045e+04 1.634145e+04
## [19785] 1.368834e+04 1.592581e+04 1.656327e+04 1.235563e+04
## [19789] 4.977892e+04 3.495268e+04 1.485017e+05 1.594637e+04
## [19793] 1.498764e+04 2.775152e+04 1.520642e+04 1.643181e+04
## [19797] 4.323657e+04 1.680870e+04 3.673646e+04 1.484124e+04
## [19801] 1.463862e+04 2.093414e+04 2.497019e+04 2.845759e+04
## [19805] 1.551082e+04 1.456538e+04 2.344227e+04 2.157405e+04
## [19809] 1.622496e+04 2.780685e+04 2.111533e+04 2.199849e+04
## [19813] 1.649135e+04 2.730178e+04 2.543768e+05 1.297005e+04
## [19817] 2.887385e+05 2.742271e+04 2.281990e+04 2.624936e+04
## [19821] 2.746709e+04 2.612217e+04 2.488573e+05 1.792756e+04
## [19825] 1.983382e+04 1.553928e+04 7.131160e+04 4.389549e+04
## [19829] 1.708482e+04 1.724060e+04 1.597175e+04 1.627634e+04
## [19833] 1.595154e+04 2.166345e+04 1.636827e+04 2.105283e+04
## [19837] 2.727198e+05 2.202849e+04 1.572653e+04 2.084487e+04
## [19841] 1.404250e+04 2.290865e+05 1.581549e+04 3.323968e+02
## [19845] 1.573996e+04 2.593861e+04 1.444145e+04 3.044168e+04
## [19849] 1.481212e+04 2.092817e+04 2.239202e+04 1.516991e+04
## [19853] 1.479217e+04 2.543219e+04 1.456779e+04 2.309181e+04
## [19857] 1.662457e+04 2.475274e+04 2.061149e+04 1.475162e+04
## [19861] 1.523781e+04 2.239185e+04 2.440785e+04 2.081814e+04
## [19865] 2.157937e+04 1.524773e+04 1.927885e+04 2.003099e+04
## [19869] 1.467020e+04 1.555439e+04 1.636563e+04 3.754615e+04
## [19873] 1.130665e+05 1.968331e+05 1.147264e+06 3.284248e+04
## [19877] 1.597387e+04 2.521080e+04 1.408441e+04 4.528882e+04
## [19881] 2.796775e+04 1.578710e+04 2.645330e+04 2.090461e+04
## [19885] 1.588194e+04 1.642047e+04 1.520299e+04 3.940493e+04
## [19889] 1.363856e+04 2.297637e+04 1.459696e+04 2.018819e+04
## [19893] 1.705845e+04 2.067921e+05 2.276849e+05 1.669596e+04
## [19897] 1.071198e+05 1.482169e+04 2.518468e+05 2.762578e+04
## [19901] 3.224316e+05 1.598535e+04 3.872754e+04 2.319818e+04
## [19905] 2.293544e+04 1.604428e+04 1.486719e+04 1.751360e+04
## [19909] 1.602995e+04 1.677773e+04 4.735163e+05 2.129114e+04
## [19913] 1.028231e+04 2.259060e+04 1.333668e+04 1.692174e+04
## [19917] 2.145241e+04 1.461309e+04 2.024019e+04 1.402216e+05
## [19921] 2.353840e+04 2.080649e+04 2.680611e+04 2.036307e+04
## [19925] 2.084261e+04 1.541318e+04 2.547764e+04 2.099325e+04
## [19929] 3.647128e+05 2.884153e+04 2.278250e+04 2.247514e+04
## [19933] 1.612095e+04 9.027828e+05 1.484646e+04 4.329432e+05
## [19937] 2.109404e+04 2.298326e+05 1.586320e+04 1.887612e+04
## [19941] 1.618336e+04 2.134259e+04 1.532440e+04 1.445809e+04
## [19945] 1.579343e+04 6.290417e+05 2.311191e+04 1.978648e+04
## [19949] 2.087985e+04 1.826633e+05 1.596065e+04 3.632052e+04
## [19953] 2.692546e+04 1.500163e+04 1.548352e+04 1.344508e+04
## [19957] 1.506865e+04 1.501449e+04 2.202091e+04 1.799253e+04
## [19961] 1.576037e+04 1.325545e+04 1.731123e+04 1.609160e+04
## [19965] 2.644215e+04 1.500487e+04 1.431366e+04 2.594346e+04
## [19969] 3.311329e+04 1.651059e+04 2.687846e+04 1.563857e+04
## [19973] 1.439633e+04 1.322664e+04 1.408441e+04 1.911167e+04
## [19977] 1.600127e+04 1.761127e+04 1.489147e+04 1.599378e+04
## [19981] 2.008048e+04 2.670101e+04 1.508960e+04 1.565463e+04
## [19985] 1.018275e+04 8.633834e+03 1.964655e+04 1.365514e+04
## [19989] 1.724831e+04 5.446216e+04 9.070075e+03 1.628941e+04
## [19993] 1.562135e+04 1.423442e+04 1.570028e+04 1.664102e+04
## [19997] 4.313652e+04 1.368743e+04 2.992299e+04 1.534221e+04
## [20001] 2.472155e+04 1.617676e+04 1.437681e+04 1.403566e+04
## [20005] 1.601109e+04 7.390677e+04 6.457167e+04 1.444775e+04
## [20009] 1.625313e+04 1.829056e+04 2.110309e+04 1.636205e+04
## [20013] 6.397241e+04 1.765051e+04 1.610066e+04 1.908020e+05
## [20017] 1.563812e+04 2.024692e+04 1.574781e+04 1.423043e+04
## [20021] 5.170313e+05 6.159368e+04 2.257033e+04 1.602832e+04
## [20025] 1.470295e+04 1.978391e+04 1.305212e+04 2.129217e+04
## [20029] 1.797821e+04 1.582807e+04 2.796191e+04 9.233857e+05
## [20033] 1.514935e+04 1.466827e+04 2.035012e+04 1.512124e+04
## [20037] 4.016155e+04 1.439551e+04 1.571214e+04 1.571993e+04
## [20041] 1.605149e+04 2.214008e+04 1.254167e+04 2.215747e+04
## [20045] 2.235207e+04 6.081407e+04 1.442459e+04 3.443471e+04
## [20049] 2.384710e+04 2.658664e+04 1.619319e+04 2.706998e+04
## [20053] 1.952540e+04 2.191569e+04 1.627011e+04 1.700812e+04
## [20057] 7.576511e+04 2.566571e+04 3.287176e+04 8.685377e+03
## [20061] 3.171631e+04 2.033253e+04 2.834704e+04 2.450704e+04
## [20065] 1.387472e+04 1.464282e+04 2.713140e+04 2.109404e+04
## [20069] 2.572030e+04 1.424702e+04 2.117767e+04 1.894633e+04
```

```
## [20073] 1.798484e+04 1.515613e+04 2.026268e+04 1.487706e+04
## [20077] 2.656602e+04 1.623051e+04 5.226649e+04 1.970223e+04
## [20081] 2.490476e+05 3.178677e+04 1.468596e+04 1.029387e+04
## [20085] 1.577751e+04 2.202747e+04 1.641695e+04 1.977786e+04
## [20089] 1.427447e+04 2.248755e+04 1.650728e+04 1.629021e+04
## [20093] 1.886502e+04 2.060045e+04 2.017290e+04 1.934154e+04
## [20097] 1.642042e+04 1.599108e+04 2.180401e+04 1.973290e+04
## [20101] 9.254826e+03 2.060164e+04 1.399804e+04 1.677773e+04
## [20105] 2.080175e+04 2.078225e+04 1.464431e+04 2.942430e+04
## [20109] 1.006475e+05 1.419544e+04 1.838470e+04 1.132333e+05
## [20113] 2.131727e+04 1.695458e+04 1.743060e+04 1.462291e+04
## [20117] 1.436317e+04 1.497830e+04 4.325612e+04 1.302673e+05
## [20121] 5.821910e+04 2.508456e+04 1.483292e+04 1.446760e+04
## [20125] 2.030505e+04 1.609047e+04 2.827576e+04 2.700154e+04
## [20129] 1.838588e+04 2.077719e+04 2.751363e+04 2.135214e+04
## [20133] 1.131868e+05 8.754825e+04 1.528393e+04 1.298415e+04
## [20137] 2.119308e+04 1.537394e+04 2.136494e+04 5.694235e+05
## [20141] 1.528270e+04 1.484147e+04 2.177246e+04 1.392391e+04
## [20145] 2.818676e+04 1.649046e+05 1.423361e+04 1.593358e+04
## [20149] 2.607867e+04 1.947644e+04 2.276676e+05 1.540737e+04
## [20153] 1.710358e+04 3.770714e+04 8.725259e+05 2.135678e+04
## [20157] 1.550001e+04 1.418860e+04 1.540157e+04 1.295514e+04
## [20161] 1.441591e+04 2.213343e+04 2.748400e+04 1.552005e+04
## [20165] 1.531367e+04 6.698311e+04 1.656884e+04 2.133054e+04
## [20169] 1.470209e+04 2.110126e+04 1.426521e+04 1.580707e+04
## [20173] 2.981864e+04 2.570886e+04 1.622397e+04 2.763826e+04
## [20177] 1.384315e+04 1.488989e+04 1.527039e+04 1.518419e+04
## [20181] 1.589416e+04 1.113537e+04 1.669813e+04 2.002130e+04
## [20185] 1.443411e+05 2.510405e+04 1.797600e+04 2.326295e+04
## [20189] 2.624690e+04 1.535719e+04 1.478132e+04 1.582373e+04
## [20193] 1.558126e+04 2.524939e+04 1.528270e+04 5.236873e+05
## [20197] 1.457901e+04 2.317263e+04 1.618100e+04 1.602509e+04
## [20201] 7.108098e+04 1.065502e+05 1.569837e+04 2.042375e+05
## [20205] 2.674638e+04 2.082398e+04 1.476910e+04 1.472460e+04
## [20209] 1.475087e+04 8.053062e+03 1.472668e+04 6.908056e+05
## [20213] 6.201556e+05 1.463862e+04 1.668361e+04 2.833979e+04
## [20217] 1.538182e+04 2.810343e+04 1.400754e+04 4.855261e+04
## [20221] 5.075442e+04 1.567282e+04 2.105409e+04 4.320972e+05
## [20225] 2.162013e+04 1.265847e+04 1.611011e+04 2.102739e+04
## [20229] 2.089158e+04 1.411400e+04 1.832281e+04 2.119109e+04
## [20233] 1.345827e+04 1.599092e+04 2.641950e+04 1.915113e+04
## [20237] 1.447562e+04 1.484501e+04 4.244706e+05 7.441058e+05
## [20241] 1.563968e+04 1.342188e+04 1.613829e+04 2.960653e+04
## [20245] 2.190658e+04 4.090288e+05 1.543310e+04 1.477706e+04
## [20249] 1.565299e+04 1.654933e+04 2.853940e+04 1.556503e+04
## [20253] 2.258900e+04 2.094943e+04 1.674466e+04 2.775985e+04
## [20257] 2.201681e+04 2.313447e+04 2.656202e+05 2.487874e+04
## [20261] 8.430631e+03 2.049788e+04 1.594668e+04 2.337883e+04
## [20265] 1.497830e+04 1.495774e+04 1.499235e+04 1.227233e+05
## [20269] 1.508692e+04 2.611651e+04 2.107902e+04 1.469460e+04
## [20273] 1.567537e+04 2.563618e+04 2.148935e+04 1.455421e+04
## [20277] 3.006813e+04 5.590076e+05 4.848406e+04 1.474990e+04
## [20281] 1.503400e+04 2.010198e+04 3.675704e+04 3.676419e+04
## [20285] 1.332075e+04 1.017943e+05 6.165766e+04 1.600939e+04
## [20289] 2.169555e+04 1.359521e+04 1.624643e+04 1.101976e+04
## [20293] 1.551477e+04 1.494883e+04 1.354452e+04 1.381452e+04
## [20297] 1.547105e+04 1.424035e+04 1.021154e+04 1.414699e+04
## [20301] 1.559418e+04 1.966976e+04 1.859802e+04 2.284843e+04
## [20305] 2.108136e+04 1.617386e+04 1.660423e+04 1.430397e+04
## [20309] 2.248050e+04 1.688148e+04 1.554929e+04 3.300661e+04
## [20313] 1.685665e+05 3.268706e+05 5.943205e+04 1.588253e+04
## [20317] 2.018902e+04 1.675784e+04 2.045757e+04 2.213062e+04
## [20321] 2.299386e+04 1.508195e+04 1.429224e+04 1.535220e+04
## [20325] 1.571797e+04 1.438394e+04 1.608492e+04 1.420365e+04
## [20329] 1.526499e+04 1.532612e+04 1.391839e+04 2.117251e+04
## [20333] 1.754368e+04 1.324979e+04 1.451009e+04 2.373177e+05
## [20337] 2.608835e+04 2.513931e+04 6.076942e+04 2.102551e+04
## [20341] 2.147684e+04 4.431257e+05 1.602894e+04 2.504074e+04
## [20345] 7.679873e+05 2.101638e+04 1.961547e+05 1.564852e+04
## [20349] 1.573598e+04 3.635460e+04 4.312228e+04 2.127714e+04
## [20353] 1.363406e+04 7.592690e+03 2.140392e+04 1.501424e+04
## [20357] 2.600923e+05 1.484662e+04 2.809497e+04 1.717779e+04
## [20361] 2.176186e+04 1.696119e+04 1.230713e+05 1.408299e+04
## [20365] 2.159140e+04 1.458628e+04 1.397789e+05 1.880689e+04
## [20369] 1.053978e+05 4.867931e+05 3.767258e+04 1.532067e+04
```

```
## [20373] 1.540356e+04 1.556241e+04 1.934118e+04 2.012369e+04
## [20377] 1.497452e+04 1.382497e+04 1.683518e+04 1.437134e+04
## [20381] 1.728806e+04 1.489250e+04 1.599230e+04 2.093160e+05
## [20385] 7.916989e+03 1.402326e+04 1.002170e+05 2.075175e+04
## [20389] 1.880730e+04 4.458581e+04 1.661773e+04 1.511391e+04
## [20393] 7.883567e+04 2.893216e+04 2.203865e+04 1.563373e+04
## [20397] 1.351128e+04 1.507370e+04 3.065618e+04 1.984208e+04
## [20401] 2.712392e+04 2.286088e+04 1.750710e+04 6.061937e+04
## [20405] 7.827559e+04 3.544513e+05 2.106378e+04 1.517091e+04
## [20409] 2.702017e+04 1.681678e+04 2.081434e+04 2.018453e+04
## [20413] 1.431618e+04 2.081428e+04 1.901225e+04 1.366255e+04
## [20417] 2.342629e+05 2.099191e+04 1.243473e+05 3.367604e+04
## [20421] 6.426860e+04 1.952604e+04 1.587072e+04 4.154407e+04
## [20425] 2.181378e+04 1.519549e+04 1.590983e+04 1.550279e+04
## [20429] 1.679260e+04 2.505369e+04 1.247172e+04 2.635838e+04
## [20433] 1.466501e+04 2.237568e+04 2.226276e+04 1.514515e+04
## [20437] 2.778485e+05 2.338472e+04 2.174430e+04 1.485117e+04
## [20441] 1.355501e+04 1.161219e+04 2.622046e+04 7.382521e+04
## [20445] 1.462338e+04 1.467613e+04 2.970942e+04 1.609142e+05
## [20449] 1.460888e+04 6.441860e+04 1.447075e+04 1.979696e+04
## [20453] 1.658509e+04 2.929435e+05 2.189168e+04 8.189493e+03
## [20457] 4.607164e+05 2.120441e+04 1.508187e+04 5.971234e+05
## [20461] 2.160417e+04 3.187633e+04 6.543605e+04 1.483061e+04
## [20465] 1.556083e+04 9.559144e+03 2.016735e+04 2.631120e+04
## [20469] 1.384477e+04 3.811890e+04 1.520525e+04 2.041970e+04
## [20473] 2.323568e+04 1.456231e+04 2.216497e+04 1.405525e+04
## [20477] 3.286613e+04 2.163086e+04 1.510160e+04 1.565833e+04
## [20481] 4.798909e+04 2.862229e+04 2.111286e+04 1.905477e+04
## [20485] 1.097896e+05 3.577791e+04 2.437441e+04 2.668588e+04
## [20489] 1.492353e+04 1.568968e+04 2.086263e+04 3.463304e+04
## [20493] 5.137169e+04 1.482944e+04 8.929289e+04 2.634174e+04
## [20497] 2.287935e+05 2.060250e+04 1.671343e+04 5.446344e+05
## [20501] 1.611132e+04 2.038081e+04 2.117403e+04 2.214313e+04
## [20505] 1.615191e+04 3.570676e+05 3.528274e+05 4.523944e+04
## [20509] 2.755769e+04 2.473818e+04 2.014482e+04 2.866300e+04
## [20513] 1.962937e+04 2.112577e+04 2.097870e+04 1.479953e+04
## [20517] 1.589737e+04 1.504016e+04 2.435444e+05 1.561963e+04
## [20521] 1.433129e+04 2.534532e+05 2.033482e+04 1.581029e+05
## [20525] 1.570820e+05 1.588055e+04 2.128248e+04 2.170800e+04
## [20529] 2.299563e+04 1.521805e+04 2.365900e+04 1.505319e+04
## [20533] 2.170109e+04 2.117206e+04 2.192481e+04 1.993310e+04
## [20537] 1.538538e+04 1.541247e+04 5.011828e+04 1.636899e+04
## [20541] 1.234117e+04 2.218118e+05 1.016592e+05 1.426051e+04
## [20545] 2.590087e+04 1.546933e+04 1.561214e+04 2.157900e+04
## [20549] 2.526729e+04 1.514679e+04 2.136222e+04 1.510968e+04
## [20553] 1.309273e+04 1.577025e+04 2.163665e+04 1.583699e+04
## [20557] 4.728818e+05 2.226731e+04 1.577758e+04 3.481272e+05
## [20561] 1.163658e+04 8.830900e+03 2.737719e+04 1.345741e+04
## [20565] 1.597914e+04 2.106091e+04 3.838655e+04 9.358905e+03
## [20569] 2.023967e+04 2.098831e+04 1.432669e+04 2.198903e+04
## [20573] 1.465113e+04 2.224825e+04 1.293989e+04 1.679751e+04
## [20577] 3.363728e+04 1.224275e+04 1.601976e+04 2.767787e+04
## [20581] 1.604083e+04 1.515384e+04 1.360427e+04 1.391869e+04
## [20585] 1.397960e+04 1.603599e+04 2.148655e+04 2.070160e+04
## [20589] 2.139802e+04 2.122245e+04 2.133827e+04 2.086216e+04
## [20593] 2.170689e+04 1.997847e+04 3.814790e+04 1.622523e+04
## [20597] 2.430363e+04 2.183467e+04 5.218431e+04 1.529441e+04
## [20601] 2.137818e+04 2.178879e+04 2.134887e+05 1.504239e+05
## [20605] 2.011413e+04 1.051107e+05 2.087239e+04 2.082727e+04
## [20609] 2.492269e+04 1.658838e+04 1.755003e+05 2.978371e+04
## [20613] 2.108863e+04 2.017736e+04 1.991575e+04 4.311409e+04
## [20617] 1.506246e+04 5.659307e+04 1.556602e+04 1.741245e+05
## [20621] 1.511100e+04 1.525953e+04 1.682557e+04 1.842125e+04
## [20625] 1.434454e+04 1.938392e+04 2.703325e+04 1.625270e+04
## [20629] 1.589067e+04 1.777463e+05 2.020044e+04 1.604527e+04
## [20633] 1.576767e+04 1.661586e+04 1.661578e+04 2.678866e+04
## [20637] 3.577885e+04 4.147073e+04 8.572390e+04 8.825928e+03
## [20641] 1.574211e+04 2.007959e+04 1.992963e+04 2.073548e+04
## [20645] 1.269605e+04 1.467732e+04 1.664424e+04 1.619326e+04
## [20649] 2.054557e+04 1.712688e+04 2.072369e+04 3.006824e+04
## [20653] 2.626229e+04 1.583401e+04 1.514156e+04 1.523663e+04
## [20657] 1.985115e+04 2.722050e+04 1.368838e+04 1.251621e+04
## [20661] 2.098642e+04 1.782449e+04 2.076787e+04 1.471774e+04
## [20665] 2.094658e+04 1.538869e+04 1.965893e+04 8.065874e+04
## [20669] 2.701587e+04 1.546221e+04 8.962410e+03 2.239617e+04
## [20673] 2.655632e+04 1.665916e+04 1.572835e+04 2.871653e+04
```

```
## [20673] 2.055652e+04 1.665910e+04 1.372855e+04 2.871655e+04
## [20677] 2.090192e+04 1.626460e+04 1.707952e+04 1.455424e+04
## [20681] 2.740379e+04 1.501377e+04 2.360605e+04 1.511982e+04
## [20685] 2.000549e+04 1.991076e+04 1.588476e+04 1.506679e+04
## [20689] 1.508579e+04 2.200478e+04 5.670222e+04 8.506049e+04
## [20693] 1.813296e+04 8.731769e+04 4.820497e+04 3.587212e+04
## [20697] 2.016794e+04 2.866659e+04 1.980491e+04 2.025613e+04
## [20701] 4.799155e+04 1.605136e+04 1.945523e+04 6.372828e+04
## [20705] 7.553925e+04 1.665615e+04 3.965341e+04 5.540379e+03
## [20709] 2.179350e+04 2.052521e+04 3.536409e+04 5.143789e+04
## [20713] -4.550243e+03 2.826975e+03 2.033425e+04 1.033556e+04
## [20717] 1.424313e+04 3.683962e+04 1.725618e+04 1.218081e+04
## [20721] 4.274827e+04 4.416232e+04 1.713058e+05 2.647340e+04
## [20725] 6.445138e+04 3.791050e+04 5.847781e+04 1.825748e+04
## [20729] 5.930403e+05 4.248529e+05 2.711039e+05 2.657561e+05
## [20733] 3.414475e+05 2.522365e+04 2.951322e+03 3.053549e+04
## [20737] 3.650194e+04 1.128974e+04 3.948636e+03 1.010382e+04
## [20741] 2.495633e+01 5.848938e+02 2.164932e+03 1.214474e+04
## [20745] 1.505858e+04 2.260679e+03 9.903358e+02 3.557598e+03
## [20749] 8.952949e+04 2.516278e+03 2.735365e+03 -4.264015e+03
## [20753] 5.570640e+04 8.315644e+03 3.874598e+03 3.213073e+03
## [20757] 2.237373e+03 2.880090e+03 2.414568e+03 2.684805e+03
## [20761] 7.779878e+02 1.599007e+03 3.834212e+04 2.300321e+03
## [20765] 2.300321e+03 8.247287e+03 1.103565e+03 1.585125e+03
## [20769] 1.112331e+04 -4.836294e+03 3.101122e+04 3.005592e+03
## [20773] 8.075342e+03 1.289529e+04 9.827618e+03 3.364771e+03
## [20777] 1.178269e+04 1.027077e+04 1.318876e+03 9.403984e+03
## [20781] 8.872310e+03 3.619204e+03 2.083909e+03 9.404152e+03
## [20785] 1.118906e+04 -4.469840e+03 -4.547428e+03 3.147223e+03
## [20789] 1.067227e+04 2.030035e+03 2.770679e+03 2.112614e+03
## [20793] 6.849939e+04 1.221765e+03 8.188954e+02 1.196897e+05
## [20797] -3.679866e+03 3.360801e+03 1.103356e+04 1.046238e+03
## [20801] 2.110145e+03 3.550386e+03 5.117243e+03 1.044318e+04
## [20805] 1.690251e+04 2.611396e+03 1.876596e+03 1.119905e+04
## [20809] 2.224175e+03 5.114159e+05 2.703136e+03 1.583429e+04
## [20813] 1.585125e+03 3.777396e+03 1.655463e+04 1.724010e+04
## [20817] 1.013641e+03 2.304639e+03 3.166420e+03 -5.542990e+03
## [20821] 3.063592e+03 1.003052e+04 1.134709e+06 2.401436e+03
## [20825] 1.538853e+04 8.941450e+03 1.148966e+04 3.613579e+03
## [20829] -1.258424e+03 2.803317e+03 -3.073643e+03 1.065101e+04
## [20833] -1.004382e+03 2.327171e+03 -7.034030e+03 -4.529882e+03
## [20837] -5.087316e+03 2.066369e+03 2.552275e+04 -2.784521e+03
## [20841] -5.322505e+03 6.412365e+01 -5.116699e+03 9.714820e+03
## [20845] 9.272458e+03 2.611848e+03 1.850471e+03 2.220308e+03
## [20849] -3.507229e+03 2.334432e+04 9.459776e+03 -5.345983e+03
## [20853] 3.192940e+03 4.200940e+05 3.133294e+03 3.403795e+03
## [20857] 1.135300e+04 -5.433688e+03 -5.295155e+03 -4.719088e+03
## [20861] 1.070830e+03 1.036718e+04 2.413412e+03 8.666318e+03
## [20865] 2.792793e+03 -5.386845e+03 3.400780e+03 3.843783e+03
## [20869] 1.091517e+03 -5.496901e+03 -1.651451e+03 2.896529e+04
## [20873] 1.397997e+04 2.510175e+03 2.063790e+03 -7.775345e+03
## [20877] 3.029285e+03 1.060769e+03 -4.810169e+03 -2.646250e+04
## [20881] -4.818227e+03 3.076778e+03 1.221765e+03 -4.602330e+03
## [20885] -5.302200e+03 1.717824e+04 6.953097e+03 2.858215e+03
## [20889] 9.880317e+03 1.331328e+04 2.191910e+03 1.284966e+03
## [20893] -6.533858e+03 2.033508e+03 -5.710581e+03 9.627077e+03
## [20897] -3.414273e+03 9.922492e+03 1.995810e+04 -5.980894e+03
## [20901] -5.030639e+03 2.909428e+03 1.015067e+04 1.962317e+04
## [20905] 1.927596e+03 1.470451e+04 -3.770971e+03 -8.499228e+03
## [20909] 2.390645e+03 4.586501e+03 3.276045e+03 1.803628e+03
## [20913] 2.639855e+03 -3.513261e+03 9.294515e+03 2.538974e+03
## [20917] 1.796515e+04 3.582100e+03 5.410336e+05 1.938357e+03
## [20921] 2.127222e+03 -4.228592e+03 8.051864e+05 1.033109e+04
## [20925] 3.337612e+03 -7.573955e+02 2.307974e+03 -5.026067e+03
## [20929] 4.107404e+03 3.081820e+03 1.089425e+04 -4.713293e+03
## [20933] 2.716000e+03 2.636989e+03 3.139155e+03 7.824666e+03
## [20937] 9.003639e+03 -5.410110e+03 1.669130e+03 2.154783e+05
## [20941] 3.399032e+03 2.951546e+04 1.458922e+03 2.570380e+04
## [20945] 2.437033e+03 1.758554e+03 -3.969585e+03 1.689704e+05
## [20949] 2.238560e+05 -4.116491e+03 1.815965e+04 -4.652182e+03
## [20953] -4.800943e+03 -4.830841e+03 -3.826928e+03 3.836950e+03
## [20957] -2.312653e+03 1.015973e+04 -3.209850e+03 -5.134743e+03
## [20961] 3.511097e+03 -4.872002e+03 -6.010364e+03 9.645143e+03
## [20965] 1.243213e+03 -4.671636e+03 -4.734596e+03 1.452074e+03
## [20969] 4.150717e+03 -4.510357e+03 1.001494e+04 2.111063e+03
## [20973] 1.274377e+04 1.890513e+03 2.310632e+04 -5.191931e+03
```

```
## [20977]  1.582942e+04  8.822440e+03  1.692346e+03  2.252905e+03
## [20981] -4.756493e+03  3.621625e+03  8.914580e+03  3.990505e+03
## [20985]  3.942878e+03  8.303985e+02  9.309908e+03  9.789925e+03
## [20989]  2.939384e+03  2.750909e+03  1.005868e+03  2.668585e+03
## [20993]  2.889669e+03  9.640554e+03  1.179506e+03  2.013476e+03
## [20997]  6.945051e+03  1.530223e+03  4.062908e+03 -5.079270e+03
## [21001]  2.335229e+03 -4.164570e+03  2.957356e+03  1.081697e+04
## [21005]  2.054979e+04  2.814585e+03  1.544195e+03  2.880751e+03
## [21009]  1.097043e+04  2.634833e+03  4.373754e+03  1.676802e+03
## [21013]  3.766466e+03  1.222566e+05  3.398077e+03  2.099072e+02
## [21017]  2.068052e+03  3.171741e+03 -1.266181e+03 -6.605152e+03
## [21021]  3.041003e+03  1.007383e+04  8.355529e+03  3.138134e+04
## [21025] -5.557896e+03  3.154673e+04  8.205151e+03 -6.110982e+03
## [21029] -5.549910e+03  3.166588e+03  2.684303e+03  8.717980e+03
## [21033]  2.795812e+04 -6.181415e+03  2.569421e+03  1.733073e+03
## [21037] -3.529215e+03  1.021503e+04  1.629387e+03 -5.303997e+03
## [21041]  3.068732e+03  9.625022e+03  6.061139e+03  2.874137e+03
## [21045] -5.582853e+03  9.003993e+03  5.157309e+01  1.597395e+04
## [21049]  2.696117e+03  6.096981e+05  5.444723e+04  1.169445e+03
## [21053]  1.255091e+03  7.845072e+05  9.957070e+03 -4.347647e+03
## [21057]  9.772201e+03  8.523484e+03  4.420264e+03  7.743131e+03
## [21061]  2.125703e+03  9.216036e+03  2.680296e+03  2.102224e+03
## [21065]  2.535967e+04 -9.077284e+03  8.300070e+03  1.803628e+03
## [21069]  1.351370e+03 -4.963108e+03  1.023524e+04  1.041751e+04
## [21073]  8.601356e+03 -5.710835e+03  2.947155e+03  1.547726e+04
## [21077]  1.585125e+03  9.938718e+03 -5.586626e+03 -2.739831e+03
## [21081] -4.360573e+03  1.837226e+03  2.154490e+03  8.120775e+03
## [21085]  2.262966e+03  1.050490e+04  2.224175e+03 -4.678955e+03
## [21089] -3.282797e+03 -5.702523e+03 -3.673205e+03  2.520692e+03
## [21093]  1.421547e+03  1.849301e+03  6.696310e+05  1.298880e+03
## [21097] -4.526756e+03  3.298085e+03  2.756139e+03  3.069733e+03
## [21101]  3.200986e+03  9.188541e+03  2.777261e+03 -4.784742e+03
## [21105]  2.750741e+03  2.696841e+03  8.473336e+03  2.661099e+03
## [21109]  6.183807e+03  1.004250e+04  2.846220e+03  1.560639e+04
## [21113]  7.761272e+03  9.219880e+03  6.169191e+03 -4.987077e+03
## [21117]  1.167018e+04  8.550408e+03  2.422203e+03  3.323683e+03
## [21121]  3.537309e+03  9.374459e+03  2.796654e+03  2.802320e+03
## [21125] -5.278548e+03 -4.599960e+03  8.691221e+03  2.546797e+03
## [21129]  8.641351e+03 -5.332311e+03  4.956433e+03  3.559753e+03
## [21133]  1.873746e+03  1.532079e+03  2.019139e+03  2.175785e+03
## [21137]  6.032524e+03  1.051184e+04 -5.818435e+03 -5.328446e+03
## [21141] -6.361043e+03  3.276134e+03  2.808753e+03 -4.917756e+03
## [21145] -4.271924e+03  3.387091e+03  2.528421e+03  3.248559e+03
## [21149]  1.119544e+04  3.422152e+03  2.646057e+03  1.625419e+03
## [21153]  4.463244e+03 -3.740039e+03  3.331675e+03  1.485966e+04
## [21157]  2.553179e+03  1.559291e+04  3.197871e+03  6.185419e+03
## [21161]  1.328701e+03  3.555573e+03 -1.274281e+03  8.323049e+03
## [21165] -4.912767e+03  4.381597e+03 -4.932176e+03  4.351181e+03
## [21169]  1.697734e+04  2.317758e+05 -8.896468e+03  1.638001e+03
## [21173]  1.836901e+03  2.556170e+03  1.684111e+04  1.060111e+04
## [21177]  8.396468e+03 -5.818435e+03  1.670613e+04  2.874854e+03
## [21181]  4.066309e+03 -6.109906e+03  9.424512e+03  2.663149e+03
## [21185]  4.850778e+03 -4.498878e+03  2.713091e+03  7.230141e+03
## [21189]  3.079974e+03  8.682424e+04  1.324239e+03  2.469854e+03
## [21193]  1.107383e+04  1.049474e+04  3.331675e+03  3.425025e+03
## [21197] -8.618195e+03  1.089071e+04  2.155598e+03  1.642758e+03
## [21201]  8.640093e+03  4.997731e+02  2.140054e+03  2.001521e+03
## [21205]  8.549082e+03  9.161630e+05  9.647690e+03  2.450350e+03
## [21209]  2.832879e+03  1.189404e+04 -4.498846e+03 -4.431646e+03
## [21213] -3.557694e+03  1.212923e+04  2.286698e+03 -4.817856e+03
## [21217]  4.273601e+03  1.706288e+03  2.502224e+03 -4.987077e+03
## [21221] -3.156162e+03  3.619242e+03 -5.387212e+03  3.153139e+03
## [21225]  1.039331e+04 -3.750210e+03  2.295006e+03 -3.598213e+03
## [21229]  1.101869e+03  4.253191e+03  1.200452e+03  3.931670e+03
## [21233]  9.653344e+03 -4.537676e+03  3.820484e+03 -4.227654e+03
## [21237]  1.851200e+03 -4.710805e+03  9.286593e+03  3.126128e+03
## [21241] -8.883223e+03 -8.954173e+02  1.786231e+03  1.018547e+04
## [21245]  2.040643e+03  1.123007e+04  1.095322e+04  2.372774e+04
## [21249] -4.553780e+03  3.916291e+03  9.930045e+03  6.043964e+03
## [21253] -1.002106e+04 -1.578948e+03  1.598789e+04  1.324239e+03
## [21257]  9.492674e+03  1.524927e+03 -4.764979e+03  1.008647e+04
## [21261]  9.573061e+03  2.625040e+03  3.161321e+03  2.832879e+03
## [21265] -4.660875e+03 -6.019841e+03  2.798995e+03 -5.015807e+03
## [21269]  1.951942e+03 -6.594892e+03  9.365221e+03  3.269062e+03
## [21273] -4.832006e+03  1.076817e+04 -9.773480e+02  5.646052e+03
## [21277]  7.635146e+03  2.572351e+03  1.449040e+03  4.292113e+03
```

```
## [21277]  7.635146e+03  2.573351e+03  1.449948e+03 -4.293113e+03
## [21281]  1.332089e+04  2.017065e+03  1.142797e+04  1.794987e+03
## [21285]  6.090520e+03  2.518449e+03 -4.724336e+03  2.209360e+03
## [21289]  9.514366e+03  9.192592e+03  2.285447e+03  8.475647e+02
## [21293]  4.481988e+03  1.498459e+04  1.992953e+03  1.415178e+03
## [21297]  1.994028e+03 -5.772006e+02  3.962143e+03  1.607478e+03
## [21301]  1.731863e+04  1.461519e+03  4.777970e+03  1.041766e+04
## [21305] -2.908681e+03  1.195776e+04 -6.026275e+03  1.057060e+04
## [21309] -4.595436e+03  9.771965e+03  8.250958e+02 -4.026507e+03
## [21313] -4.571398e+03  1.018500e+03  1.037012e+04  1.410280e+04
## [21317] -6.008657e+03  1.098329e+04  1.033633e+04  9.472776e+04
## [21321]  2.397886e+03  5.045057e+03  2.939745e+03 -4.932176e+03
## [21325]  2.553179e+03  9.226659e+03  8.122309e+03  1.615190e+03
## [21329]  3.164193e+03  1.230347e+03  1.111006e+04  8.949542e+03
## [21333]  2.940434e+03 -5.076338e+03  2.343072e+03 -4.856933e+03
## [21337]  2.739534e+03  1.045267e+04  2.140054e+03  4.631575e+03
## [21341]  2.014042e+03  4.542836e+03 -4.763694e+03  4.028157e+03
## [21345]  2.306237e+03 -3.211638e+03 -5.818435e+03  9.770790e+03
## [21349]  1.410713e+03 -3.230007e+03  1.087994e+04  1.448447e+03
## [21353]  2.560320e+03  4.054830e+03  1.864126e+03  1.035687e+04
## [21357]  4.799142e+02  1.477910e+04  9.655678e+03  9.238889e+03
## [21361] -1.504476e+02  3.121114e+03  1.755356e+03  2.163103e+03
## [21365] -4.289248e+03  3.825748e+03  2.741500e+03  3.713501e+03
## [21369]  1.882757e+04  1.279525e+03  2.157672e+03  4.742891e+03
## [21373]  4.817977e+03  3.136979e+03  3.517384e+03  2.125567e+03
## [21377]  1.028324e+04  1.870654e+03  2.495685e+03  3.343371e+03
## [21381]  3.946171e+03  2.837882e+03  2.629038e+03  1.551028e+03
## [21385] -4.279965e+03 -4.291039e+03  4.709448e+03  4.310044e+03
## [21389] -9.224466e+02  2.024388e+03  1.061498e+03 -4.516496e+03
## [21393]  2.044448e+03  3.886608e+04  1.189100e+04  3.558868e+03
## [21397]  1.085788e+04  9.229567e+03 -5.433339e+03  2.449291e+03
## [21401]  9.343030e+03  1.896945e+03  1.494344e+03 -5.390669e+03
## [21405]  1.308695e+03  9.700649e+03  1.230259e+04 -4.381214e+03
## [21409]  4.715087e+03 -1.547418e+04 -3.669173e+03 -4.302434e+03
## [21413]  2.677214e+03  1.171468e+03  3.851373e+03  9.940702e+03
## [21417]  2.458493e+03  5.129930e+03  1.822897e+04  2.772875e+03
## [21421] -9.600224e+02  9.943911e+03  5.396096e+04  3.634017e+03
## [21425] -4.761619e+03  5.993374e+04  2.681701e+03 -4.806489e+03
## [21429]  2.471367e+03  4.023572e+03  8.922260e+03  3.842536e+03
## [21433]  1.708337e+04  1.044490e+04  3.045722e+03  1.923019e+04
## [21437]  1.072752e+04  9.891756e+03  1.056705e+04  2.148392e+03
## [21441]  3.252550e+03  1.023928e+05  3.181781e+04  1.046050e+04
## [21445]  1.611899e+04  1.693397e+03  3.166287e+03  8.935163e+03
## [21449]  2.651396e+03  9.288563e+03  1.084570e+04  7.500801e+04
## [21453]  8.533863e+03  8.949039e+03  5.668202e+02  6.593591e+05
## [21457]  2.992094e+03  7.600338e+03  3.931035e+04  2.130549e+03
## [21461]  9.835802e+03  1.685017e+03  2.358300e+03  1.060663e+04
## [21465] -4.790350e+03  8.179847e+03  2.348330e+03  1.213570e+04
## [21469]  2.137813e+03  4.970485e+03  3.431887e+03  9.618033e+03
## [21473]  1.366939e+03 -5.209173e+03 -6.172353e+03  9.780900e+03
## [21477] -5.980695e+03  9.170627e+03  9.696862e+04  9.430246e+03
## [21481] -1.421432e+04  1.034750e+05  3.912028e+03  9.426815e+03
## [21485]  1.005033e+04 -1.493698e+02  3.035823e+03 -5.223647e+03
## [21489] -4.663287e+03  9.623228e+02  1.058353e+04  2.155598e+03
## [21493]  9.429400e+03  3.051488e+03  3.540030e+03  2.521683e+03
## [21497]  3.377088e+03  2.217018e+03 -4.845251e+03  9.676197e+03
## [21501]  9.045556e+03  3.600514e+03  3.921539e+03  9.611904e+03
## [21505]  2.100696e+03  2.739534e+03  2.630043e+03  2.121709e+03
## [21509]  3.415783e+03  8.353759e+03  1.949832e+03  2.378332e+03
## [21513]  1.150673e+04  1.557635e+03  1.090078e+04  9.851346e+03
## [21517]  2.608247e+03  1.027933e+04  1.874455e+04 -4.247857e+03
## [21521]  5.240410e+04  8.555213e+03  4.119874e+03  1.137762e+04
## [21525]  1.451310e+05  1.019607e+04  1.658289e+03  1.030484e+04
## [21529]  1.477177e+04  8.962905e+03  1.003045e+04  7.730428e+02
## [21533]  9.468426e+03  1.846820e+04  9.928621e+02  1.071160e+04
## [21537]  4.446732e+03  3.074551e+03 -5.763534e+03 -4.790350e+03
## [21541]  1.146895e+04  7.791459e+03  4.802607e+05  9.705256e+03
## [21545]  2.102244e+03 -5.126652e+03  3.016208e+03 -3.683123e+03
## [21549]  9.430191e+03  8.802284e+02  3.192700e+03  2.690421e+03
## [21553]  9.973104e+03  1.078683e+04  8.842117e+03  3.121157e+03
## [21557] -5.222993e+02  1.612339e+03  3.030759e+03  3.428972e+03
## [21561] -4.637411e+03 -4.790350e+03  7.334993e+03 -3.651055e+03
## [21565] -4.081409e+03  8.999387e+03  2.466383e+03 -4.055549e+03
## [21569]  9.814567e+03  1.780456e+03  9.533016e+03  2.778180e+03
## [21573]  2.085422e+03  4.200364e+03  2.997427e+03  3.542044e+03
## [21577]  3.840492e+04  1.022319e+04  1.850830e+04  1.109665e+04
```

```
## [21581] 3.006153e+03 3.513865e+03 8.640271e+03 -4.881209e+03
## [21585] 3.895640e+03 2.889795e+03 2.498306e+04 -3.853892e+03
## [21589] 2.666976e+03 -5.185106e+03 9.522223e+03 2.662111e+03
## [21593] 3.127378e+03 2.698612e+03 1.190409e+04 5.762770e+02
## [21597] 2.566807e+03 2.808368e+03 1.054501e+04 4.710075e+03
## [21601] 1.177141e+04 -8.465808e+03 3.987681e+03 9.712813e+03
## [21605] 1.789490e+03 3.228250e+03 1.324239e+03 2.924903e+03
## [21609] -4.807967e+03 9.385855e+03 2.577219e+03 -3.849783e+03
## [21613] 1.532079e+03 -3.158602e+03 1.399839e+03 3.069508e+03
## [21617] -4.142473e+03 3.715432e+05 3.442142e+03 9.264630e+03
## [21621] 2.310610e+03 1.911018e+04 -4.147327e+03 3.762760e+03
## [21625] 9.124795e+03 -5.925359e+03 3.219407e+03 1.206158e+04
## [21629] 2.516375e+03 2.332835e+03 2.500832e+03 1.210188e+04
## [21633] 3.739363e+03 1.243903e+04 1.710980e+04 -5.057463e+03
## [21637] -5.953588e+03 3.306077e+03 9.227827e+03 1.997093e+05
## [21641] -4.704126e+03 3.235628e+03 5.131612e+03 9.144195e+03
## [21645] 1.094109e+04 -4.560324e+03 1.641079e+04 9.905109e+03
## [21649] 2.500317e+03 -5.374064e+03 -5.877748e+03 -2.707135e+03
## [21653] 2.373917e+03 1.706652e+03 2.652343e+03 3.244713e+03
## [21657] -5.682035e+03 -4.993159e+03 4.227525e+03 9.715888e+03
## [21661] 3.515991e+03 2.064814e+03 -5.495983e+03 4.902268e+04
## [21665] 2.722138e+03 2.645587e+03 5.257748e+05 1.041766e+04
## [21669] 1.045166e+04 3.836513e+04 -4.878032e+03 2.042717e+03
## [21673] 3.869531e+03 3.453361e+03 7.803644e+03 9.609163e+03
## [21677] 2.601747e+03 1.019858e+04 1.018254e+04 4.457304e+03
## [21681] 8.438208e+03 -6.621102e+03 1.995930e+04 1.236572e+03
## [21685] 2.920039e+03 1.433385e+03 -4.892589e+03 9.616929e+03
## [21689] 6.875198e+02 3.939688e+03 8.552319e+02 3.103432e+04
## [21693] 1.922538e+03 1.077016e+04 2.766140e+03 9.066215e+03
## [21697] 8.276984e+03 8.692664e+03 -4.901693e+03 1.785919e+04
## [21701] 1.057230e+03 1.832443e+03 3.079481e+03 3.548201e+03
## [21705] 2.821159e+03 2.796424e+03 2.345274e+03 1.590178e+03
## [21709] -2.912197e+04 1.159146e+04 9.400248e+03 1.119272e+04
## [21713] 2.470305e+03 2.797788e+03 9.866284e+03 3.135424e+03
## [21717] -4.985325e+03 6.893830e+05 1.017965e+04 8.502667e+03
## [21721] 1.098342e+04 2.032105e+03 3.051793e+03 2.882062e+03
## [21725] 1.671282e+03 1.078565e+04 1.040438e+04 2.135641e+03
## [21729] 5.157836e+03 9.409006e+03 3.150956e+03 3.074298e+03
## [21733] 2.166827e+03 1.072560e+03 7.073955e+02 1.995635e+03
## [21737] 9.450605e+03 2.895878e+04 1.058849e+04 -3.612350e+03
## [21741] 1.182485e+04 -5.918207e+03 -3.678531e+03 1.994243e+03
## [21745] 1.662763e+04 3.140281e+03 2.076236e+03 -6.301669e+03
## [21749] 1.154023e+04 -4.237872e+03 1.903918e+03 1.611514e+05
## [21753] -5.113410e+03 -4.768164e+03 2.464703e+04 1.186037e+04
## [21757] 9.753623e+03 1.488239e+03 3.900769e+03 9.487349e+03
## [21761] -4.846792e+03 8.035330e+05 2.582506e+03 2.792418e+03
## [21765] 3.730380e+03 1.287673e+04 2.321684e+03 -5.109533e+03
## [21769] 7.370943e+02 -2.120960e+03 2.899968e+03 1.631605e+04
## [21773] 6.513667e+03 -4.293554e+03 2.784515e+03 2.781145e+03
## [21777] 2.185857e+03 1.121287e+03 2.647604e+03 9.448288e+03
## [21781] 6.974189e+02 3.767452e+03 -3.794979e+03 2.098687e+04
## [21785] 2.333637e+03 4.057850e+03 2.588838e+03 2.449459e+03
## [21789] -4.921102e+03 2.062171e+03 2.511905e+03 -5.586277e+03
## [21793] 9.274312e+03 1.580500e+04 1.488239e+03 7.154938e+05
## [21797] 3.853999e+03 -3.140528e+02 9.389540e+03 7.655773e+05
## [21801] 2.503377e+04 1.084990e+04 -5.381610e+03 9.279989e+03
## [21805] -4.381214e+03 2.916472e+03 3.190326e+03 9.612912e+03
## [21809] 1.064095e+04 2.279956e+03 1.473720e+03 2.604275e+03
## [21813] 2.211928e+03 -5.357134e+03 3.060681e+02 -3.837912e+03
## [21817] 3.721619e+03 1.062383e+04 1.796370e+04 -6.342829e+03
## [21821] 2.652086e+03 2.956480e+03 2.777997e+03 4.731393e+04
## [21825] 1.820287e+03 2.665542e+03 9.238889e+03 -2.050935e+03
## [21829] 4.195534e+03 2.599957e+03 1.234493e+04 -5.752460e+03
## [21833] 2.592035e+03 9.999814e+03 -4.317487e+03 -5.752460e+03
## [21837] 9.341503e+03 2.752895e+03 2.656649e+03 -6.079367e+03
## [21841] 1.186306e+04 1.090178e+03 1.139984e+04 2.750608e+03
## [21845] 1.007112e+04 2.598732e+03 1.143863e+04 1.760701e+03
## [21849] -5.471347e+03 4.351630e+03 9.621206e+03 -4.486803e+03
## [21853] 4.177650e+03 9.728878e+03 2.615408e+03 1.219602e+03
## [21857] -4.505423e+03 -4.542706e+03 3.135424e+03 -4.750546e+03
## [21861] -6.415349e+03 -4.542706e+03 4.041137e+03 8.262418e+03
## [21865] -6.753965e+03 -5.031947e+03 3.042197e+03 1.808512e+04
## [21869] 3.072244e+03 2.510340e+04 9.220667e+04 2.100646e+03
## [21873] 1.962753e+03 -5.400947e+03 3.882634e+04 5.675391e+02
## [21877] 1.839752e+03 2.224463e+03 2.774814e+03 9.642260e+03
```

```
## [21881] 2.790178e+03  4.546757e+03  1.435471e+03  4.682114e+03
## [21885] 2.225437e+03  1.859090e+03  4.042350e+04  1.976605e+03
## [21889] 7.561185e+02  8.342132e+05 -4.976003e+03  1.521718e+04
## [21893] 1.015337e+04  1.327947e+04  1.064764e+04  2.563377e+03
## [21897] 4.583799e+03  1.527609e+03  3.259632e+03 -5.183843e+03
## [21901] 1.136492e+04  9.380182e+05  1.848583e+03  2.612075e+03
## [21905] -4.381214e+03 -3.624082e+03 -3.841673e+03  4.901824e+02
## [21909] 2.636113e+03  3.161029e+03  5.660414e+02  2.888956e+03
## [21913] 8.862083e+03  8.978234e+03  2.025840e+03  1.241571e+04
## [21917] 2.334817e+03  3.422571e+03  2.824017e+03  2.742773e+03
## [21921] 3.588227e+03  1.676563e+04 -1.327052e+03  9.899390e+03
## [21925] 9.611596e+03 -3.919187e+03  1.621742e+03  3.109355e+03
## [21929] 2.761615e+03  8.167720e+03 -4.968568e+03  3.056869e+03
## [21933] 1.452519e+04  9.588554e+03  3.440091e+03  6.506278e+04
## [21937] 1.686002e+05  2.488602e+03  2.586215e+03  1.570174e+04
## [21941] -5.109533e+03  4.043107e+03  1.693176e+04  3.485090e+03
## [21945] -4.294567e+03  1.960906e+03  1.111929e+03  1.076443e+04
## [21949] 2.649358e+03 -6.168139e+03  3.143411e+03  2.537626e+03
## [21953] 1.247582e+04  2.248471e+03  1.054370e+04  3.409112e+03
## [21957] 1.013670e+04  4.397654e+04  3.002214e+03  2.376585e+03
## [21961] 1.089647e+04 -5.626616e+03  1.046987e+04  2.584425e+03
## [21965] 3.745941e+03  1.138513e+04  3.354433e+03  2.592759e+03
## [21969] 3.977926e+03  1.061322e+04  9.857995e+03  4.001512e+03
## [21973] 3.301607e+03  1.429399e+05  9.983756e+03  1.421040e+04
## [21977] 9.726506e+03  2.661718e+03  1.163307e+04  2.100646e+03
## [21981] 2.780634e+03 -5.267474e+03  2.631662e+04  6.489517e+02
## [21985] 5.984631e+04  1.023852e+04 -4.191559e+03  1.038369e+04
## [21989] 2.750030e+05  8.572231e+03  1.103373e+04  1.048801e+04
## [21993] 1.165402e+04  9.331839e+03  1.960906e+03  1.773740e+03
## [21997] 2.927058e+03  4.223255e+02  2.349646e+03  3.921260e+03
## [22001] 1.098892e+04  4.876102e+03  9.669924e+03  1.190078e+04
## [22005] 1.265881e+03  4.274081e+03 -6.582805e+03  1.139256e+04
## [22009] 1.104506e+03  8.897475e+03  6.765131e+02  2.525150e+03
## [22013] -4.137733e+03  1.109293e+03  4.285155e+03  1.720277e+04
## [22017] 3.211754e+03  1.106462e+04  1.054419e+04  2.655025e+03
## [22021] 2.928598e+03  1.913991e+03  3.022641e+03  3.170153e+03
## [22025] 3.795321e+03  1.888387e+03  2.874359e+03  1.027825e+04
## [22029] 3.166287e+03  1.405463e+05  3.906714e+03  8.807678e+03
## [22033] 1.128000e+04  9.583608e+03 -4.436116e+03  2.356413e+03
## [22037] -4.583744e+03 -5.529089e+03  3.369114e+03 -3.950003e+03
## [22041] 3.017382e+03  1.011040e+04  1.160193e+04  3.776601e+03
## [22045] 1.422702e+05  1.962696e+03  3.203448e+05  3.633655e+03
## [22049] -1.837833e+04  1.834764e+03  1.459920e+05  1.189921e+04
## [22053] 1.695017e+04  2.391044e+03 -6.223041e+03  2.754215e+03
## [22057] -4.768164e+03 -3.725950e+03 -8.801410e+01 -5.278067e+03
## [22061] 2.112771e+03  4.316448e+03  9.113601e+03  3.397829e+03
## [22065] 1.387949e+04  1.127537e+04 -1.880433e+03  1.017099e+04
## [22069] 8.532752e+03  1.639229e+04  2.620155e+03  1.005484e+04
## [22073] 7.120364e+04 -4.697730e+03  1.804755e+03  2.131224e+03
## [22077] 9.713346e+03  1.992691e+03 -2.835267e+03 -5.005467e+03
## [22081] 1.806278e+05  1.082193e+04  3.223687e+05  1.122115e+04
## [22085] -4.000650e+03  7.981907e+03 -5.017660e+03 -4.582515e+03
## [22089] 2.794055e+03  1.699166e+03 -5.378437e+03  3.793940e+03
## [22093] 1.017401e+04 -1.485501e+03  2.027567e+04  1.087788e+04
## [22097] 9.521429e+03  3.337184e+03  3.139453e+03  3.040738e+03
## [22101] -4.689253e+03  3.832404e+03  1.301611e+03  1.004753e+04
## [22105] 2.493620e+03 -4.569645e+03  1.982605e+04  2.068434e+04
## [22109] 1.352919e+03  2.982486e+03  2.960734e+03  1.026250e+04
## [22113] -1.248920e+03  3.609032e+03 -5.470311e+03 -5.951908e+03
## [22117] 5.090108e+04  8.148363e+03  2.012595e+03  1.033489e+04
## [22121] 1.822560e+03  3.789411e+03 -7.683274e+03  1.571373e+03
## [22125] 2.656902e+04 -3.307865e+03  2.748522e+03 -5.920457e+03
## [22129] 9.035884e+03  1.041549e+04  2.514801e+05  1.291256e+04
## [22133] -4.601980e+03  1.040229e+04  3.301607e+03  1.085414e+04
## [22137] 1.038736e+05  3.252855e+03 -5.086848e+03  7.152780e+03
## [22141] 1.408637e+03  9.618286e+03  3.789924e+03  3.303908e+04
## [22145] -1.198245e+02 -2.100991e+03  2.393864e+03  9.500503e+03
## [22149] 3.084446e+03  8.512883e+03  3.552663e+03  8.976571e+03
## [22153] 2.443806e+03  1.177619e+04 -5.163209e+03  5.761315e+03
## [22157] 4.020149e+05  2.585426e+03  1.000179e+04 -4.997006e+03
## [22161] 4.140234e+03  4.579189e+03 -6.095255e+03  1.737814e+04
## [22165] 2.393864e+03  3.568027e+03  3.226068e+03 -4.170769e+03
## [22169] 4.041049e+03  1.145007e+04  9.599667e+03  1.619735e+05
## [22173] 2.608900e+03 -4.972418e+03  1.503025e+05  1.111929e+03
## [22177] 1.633221e+03  1.044110e+04  3.034833e+03  2.528997e+03
## [22181] 1.253851e+03  9.590345e+03  1.034434e+04  4.638952e+03
```

```
## [22181] 1.233831e+03  9.390343e+03  1.034434e+04 -4.638932e+03
## [22185] -4.687586e+03  2.186937e+03 -5.113410e+03 -4.987115e+03
## [22189] -4.685612e+03  9.622542e+03  4.123539e+04  1.860531e+03
## [22193]  3.995560e+03 -3.547841e+03 -6.301669e+03  1.040246e+04
## [22197] -5.268289e+02 -4.586448e+03  2.396036e+04 -5.128941e+03
## [22201]  1.266005e+02  8.738309e+03  4.285054e+03 -5.151132e+03
## [22205] -2.490748e+03  3.512630e+03  2.485781e+03  3.188793e+03
## [22209]  2.115165e+03  1.018644e+04  2.225986e+03  2.994062e+04
## [22213]  1.037555e+04  1.230125e+04  9.240448e+03  1.028017e+04
## [22217] -6.069763e+03  2.381192e+03 -5.391682e+03  7.936586e+03
## [22221]  2.523075e+03  9.584135e+03 -4.269933e+03  1.182530e+03
## [22225]  9.672186e+03  1.094539e+04  9.767427e+03  3.100534e+03
## [22229]  1.801666e+04  9.265945e+03  2.776210e+03  1.129920e+04
## [22233]  1.452492e+04  2.489719e+03 -4.571398e+03  1.624005e+05
## [22237]  2.599957e+03  4.514657e+03 -5.137448e+03  3.110692e+03
## [22241]  3.159016e+03  1.714248e+04  9.184298e+04  2.945640e+03
## [22245]  2.719745e+03  2.799124e+03  3.846498e+03  3.653121e+03
## [22249]  1.086741e+04  1.735608e+04  1.015120e+04  1.065259e+05
## [22253]  1.075647e+03  6.146332e+02  3.659353e+03  2.560148e+03
## [22257]  2.982486e+03  1.703196e+03  3.172548e+03 -7.601073e+03
## [22261]  1.824221e+03  9.023114e+03  9.668339e+03  1.007694e+04
## [22265]  2.294744e+03  2.433277e+03  2.050704e+03  2.885318e+03
## [22269]  2.927058e+03  2.944676e+03  1.719380e+03  3.886179e+03
## [22273]  2.628470e+03 -3.585125e+03  1.770101e+04  2.461424e+03
## [22277]  2.059288e+03 -1.668465e+03  2.994005e+03  3.699704e+03
## [22281]  2.522852e+03 -6.093830e+03  3.371721e+03  1.914505e+04
## [22285]  2.902852e+03  9.435609e+03 -3.409334e+02 -2.813065e+03
## [22289]  2.274602e+03  9.469589e+03  2.002999e+03  1.753117e+04
## [22293] -3.930589e+03  1.962170e+03  1.106484e+03  2.095974e+03
## [22297]  3.581516e+03  4.064923e+04  1.002603e+04 -5.988863e+03
## [22301]  9.431196e+03  3.450512e+03  2.353675e+03  1.136516e+04
## [22305]  5.796841e+04  2.471494e+03  1.451457e+03  2.317429e+03
## [22309]  3.778616e+03  1.614428e+04  1.436306e+04  9.239326e+03
## [22313]  1.381316e+03  2.274769e+03  9.666686e+03  3.518836e+03
## [22317]  3.279419e+03  9.231958e+02  2.114319e+03  2.774646e+03
## [22321]  8.484824e+03  1.021658e+04 -4.115868e+03  3.440948e+03
## [22325] -5.391682e+03 -5.544621e+03  8.989393e+03 -4.989034e+03
## [22329]  1.103038e+04  3.942744e+03  3.351934e+03  1.038676e+04
## [22333]  1.196768e+03  9.242765e+03  2.142621e+03  3.314534e+03
## [22337]  9.517087e+02  3.398652e+03  1.036064e+04  1.008378e+04
## [22341] -5.818474e+03  2.584425e+03  4.901327e+03  3.216020e+03
## [22345]  2.203475e+03  2.622493e+03 -4.418498e+03 -3.862495e+03
## [22349]  1.333708e+04  1.384974e+04  5.578216e+03  7.733307e+03
## [22353]  1.315183e+04  5.274383e+04  1.328299e+04  7.331257e+03
## [22357]  6.592263e+03  2.414041e+04  7.767499e+03  1.350953e+04
## [22361]  1.387031e+04  1.328821e+04  1.803784e+04  7.005026e+03
## [22365]  1.389331e+04  1.339907e+04  1.255413e+04  7.908100e+04
## [22369]  6.444997e+03  1.466459e+04  6.389313e+03  8.300693e+03
## [22373]  7.261495e+03  8.063251e+03  1.358156e+04  2.397763e+04
## [22377]  7.000802e+03  1.416290e+04  7.263927e+03  1.362949e+04
## [22381]  1.218703e+04  1.155109e+04  2.155528e+04  1.100671e+05
## [22385]  1.406573e+04  1.336039e+04  1.384486e+04  7.076661e+03
## [22389]  1.423093e+04  1.121549e+04  2.350157e+04  1.461134e+04
## [22393]  1.173659e+04  6.938572e+03  6.841038e+03  6.716259e+03
## [22397]  2.102463e+04  1.359604e+04  1.383234e+04  7.527763e+03
## [22401]  1.548468e+04  1.302653e+04  7.853118e+03  8.143105e+03
## [22405]  8.287283e+03  1.309814e+04  5.815404e+03  1.268793e+04
## [22409]  1.881433e+04  1.377094e+04  5.256535e+03  1.371737e+04
## [22413]  8.160057e+03  5.461261e+04  1.334615e+04  6.933134e+03
## [22417]  6.936140e+03  1.452049e+04  1.482399e+04  1.350052e+04
## [22421]  1.424240e+04  6.439797e+03  1.448230e+04  6.029286e+03
## [22425]  1.307886e+04  8.975016e+03  1.339140e+04  9.137539e+03
## [22429]  7.106155e+03  1.546794e+04  8.476637e+03  2.044276e+04
## [22433]  6.014457e+03  1.338976e+04  1.450286e+04  7.508436e+03
## [22437]  1.315999e+04  2.711617e+04  1.493360e+04  7.425145e+03
## [22441]  6.797137e+03  6.673399e+03  1.140278e+04  8.568046e+03
## [22445]  1.994968e+04  1.881106e+04  7.888542e+03  7.745981e+03
## [22449]  1.402196e+04  3.568050e+03  1.333200e+04  1.332578e+04
## [22453]  1.799636e+04  7.110172e+03  1.301068e+04  2.820344e+04
## [22457]  7.901122e+03  5.807849e+03  2.315388e+04  1.238001e+04
## [22461]  7.359985e+03  2.543039e+04  8.017390e+03  1.094551e+04
## [22465]  8.640909e+03  1.547150e+04  1.299901e+04  7.068516e+03
## [22469]  7.667458e+03  5.758514e+03  6.127003e+03  4.952844e+03
## [22473]  1.467930e+04  8.587861e+03  7.350588e+03  1.276487e+04
## [22477]  8.275890e+03  8.368593e+03  7.075668e+03  6.972616e+03
## [22481]  1.401323e+04  7.775664e+03  7.809550e+03  1.145146e+04
```

```
## [22485] 7.646363e+03 7.414433e+03 1.287933e+04 7.653515e+03
## [22489] 6.859530e+03 3.074238e+04 7.265023e+03 1.311930e+04
## [22493] 1.421975e+04 7.791589e+03 2.038626e+04 8.017390e+03
## [22497] 5.570206e+03 1.393253e+04 1.560071e+04 1.225842e+05
## [22501] 1.267371e+04 1.981879e+04 1.401191e+04 5.831602e+03
## [22505] 1.159909e+04 1.050841e+05 9.086250e+03 7.962941e+03
## [22509] 2.874923e+05 1.861618e+04 6.525236e+03 1.261843e+04
## [22513] 1.306830e+04 8.682295e+03 1.608508e+04 5.689102e+03
## [22517] 8.406931e+03 1.294321e+04 1.393409e+04 5.593295e+03
## [22521] 6.562513e+03 1.321681e+04 1.326474e+04 6.731829e+03
## [22525] 1.409460e+04 2.020709e+04 6.673399e+03 6.538198e+03
## [22529] 1.344730e+04 1.418804e+04 8.433069e+03 1.221044e+04
## [22533] 8.315554e+03 7.053655e+03 1.275237e+04 2.143889e+04
## [22537] 1.283111e+04 7.496580e+03 4.235804e+04 8.812386e+03
## [22541] 8.755324e+03 6.285303e+03 7.441218e+03 7.728049e+03
## [22545] 1.277699e+04 7.077746e+03 6.849344e+03 5.685989e+04
## [22549] 7.944527e+03 1.282663e+04 1.178584e+04 6.586174e+03
## [22553] 8.269882e+03 1.413658e+04 5.275798e+03 5.575585e+04
## [22557] 1.800806e+04 6.902333e+03 6.469088e+03 1.245892e+04
## [22561] 6.633950e+03 1.309408e+04 1.996628e+04 7.033093e+03
## [22565] 1.458893e+04 9.598244e+04 1.275898e+04 1.494712e+04
## [22569] 7.022845e+03 6.194180e+03 2.049547e+03 1.322729e+04
## [22573] 4.751816e+04 6.894613e+03 7.762471e+03 1.314806e+04
## [22577] 7.005596e+03 8.529989e+03 4.176409e+04 7.380130e+03
## [22581] 2.102189e+04 5.816313e+04 7.053655e+03 3.085166e+04
## [22585] 1.563873e+04 1.326079e+04 1.646367e+04 6.794443e+03
## [22589] 7.057184e+03 7.186031e+03 1.261909e+04 2.474042e+04
## [22593] 1.187266e+04 1.450683e+04 8.050682e+03 1.221146e+04
## [22597] 9.594182e+03 1.413305e+04 7.444746e+03 6.674452e+03
## [22601] 8.086824e+03 8.972020e+03 7.880987e+03 1.401191e+04
## [22605] 3.772429e+04 9.370707e+03 1.287508e+04 7.233378e+03
## [22609] 1.890051e+04 1.465998e+04 1.644643e+04 1.375386e+04
## [22613] 1.562111e+04 1.366932e+04 1.253174e+04 9.652816e+04
## [22617] 5.757951e+04 1.428630e+04 1.371737e+04 1.534304e+04
## [22621] 7.287958e+03 5.990929e+03 1.261557e+04 1.250321e+04
## [22625] 1.488839e+04 7.655752e+03 6.998754e+03 8.716828e+03
## [22629] 1.362720e+04 8.096382e+03 1.283217e+04 6.225825e+03
## [22633] 7.123575e+03 1.308982e+04 7.830112e+03 7.809550e+03
## [22637] 1.546768e+04 8.296667e+03 6.115632e+03 6.967073e+03
## [22641] 8.664999e+03 1.494776e+04 1.155218e+04 8.877357e+03
## [22645] 7.002282e+03 1.772743e+04 6.146833e+03 8.520074e+03
## [22649] 6.196316e+03 1.355471e+04 2.094135e+04 5.303883e+04
## [22653] 7.528848e+03 1.304166e+04 3.149427e+05 8.331006e+03
## [22657] 1.589773e+05 8.041480e+03 8.158589e+03 7.728510e+03
## [22661] 2.479202e+04 1.338839e+04 1.318055e+04 8.245792e+03
## [22665] 3.733777e+04 6.946986e+03 6.697806e+03 1.263395e+04
## [22669] 2.018747e+04 1.357936e+04 9.316542e+03 7.230684e+03
## [22673] 1.244617e+04 6.191486e+03 9.636508e+03 5.567967e+03
## [22677] 7.321008e+03 1.357622e+04 1.357567e+04 6.253230e+03
## [22681] 5.738640e+04 7.537520e+03 5.664525e+03 7.749073e+03
## [22685] 7.261701e+03 1.410439e+04 1.353585e+04 6.629885e+03
## [22689] 1.088737e+04 1.304125e+04 7.461243e+03 1.347841e+04
## [22693] 8.978654e+03 9.922634e+03 2.006473e+04 3.689192e+04
## [22697] 1.388169e+04 1.847834e+04 7.923647e+03 1.385081e+04
## [22701] 9.387595e+03 1.211757e+04 8.332773e+03 1.341111e+04
## [22705] 1.338275e+04 2.213442e+04 2.063665e+04 1.261409e+04
## [22709] 1.865353e+04 6.040705e+03 8.326941e+03 2.038027e+04
## [22713] 1.411778e+04 6.061268e+03 7.211884e+03 7.956967e+03
## [22717] 1.228999e+04 1.355978e+04 6.892626e+03 8.326941e+03
## [22721] 7.585907e+03 6.468770e+03 8.183873e+03 6.157814e+03
## [22725] 7.308305e+03 1.449206e+04 1.781539e+04 1.361895e+04
## [22729] 6.962388e+03 1.278759e+04 1.370064e+04 1.367385e+04
## [22733] 7.440681e+03 7.931824e+03 1.498689e+04 1.140795e+04
## [22737] 1.288168e+04 1.157490e+04 1.186271e+04 1.338267e+04
## [22741] 6.817162e+03 1.406897e+04 1.406710e+04 6.816934e+03
## [22745] 1.387544e+04 1.339055e+04 8.084762e+03 6.468770e+03
## [22749] 7.287743e+03 1.328943e+04 7.329399e+03 1.264705e+04
## [22753] 1.310390e+04 1.427681e+04 1.302977e+04 7.495583e+03
## [22757] 1.277044e+04 7.099695e+03 2.557361e+04 1.381711e+04
## [22761] 6.872064e+03 7.876923e+03 7.065173e+03 6.104002e+03
## [22765] 6.268477e+03 7.233846e+03 4.488868e+04 1.582675e+04
## [22769] 1.401407e+04 5.767632e+03 1.436214e+04 2.309333e+04
## [22773] 7.759407e+03 7.698432e+03 1.698639e+03 7.282752e+03
## [22777] 9.018830e+03 1.297487e+04 8.221811e+03 8.966887e+03
## [22781] 1.285860e+04 1.445031e+04 7.232451e+03 1.163018e+04
```

```
## [22785]  6.872064e+03  1.403463e+04  1.331028e+04  1.353577e+04
## [22789]  6.927266e+03  1.346077e+04  1.415930e+04  6.907487e+03
## [22793]  8.409711e+03  1.338634e+04  1.486688e+04  1.422191e+04
## [22797]  7.551568e+03  8.785293e+04  1.501428e+04  7.045564e+03
## [22801]  1.282193e+04  1.399669e+04  7.620773e+03  7.295060e+03
## [22805]  1.074344e+04  6.256916e+03  6.837725e+03  5.826454e+03
## [22809]  1.376418e+04  7.967247e+03  1.297487e+04  8.145886e+03
## [22813]  1.500712e+04  7.086277e+03  6.344701e+03  1.297487e+04
## [22817]  4.060795e+04  1.318271e+04  1.894995e+04  1.365292e+04
## [22821]  1.451326e+04  1.496167e+04  6.831389e+03  1.299543e+04
## [22825]  1.344944e+04  1.119408e+04  7.814309e+03  1.347682e+04
## [22829]  1.399007e+04  1.297487e+04  1.532532e+04  1.403797e+04
## [22833]  9.153309e+03  8.084762e+03  7.320690e+03  8.782314e+03
## [22837]  8.500442e+03  7.440681e+03  6.892626e+03  1.273315e+04
## [22841]  8.173290e+03  7.053730e+03  6.693573e+03  1.518743e+04
## [22845]  6.629885e+03  7.287743e+03  6.909578e+03  1.314408e+04
## [22849]  2.721895e+05  4.382205e+04  5.798348e+03 -2.743179e+03
## [22853]  1.519560e+00 -2.570762e+03 -3.590932e+03 -2.540317e+03
## [22857] -3.406183e+02 -8.850560e+03 -2.176126e+02 -3.271740e+02
## [22861] -1.611978e+03 -2.155083e+03 -1.688103e+03 -2.430713e+03
## [22865]  3.828304e+03 -1.339790e+03 -1.378626e+03  9.157387e+03
## [22869] -2.625664e+03  5.785737e+03 -2.119660e+03  1.422161e+04
## [22873]  2.226963e+04 -1.183675e+03 -2.833503e+03 -7.816881e+01
## [22877] -2.417824e+03 -2.976178e+03 -2.638553e+03  5.911320e+03
## [22881] -4.248682e+02 -2.139206e+03 -2.362923e+03  1.007706e+04
## [22885]  1.451402e+04  7.792916e+03 -2.119660e+03 -3.025465e+03
## [22889]  5.999651e+03 -1.911821e+03 -7.693104e+03  6.652143e+03
## [22893] -2.015034e+03  8.080490e+04  6.593512e+03 -2.362923e+03
## [22897] -2.986442e+03  2.673408e+04  1.112915e+04 -3.786045e+03
## [22901]  1.049536e+04 -2.778602e+03 -2.985846e+03 -3.158858e+03
## [22905] -5.472677e+02  2.178477e+03 -2.209985e+03 -3.325042e+03
## [22909] -1.251623e+03 -4.509109e+03  3.763876e+03 -2.833503e+03
## [22913] -3.457022e+03 -1.895943e+03 -6.098816e+02 -6.405837e+02
## [22917]  1.474264e+04  7.644528e+03  2.642131e+03 -2.833503e+03
## [22921]  7.110446e+03  5.356700e+02  2.944195e+04 -1.441240e+03
## [22925] -2.704672e+03  1.011599e+04 -2.480438e+03 -3.103957e+03
## [22929]  1.328139e+04  8.036758e+03 -2.778602e+03  5.321787e+02
## [22933] -1.947244e+03  3.207995e+03  5.163012e+02 -9.647213e+02
## [22937] -3.106940e+03  3.574161e+03 -8.216778e+02  1.218521e+04
## [22941]  6.107364e+03 -3.775976e+03 -3.757110e+03 -1.794305e+03
## [22945] -3.041343e+03  1.569586e+02 -3.194281e+03 -3.207526e+03
## [22949] -2.951019e+03 -2.362327e+03  2.821244e+04  1.277983e+04
## [22953] -5.730375e+02  6.323231e+03 -2.362327e+03  2.932858e+04
## [22957]  5.325419e+03  3.151198e+03 -2.889717e+03  8.968208e+03
## [22961]  3.272576e+03  1.511228e+04 -3.249183e+03  8.414720e+03
## [22965]  1.832081e+04  9.217128e+02 -2.119660e+03  3.599664e+04
## [22969] -3.402121e+03  2.243641e+03  2.791732e+03  1.347936e+04
## [22973] -1.531564e+03 -1.170786e+03  3.415251e+03 -1.378626e+03
## [22977]  3.768316e+03 -2.327500e+03 -3.594083e+03 -1.019623e+03
## [22981] -1.378626e+03  1.134783e+04  2.149849e+04  3.823287e+03
## [22985]  4.470327e+03 -2.417824e+03  2.476640e+03 -1.977411e+03
## [22989] -2.180636e+03  6.020895e+04  3.742937e+04 -2.638553e+03
## [22993] -1.379816e+03 -2.064759e+03  4.907401e+02 -8.642137e+03
## [22997]  1.507576e+04 -3.872701e+03 -1.619731e+03  7.549990e+03
## [23001] -2.742583e+03  1.010120e+05 -2.343895e+03 -3.041343e+03
## [23005]  1.327389e+04 -4.288381e+03  4.054647e+03  2.709688e+04
## [23009]  3.610202e+03  3.470152e+03  3.009835e+03 -2.833503e+03
## [23013]  6.419267e+03  2.316087e+04 -2.896117e+03  3.568036e+04
## [23017] -2.002145e+03 -2.417824e+03  1.562969e+04 -2.285681e+03
## [23021] -2.833503e+03  7.234748e+03  8.711690e+03  6.491972e+03
## [23025]  4.863543e+03  7.520641e+03  2.639378e+03  4.025881e+03
## [23029] -1.807194e+03  8.097014e+03  4.796892e+03  2.278244e+04
## [23033]  1.331807e+04  5.493647e+03  2.401607e+04 -3.193685e+03
## [23037] -2.755683e+03 -3.677751e+03 -3.041343e+03 -2.066731e+03
## [23041] -4.442346e+03  6.137458e+02 -2.362923e+03 -3.469911e+03
## [23045] -2.833503e+03  4.953060e+05 -2.986442e+03  6.121257e+03
## [23049]  8.686098e+03  2.434743e+04 -1.586466e+03  7.824081e+04
## [23053]  4.031555e+03 -7.042618e+03  9.679684e+03  2.801995e+03
## [23057] -7.002059e+02  1.300649e+04  8.209128e+03  1.393260e+04
## [23061] -3.817800e+03  4.464712e+03  1.473147e+03 -1.605561e+04
## [23065]  8.853173e+03  4.608076e+02  1.287287e+04 -2.801748e+03
## [23069] -1.960489e+03 -3.855684e+02  3.093590e+04  1.672599e+04
## [23073] -1.544809e+03 -1.947244e+03  1.250209e+04  2.864063e+05
## [23077]  2.549569e+04  7.673579e+03  2.525850e+03  5.609049e+04
## [23081]  1.061262e+04 -2.125550e+02  2.328174e+04  8.521352e+03
## [23085] -2.401947e+03 -2.986442e+03  1.272492e+04  5.495075e+03
```

```
## [23085] -2.401947e+03 -2.980442e+03  1.272492e+04  5.495075e+03
## [23089]  4.246609e+03 -1.658755e+03  7.510378e+03  5.143132e+03
## [23093]  1.119431e+04  1.258225e+04 -1.586466e+03 -2.430713e+03
## [23097]  5.494171e+03 -3.961038e+02 -3.117202e+03  3.223289e+03
## [23101] -2.846392e+03  9.664005e+03  3.603652e+04  3.338153e+05
## [23105] -2.417824e+03 -3.664862e+03 -4.042967e+02  1.108248e+04
## [23109]  7.369964e+03 -1.599355e+03  1.101305e+05  3.272576e+03
## [23113]  4.827416e+05  1.574043e+03  5.118850e+03  4.883380e+03
## [23117] -3.194281e+03 -1.794305e+03  3.917587e+03  4.509350e+03
## [23121]  1.644104e+04  2.029965e+05  2.028097e+05 -2.085446e+03
## [23125] -9.758359e+02  2.823164e+02  2.472611e+03 -2.651615e+03
## [23129]  2.088706e+04 -3.233305e+03  5.431033e+03  4.166558e+04
## [23133]  4.470327e+03  5.909326e+03  3.323966e+03  4.880392e+03
## [23137]  8.427231e+03  5.436971e+03 -2.762724e+03 -2.554885e+03
## [23141]  4.093671e+03 -1.586466e+03  8.573045e+03  9.595937e+03
## [23145] -1.739404e+03  6.566494e+03 -2.155083e+03  7.173459e+03
## [23149] -2.736946e+03  3.830930e+03 -3.609960e+03 -2.625664e+03
## [23153] -2.362923e+03  4.139357e+03  1.975541e+04 -2.625664e+03
## [23157]  5.284033e+03 -1.782863e+03  9.566175e+02 -1.794305e+03
## [23161]  3.470152e+03  5.190734e+03  5.913114e+03 -2.736778e+03
## [23165] -2.554885e+03  6.891849e+03 -2.119660e+03 -3.664862e+03
## [23169]  7.858267e+03  2.274150e+02  5.516164e+03  7.126454e+03
## [23173]  1.189659e+02 -2.727301e+03  3.898727e+03 -9.292983e+02
## [23177]  6.409255e+03 -2.393097e+03 -6.776719e+02 -1.616996e+03
## [23181]  2.819101e+03  3.272576e+03  5.739882e+03 -2.502557e+03
## [23185] -1.794305e+03 -1.014713e+04  2.823164e+02  3.362900e+03
## [23189] -1.794305e+03  2.044218e+04  5.028328e+04 -1.115192e+03
## [23193]  3.301511e+03  4.256873e+03 -1.035273e+03  7.522761e+04
## [23197]  5.229132e+03 -2.625664e+03 -1.794305e+03 -4.587177e+02
## [23201]  9.825109e+03 -2.570762e+03 -2.155083e+03 -1.643141e+03
## [23205] -2.986442e+03 -2.401947e+03  5.839750e+03 -1.193344e+02
## [23209]  3.885832e+03  8.853173e+03  5.060440e+04 -8.203424e+03
## [23213] -3.267089e+03  1.045885e+03  4.473753e+03  1.104595e+04
## [23217]  9.456166e+03 -3.249183e+03  5.497698e+03  9.116801e+04
## [23221] -1.378146e+03 -2.562570e+03 -2.015034e+03 -3.262072e+03
## [23225] -3.469527e+03 -3.089531e+03 -3.372772e+03 -2.736778e+03
## [23229] -2.765550e+03 -2.570762e+03 -2.125735e+03  1.581154e+04
## [23233]  1.072833e+04 -3.054232e+03  8.679709e+03 -3.469911e+03
## [23237]  4.569144e+03 -9.629469e+02  2.516099e+05  4.896269e+03
## [23241] -2.151288e+03  3.693870e+03 -7.252694e+03 -1.465256e+03
## [23245]  2.168213e+03 -3.249183e+03  7.218288e+03 -8.400671e+03
## [23249]  1.007968e+04  8.799230e+02 -2.222874e+03  9.265871e+03
## [23253] -1.778428e+03 -4.412389e+03 -1.911821e+03  4.313375e+04
## [23257] -2.362923e+03 -3.041343e+03 -2.570762e+03  1.899420e+04
## [23261]  5.909326e+03  1.033211e+04 -2.528939e+03 -1.794305e+03
## [23265]  3.677992e+03  4.512834e+01 -4.080541e+03 -2.704150e+03
## [23269] -2.347045e+03 -2.833503e+03 -3.207526e+03 -2.570762e+03
## [23273]  4.633671e+03 -8.717632e+03  7.994447e+03  2.210522e+02
## [23277]  1.828603e+04  1.182415e+04  6.368674e+03  2.909015e+01
## [23281] -1.802443e+03 -1.773094e+03 -5.492163e+03 -1.397257e+02
## [23285]  7.606597e+03 -4.024666e+02 -1.662405e+03  1.740151e+04
## [23289]  2.772495e+05  1.272629e+04  6.542207e+03  5.503009e+03
## [23293]  2.277169e+04  1.014940e+03  7.103043e+03  9.239946e+03
## [23297]  1.253151e+04  5.503009e+03 -7.473669e+02 -9.417357e+02
## [23301]  1.138841e+04 -6.729202e+02 -2.127797e+03  6.811394e+01
## [23305]  8.019994e+04 -8.310468e+02  9.041352e+04  6.258093e+04
## [23309]  5.973590e+03  1.059547e+04 -1.441665e+03 -1.043027e+02
## [23313]  1.721246e+04 -1.712118e+03 -6.984731e+02  7.635945e+03
## [23317]  1.636322e+03  5.721112e+03  8.544525e+04  2.027860e+04
## [23321]  1.321258e+01  8.039762e+03  1.015909e+04  6.136791e+03
## [23325] -1.767020e+03 -1.578377e+03  5.648081e+05  1.558414e+03
## [23329] -1.397257e+02  6.526090e+02 -3.646369e+02  1.422507e+04
## [23333]  1.770707e+02 -2.266457e+01 -1.773094e+03  5.721112e+03
## [23337] -1.802443e+03  5.726726e+03 -1.233825e+03  1.089363e+04
## [23341] -6.905139e+03 -2.065184e+03 -1.088599e+03 -7.278216e+02
## [23345]  5.241797e+04  6.664544e+03 -2.075279e+02  1.484716e+04
## [23349]  8.572661e+03 -7.278216e+02 -7.632445e+02  1.973475e+04
## [23353]  1.122956e+04  6.110525e+04 -1.441665e+03 -1.423203e+03
## [23357]  9.297861e+03 -2.384305e+03 -1.386763e+03  5.440395e+03
## [23361]  2.612553e+05 -1.939155e+03  3.472549e+02 -9.966370e+02
## [23365]  6.226358e+04  3.416113e+04 -1.646474e+03  2.210522e+02
## [23369]  2.503376e+04  3.907944e+03 -1.786024e+03  8.300797e+03
## [23373] -1.620156e+03  6.181429e+03  1.191294e+03 -2.010282e+03
## [23377]  4.866589e+03  1.077206e+04 -1.441665e+03  8.928409e+03
## [23381]  1.459097e+04 -9.552065e+02  6.811394e+01 -6.729202e+02
## [23385] -5.743900e+03  2.756927e+03 -5.554049e+02  4.758307e+03
```

```
## [23389]  6.642795e+03 -8.310468e+02  3.666564e+03  9.502546e+02
## [23393] -1.143501e+03 -7.591689e+03  1.230500e+04  1.321258e+01
## [23397] -4.024666e+02  8.438904e+03  2.075716e+04  8.183037e+03
## [23401]  2.479934e+03  4.440138e+04  1.208689e+04  8.821614e+04
## [23405]  1.702051e+04  4.377521e+03 -2.374545e+04  6.840371e+03
## [23409]  1.663712e+04 -7.990289e+02 -1.802443e+03 -1.357415e+03
## [23413] -1.594603e+03 -1.454566e+03 -1.386763e+03  9.897978e+03
## [23417]  6.113627e+03 -8.181459e+02  1.937947e+04  1.170798e+03
## [23421]  6.840371e+03 -7.278216e+02 -1.233825e+03 -1.025985e+03
## [23425]  1.244505e+04 -6.780083e+03  5.142231e+03 -1.233825e+03
## [23429]  1.200335e+02  5.097593e+03 -4.024666e+02 -4.650806e+02
## [23433] -8.842514e+01  1.634576e+04  2.210522e+02  6.953150e+04
## [23437] -2.617575e+03  5.599734e+03 -7.632445e+02  5.305433e+03
## [23441] -3.475653e+02 -8.181459e+02  1.507295e+04  2.289582e+05
## [23445]  9.409979e+03 -5.554049e+02 -8.514114e+02 -8.181459e+02
## [23449]  1.314730e+04  2.708660e+04 -1.038886e+03  6.456469e+03
## [23453] -2.010282e+03  1.225009e+04 -1.023009e+03 -1.188599e+03
## [23457] -6.103063e+02 -5.554049e+02  7.165726e+03  3.966321e+03
## [23461] -9.356612e+02  1.444494e+04 -1.857344e+03  6.773362e+03
## [23465]  4.090567e+04 -1.945511e+03  1.127606e+04 -5.466398e+02
## [23469]  1.365868e+03  4.894899e+05  7.152825e+03  2.554363e+04
## [23473] -1.059251e+03  6.304428e+03  7.892439e+04 -2.077688e+03
## [23477] -1.786217e+03 -1.192169e+03  5.350071e+03 -7.632445e+02
## [23481]  9.689116e+03  1.415718e+04 -1.386763e+03  2.785053e+04
## [23485] -5.554049e+02 -1.038886e+03 -1.919958e+03  1.390021e+04
## [23489] -1.786217e+03  5.529150e+03 -4.024666e+02  6.555500e+03
## [23493]  6.804948e+03  9.399841e+02  6.646779e+03  8.868131e+03
## [23497]  6.616853e+04 -9.710841e+02 -2.273023e+03  2.174094e+03
## [23501]  4.467266e+04  8.426457e+03 -1.143501e+03 -1.233825e+03
## [23505] -6.976005e+02  4.919102e+03  1.286634e+04 -9.710841e+02
## [23509]  1.062239e+04 -2.075279e+02 -1.233825e+03  7.231513e+03
## [23513]  2.541580e+05  2.675520e+03 -1.010108e+03  3.426928e+03
## [23517] -1.025985e+03 -2.065184e+03 -1.178924e+03  9.977419e+03
## [23521]  9.915983e+03  1.099377e+02  8.400386e+03 -7.278216e+02
## [23525]  3.276515e+03  4.100875e+03  4.953260e+03 -1.878302e+03
## [23529]  4.989224e+03  2.763685e+03  7.515633e+03 -1.987364e+03
## [23533]  6.542207e+03 -5.856038e+03  2.106132e+04  7.327209e+03
## [23537]  7.693754e+03 -1.857344e+03  6.221041e+03 -3.049480e+03
## [23541] -1.559180e+03 -3.697109e+03  2.276852e+04  1.291825e+04
## [23545] -8.181459e+02 -2.282551e+03  1.063828e+04 -1.682770e+03
## [23549] -2.390538e+03 -2.065184e+03  5.292532e+03  4.346296e+03
## [23553]  1.123956e+04  6.768373e+03  5.295169e+03  8.060455e+03
## [23557] -2.127797e+03  5.440395e+03  9.484893e+03 -4.670946e+02
## [23561]  4.460458e+03 -3.096839e+02  8.445710e+02 -1.488401e+03
## [23565]  1.192751e+04 -4.940135e+01 -2.633801e+03  1.893582e+04
## [23569] -1.857344e+03 -1.296439e+03  3.453961e+03 -7.632445e+02
## [23573]  4.858533e+03  5.557910e+03 -1.025985e+03  2.149388e+05
## [23577]  4.164597e+03  1.754117e+04 -2.396613e+03  4.963740e+03
## [23581] -1.594603e+03  6.197307e+03 -9.710841e+02  2.142325e+03
## [23585] -6.103063e+02 -6.103063e+02  6.136791e+03 -7.278216e+02
## [23589]  7.256050e+03  8.448218e+03  7.270557e+02  3.979040e+02
## [23593]  9.916954e+02 -2.633801e+03  2.106532e+04  1.028961e+04
## [23597] -1.397257e+02 -4.650806e+02 -1.391046e+03  7.690002e+03
## [23601]  6.745611e+02 -9.710841e+02  5.710849e+03  3.353940e+03
## [23605]  5.389682e+03  8.568252e+03  5.142231e+03 -4.940135e+01
## [23609] -8.807598e+02  1.453317e+04 -6.103063e+02  5.973590e+03
## [23613]  4.137222e+03  9.276710e+03  7.713418e+03 -7.632445e+02
## [23617] -4.153675e+02  1.371357e+04  1.703064e+02 -8.181459e+02
## [23621]  5.074429e+03 -5.318985e+02 -1.594603e+03 -2.688702e+03
## [23625] -5.175752e+02  5.160741e+03  1.443306e+03  9.884547e+03
## [23629]  8.879160e+03  6.063914e+03  7.773701e+03  1.491685e+04
## [23633]  2.187342e+04 -3.475653e+02 -1.441665e+03 -1.101844e+03
## [23637] -1.088599e+03  9.070129e+03 -1.441665e+03  5.365948e+03
## [23641]  7.171491e+04  4.889753e+03  2.169868e+04  7.764449e+03
## [23645] -1.025985e+03 -6.232072e+02  9.505657e+03  1.404716e+04
## [23649]  4.616479e+03  1.841831e+04 -1.018959e+02  2.567393e+04
## [23653] -5.811543e+02 -1.351340e+03 -6.103063e+02 -2.010282e+03
## [23657] -7.110868e+03  4.736815e+03 -4.586798e+02 -3.475653e+02
## [23661]  1.308145e+04  4.960532e+03 -1.425787e+03 -2.010087e+03
## [23665] -1.594603e+03  3.122532e+03 -1.386763e+03  2.064581e+04
## [23669]  1.363209e+04  1.321258e+01 -1.217948e+03 -1.279595e+03
## [23673] -5.944287e+02  4.459494e+04 -5.187894e+03 -4.024666e+02
## [23677] -1.559180e+03  8.713322e+03  5.866338e+03 -1.760619e+03
## [23681] -9.710841e+02 -3.059089e+02 -9.356612e+02  8.213393e+03
## [23685] -6.729202e+02 -1.559180e+03  1.549858e+04  6.031124e+03
## [23689]  1.375718e+03  1.560802e+04  4.563493e+04  5.305433e+03
```

```
## [23689]  1.373718e+03  1.560802e+04  4.363403e+04  5.305433e+03
## [23693] -2.049306e+03  1.081860e+04 -5.319244e+03  1.400544e+04
## [23697] -1.802443e+03 -4.024666e+02 -1.351340e+03 -7.866684e+03
## [23701]  4.122853e+05  7.637084e+05  1.690264e+05  1.695767e+05
## [23705]  5.468334e+05  3.113520e+03  4.935406e+03 -2.251132e+03
## [23709]  5.083723e+03  1.149508e+03  4.797332e+03  5.080632e+03
## [23713]  5.152059e+02  9.071129e+02  6.109203e+03  9.827012e+03
## [23717]  2.482248e+04 -2.122169e+02  1.413255e+03  5.674035e+03
## [23721]  5.573724e+03  1.334990e+03  6.998559e+03  7.618427e+03
## [23725]  1.159435e+04 -8.459009e+02  5.426420e+03 -1.547340e+03
## [23729] -9.177172e+02  5.531845e+03 -8.002019e+02 -3.104631e+02
## [23733]  6.049573e+03 -2.148529e+03  7.230430e+03  7.184513e+03
## [23737] -2.762735e+03  5.643175e+03 -1.615111e+03  8.061789e+03
## [23741]  1.441975e+04 -4.200565e+02  5.962651e+03  2.433733e+02
## [23745]  6.348082e+04 -1.236276e+03  3.921897e+04  6.385676e+03
## [23749]  5.986906e+03  1.962279e+03 -5.927861e+01  3.669441e+04
## [23753]  4.555261e+03  7.449997e+02  1.366069e+03  2.428130e+01
## [23757]  1.401934e+05  1.650403e+05  6.657953e+01  4.820117e+03
## [23761]  4.596917e+03  6.337650e+03  5.507644e+04 -1.088941e+03
## [23765]  9.015175e+03  7.912668e+03  7.271001e+03  8.170614e+01
## [23769]  6.723981e+03 -5.609358e+01  1.559005e+05 -8.261996e+02
## [23773]  5.371601e+02  1.884077e+04  3.104571e+01  7.383022e+03
## [23777]  6.308302e+03 -1.087067e+03  5.365661e+03  2.650714e+02
## [23781]  2.415195e+02  6.951745e+03 -7.301389e+03  4.299383e+03
## [23785] -8.906371e+02 -6.155833e+02 -2.043342e+03  9.534204e+02
## [23789]  7.627607e+02  6.363203e+03  7.927409e+03  4.069266e+01
## [23793]  1.622183e+03 -7.123211e+01  1.402729e+03  8.031844e+03
## [23797]  9.430617e+04 -1.879175e+03 -1.034039e+03  4.926623e+03
## [23801]  1.065124e+03  7.639673e+03  5.935020e+03  6.808314e+03
## [23805]  5.892623e+03  3.130558e+02 -2.315844e+02  5.324005e+03
## [23809]  3.089252e+02 -2.482227e+03 -8.635872e+01  5.271542e+03
## [23813] -1.199655e+03  1.039677e+03  7.539994e+03  5.130741e+03
## [23817] -1.330120e+03  4.532563e+03  8.210215e+03  7.222156e+03
## [23821]  2.321209e+02  8.568650e+03  5.288176e+03 -7.647789e+02
## [23825]  8.062286e+04 -1.423721e+03  3.638834e+03 -4.800423e+03
## [23829] -6.827974e+02  7.270206e+01 -4.654218e+02  5.974604e+03
## [23833] -1.059331e+03  2.034624e+02  4.760946e+02 -1.657558e+03
## [23837] -6.989205e+02  8.227403e+02  8.025920e+03 -6.278961e+02
## [23841]  6.557434e+04  5.746107e+03  1.642342e+03  2.928137e+03
## [23845] -2.122169e+02  5.542533e+02 -4.654218e+02  5.408621e+03
## [23849]  5.386619e+03  1.188417e+04  1.115314e+03 -2.901347e+01
## [23853] -2.168238e+02 -1.226141e+03  1.412867e+04  3.688368e+03
## [23857]  9.493392e+03  1.545372e+03 -7.968183e+03  7.680746e+03
## [23861]  4.853425e+03 -4.997372e+02 -8.906371e+02 -1.667094e+03
## [23865] -1.184195e+02  5.495185e+03  6.833458e+03 -1.541236e+03
## [23869]  7.375794e+02  5.460494e+03 -1.098477e+03 -3.913502e+02
## [23873] -8.906371e+02 -1.414185e+03 -8.551032e+02  4.022236e+03
## [23877]  5.901363e+03 -4.200565e+02  9.913285e+03  4.822588e+02
## [23881]  5.013523e+03  2.006911e+04  7.611561e+01  5.530707e+03
## [23885] -1.296780e+03 -1.443029e+03  4.752241e+03  5.158839e+00
## [23889]  5.761280e+02  1.647749e+03 -6.377275e+02  5.739684e+03
## [23893]  3.198019e+04  8.327567e+02  6.784602e+03 -9.177172e+02
## [23897]  7.051676e+03  5.597632e+03  2.172734e+02  7.865525e+03
## [23901] -1.173929e+02  5.227757e+03  8.510897e+03  8.623121e+03
## [23905]  6.531268e+03  1.089875e+04 -2.073237e+03  2.191767e+03
## [23909]  6.905075e+03  1.116480e+03 -6.779321e+01  6.155364e+03
## [23913]  7.611561e+01 -1.088941e+03 -4.394240e+02 -1.632797e+03
## [23917] -2.374479e+01 -4.070004e+02 -8.261996e+02 -2.941983e+02
## [23921]  1.194246e+05 -5.924731e+02 -6.472636e+02 -1.899280e+02
## [23925] -3.173918e+02 -1.872026e+02  6.295964e+03  8.055352e+03
## [23929]  7.449997e+02  6.308302e+03  5.861256e+03  8.099535e+02
## [23933]  8.606128e+05  4.822588e+02  4.822588e+02 -2.157716e+03
## [23937]  7.956033e+03  8.347729e+03  3.390705e+03  4.514995e+03
## [23941]  5.979578e+03  1.742122e+03  8.645002e+03 -6.377275e+02
## [23945]  4.311887e+03  9.282031e+02  7.710661e+03  6.064928e+03
## [23949]  8.756633e+03  3.631454e+02  1.351862e+04 -1.478622e+03
## [23953]  6.792392e+02 -6.087379e+02  5.351085e+03  5.485778e+02
## [23957]  6.554593e+03  6.657953e+01  6.100462e+03  1.027692e+04
## [23961] -8.354615e+02 -5.273421e+03  6.703335e+03 -8.635872e+01
## [23965]  7.457163e+03 -5.927861e+01 -1.929835e+03 -1.885788e+03
## [23969]  2.311708e+02  7.431833e+03 -2.230713e+02 -8.357357e+02
## [23973]  9.678629e+05  2.270415e+04  2.805417e+02  8.272365e+02
## [23977]  2.078158e+02  1.830091e+04  1.322080e+03  4.897129e+05
## [23981]  4.212954e+03 -1.771784e+03  6.337911e+03  7.883034e+03
## [23985]  6.571043e+03  1.465617e+04  6.916732e+03  1.129254e+05
## [23989] -1.921322e+03 -6.183600e+02  5.096857e+03 -2.796226e+02
```

```
## [23993]  5.324005e+03  1.843883e+03  8.615470e+03  3.012749e+04
## [23997]  1.105778e+03  4.833839e+03  2.430870e+05  6.272879e+03
## [24001]  7.105400e+03  1.013708e+04  7.129496e+03  1.214809e+02
## [24005]  6.805962e+03  5.886142e+03  5.134274e+02 -1.849172e+03
## [24009]  1.142192e+02  5.642402e+02  8.872534e+03  2.061159e+03
## [24013]  2.143325e+03 -4.275849e+03  7.639673e+03  2.446767e+03
## [24017]  2.968229e+04  2.099951e+03 -2.561166e+03  4.640427e+03
## [24021]  5.443636e+03  1.065944e+04  2.382215e+03  1.274217e+04
## [24025]  1.230155e+02  3.978860e+02  3.942742e+02  4.362548e+03
## [24029]  5.522867e+02 -6.387505e+02 -1.762225e+01 -2.131752e+03
## [24033] -7.257732e+02  6.184795e+03  1.553406e+03 -1.767939e+02
## [24037]  3.104571e+01  7.996162e+03 -8.906371e+02  2.953735e+03
## [24041]  8.464367e+03  2.010139e+04  7.646110e+03  5.766764e+03
## [24045]  6.012478e+03  7.055714e+03 -1.125557e+03 -2.255079e+03
## [24049]  3.177006e+03  1.554344e+03  6.075642e+03  5.116165e+03
## [24053]  4.205368e+03  8.541419e+03  2.126920e+03  1.516708e+03
## [24057]  5.035377e+03 -7.529083e+01  6.949202e+03  2.869251e+04
## [24061] -2.011646e+03 -5.199331e+03  5.181747e+03 -8.588310e+02
## [24065] -1.585998e+03  6.119534e+03  6.739108e+03  1.255494e+03
## [24069]  6.743349e+03  8.635842e+02  6.363203e+03  6.723981e+03
## [24073] -5.927861e+01  6.690335e+03  6.515382e+04 -4.098264e+02
## [24077]  5.840243e+03  5.739684e+03  3.293205e+02 -4.603816e+02
## [24081]  4.935406e+03 -4.200565e+02  5.559908e+03  4.519727e+03
## [24085]  6.241756e+03  6.371948e+04  6.489396e+03 -5.505385e+02
## [24089]  2.705135e+05  5.739684e+03  4.363692e+02  5.143246e+03
## [24093]  1.669969e+04 -2.537952e+02  3.335609e+03  5.999973e+03
## [24097]  4.175175e+03  2.585798e+03  5.613826e+03  6.182444e+03
## [24101]  4.822588e+02 -1.215881e+03 -2.047240e+03 -2.374479e+01
## [24105] -1.767939e+02  1.485610e+02  4.223831e+03  4.990124e+03
## [24109]  4.811787e+03  7.299621e+03  2.337877e+04 -8.635872e+01
## [24113]  3.384818e+04 -7.647789e+02  7.317674e+04  4.859658e+03
## [24117]  3.340136e+04  7.641674e+03 -7.231226e+02 -1.829005e+03
## [24121]  7.649209e+03 -2.398435e+03  5.892623e+03  5.441520e+03
## [24125]  6.474794e+03 -1.514156e+03 -2.729373e+02  4.031459e+03
## [24129]  1.661167e+04  1.027329e+03  7.611561e+01  4.610162e+03
## [24133]  1.432022e+03  4.598553e+03 -6.081180e+02  1.891322e+03
## [24137]  1.050990e+04  5.684783e+03  1.758102e+05  3.651892e+02
## [24141]  1.201118e+02 -2.671182e+02  4.437745e+03 -5.517380e+03
## [24145] -1.605799e+03  2.883476e+04  8.495362e+03  4.022236e+03
## [24149] -3.845226e+02  5.573501e+03  8.628501e+03 -5.569393e+02
## [24153] -5.927861e+01  5.548070e+03  7.596356e+03  1.215245e+04
## [24157]  8.775427e+02 -1.043575e+03 -6.384870e+02  1.701420e+04
## [24161] -2.671182e+02  5.825649e+02  7.417553e+03  8.476372e+02
## [24165]  1.373640e+05  7.482045e+02  1.225887e+03 -2.345514e+03
## [24169]  3.179846e+04 -1.712459e+03  1.768798e+04  9.822593e+02
## [24173] -2.246828e+03 -5.690996e+03 -7.527003e+02  1.322641e+04
## [24177]  1.671983e+05  3.932195e+03  1.389754e+03  4.113020e+02
## [24181]  1.058783e+04 -2.401038e+02  6.504476e+04  6.100462e+03
## [24185]  5.791111e+03  5.693813e+02  1.105034e+03  6.186629e+03
## [24189] -2.941983e+02  5.362975e+01  4.603287e+03  6.459881e+03
## [24193] -1.859232e+03  5.070158e+03 -4.298879e+02 -1.499580e+03
## [24197]  6.842525e+03 -1.870738e+02  4.341497e+03  4.793160e+04
## [24201]  2.355155e+03  5.275226e+03  5.143246e+03  7.566519e+02
## [24205]  8.210551e+03 -2.051971e+03  5.198147e+03  1.170222e+04
## [24209]  1.709236e+04  5.904360e+04 -2.673617e+03 -4.974253e+01
## [24213] -5.508168e+02  1.064732e+05 -9.112946e+02  6.295634e+03
## [24217]  9.383315e+03 -9.401673e+02  6.155364e+03 -1.710233e+03
## [24221]  4.791346e+03 -1.423721e+03  1.027946e+03  7.872184e+02
## [24225]  5.393482e+03 -1.251415e+03  1.020226e+04  7.462381e+03
## [24229]  6.717180e+04  3.932730e+04  4.681289e+03 -1.684317e+02
## [24233]  7.202924e+03 -8.760608e+02  7.796079e+03 -1.478622e+03
## [24237] -1.499412e+03  6.073681e+03  1.860226e+04  2.412251e+02
## [24241]  6.694936e+03 -2.838293e+03  1.129104e+04 -1.589737e+03
## [24245]  1.257597e+03  5.674362e+03  1.228015e+04  2.085844e+03
## [24249]  1.170384e+04  1.485610e+02  3.766391e+05  1.219708e+03
## [24253]  1.226292e+04  3.113199e+03  6.480608e+03  8.112728e+03
## [24257]  6.382666e+03  7.883034e+03  5.152794e+03  1.017886e+03
## [24261]  5.176894e+03 -8.551032e+02  5.836804e+03 -1.246311e+03
## [24265]  6.633657e+03 -2.013782e+03  3.392165e+03  1.271192e+04
## [24269] -7.344670e+02  7.359775e+03  7.639098e+03  5.116165e+03
## [24273] -6.827974e+02  1.734939e+02 -5.375718e+02  5.561277e+03
## [24277]  5.974604e+03 -2.189616e+03  4.426841e+03 -3.015099e+02
## [24281] -1.346641e+03  2.393188e+04  4.412182e+04  4.194483e+03
## [24285]  1.009891e+04  1.605778e+03  7.639673e+03  5.876358e+03
## [24289] -6.586851e+02  5.558925e+03 -8.953689e+02  4.175963e+01
```

```
## [24293] 1.006934e+03  6.986242e+03  3.598126e+04 -9.966238e+02
## [24297] 6.133175e+03  7.051676e+03  1.114020e+04 -1.005047e+03
## [24301] 2.895457e+02  9.721590e+03 -1.712459e+03 -5.152830e+02
## [24305] 8.473731e+03  2.189403e+05  1.174382e+02 -1.140092e+03
## [24309] 1.855588e+03 -5.049003e+01 -8.002019e+02 -1.667094e+03
## [24313] 7.007222e+03 -7.906658e+02  1.708905e+04  8.315163e+03
## [24317] 8.949821e+03 -1.797854e+03  4.014705e+02  2.319583e+03
## [24321] -1.098477e+03 -6.472636e+02  2.744191e+02  1.964016e+04
## [24325] 1.925019e+03  9.556081e+03  1.401749e+03  1.295994e+03
## [24329] 6.657953e+01  7.043642e+03  3.657160e+03  4.494550e+04
## [24333] 3.956111e+03  1.013395e+03 -8.002019e+02 -2.880758e+02
## [24337] 5.632910e+03  9.264221e+03 -5.761366e+02  5.631731e+03
## [24341] 8.164387e+03 -1.153607e+03 -1.771561e+03  9.922160e+04
## [24345] 8.545727e+04  1.616142e+05  5.947524e+03 -9.595348e+02
## [24349] 4.550529e+03  4.866508e+03 -3.715856e+02  1.830526e+04
## [24353] -2.948621e+02 -5.474032e+02  5.518600e+03  1.105281e+04
## [24357] -6.954065e+02  7.446186e+03  2.324491e+04 -1.762321e+03
## [24361] -2.378855e+03  1.664115e+03  7.058113e+03 -8.609342e+02
## [24365] -5.101324e+02  2.514272e+03  7.142213e+03  6.169094e+03
## [24369] 1.253631e+04 -6.199627e+03  1.357613e+03  1.004974e+03
## [24373] -1.174225e+03  4.459273e+03  6.489360e+03  7.444058e+03
## [24377] 7.564876e+03  1.187759e+03  3.440204e+03  1.082359e+02
## [24381] -1.048307e+03  5.528431e+03  5.870137e+03 -5.508168e+02
## [24385] -9.309622e+02 -1.199655e+03  4.674205e+03  5.993688e+03
## [24389] -1.270782e+03 -1.514156e+03  9.392442e+03  4.003021e+04
## [24393] 8.594707e+01 -1.484546e+03 -1.899033e+03 -3.074433e+02
## [24397] -6.387943e+03  8.331983e+03 -1.514156e+03  1.074339e+03
## [24401] 5.702578e+02 -1.495413e+03 -1.642183e+03 -2.292446e+02
## [24405] 5.799906e+03  8.126696e+03  5.050541e+03  8.688929e+02
## [24409] 5.518600e+03  2.005263e+03  4.798693e+03  3.115658e+01
## [24413] -1.034039e+03  1.101311e+04  6.566574e+03 -5.453140e+02
## [24417] 2.795850e+05  4.948534e+04  2.525024e+04  3.861426e+05
## [24421] -4.727288e+03  2.177470e+03 -4.990197e+03  5.572145e+03
## [24425] 2.118398e+03 -3.102046e+02 -5.197344e+03  3.861684e+03
## [24429] -3.369136e+03 -4.519449e+03  6.735584e+04  6.972585e+04
## [24433] 2.409624e+03  1.903620e+03  1.792506e+03  1.046118e+04
## [24437] 2.094991e+03 -3.199632e+03 -2.576899e+03 -4.310131e+03
## [24441] 1.297890e+02  3.009785e+03 -3.250383e+03 -4.616174e+03
## [24445] -1.026297e+04  8.605622e+03  8.618408e+03  1.651370e+04
## [24449] 1.253310e+03  3.511436e+03 -3.397513e+03  2.472238e+03
## [24453] 1.987406e+05 -1.309862e+03  1.888841e+04 -3.950384e+03
## [24457] -6.150101e+03  3.192482e+03 -3.957232e+03  2.219986e+04
## [24461] 1.975864e+03  3.236721e+04  3.864501e+03 -4.895182e+03
## [24465] -5.998652e+03 -4.550176e+03 -3.919780e+03  2.409624e+03
## [24469] -5.184685e+03  4.885950e+04 -3.589697e+03 -4.897139e+03
## [24473] -5.239693e+03  3.864501e+03  2.556888e+04 -3.017056e+03
## [24477] -5.320232e+03 -3.749393e+03  1.858682e+04 -3.513124e+03
## [24481] 1.535890e+04 -4.461651e+03 -5.190944e+03 -1.456237e+02
## [24485] 7.533078e+02  3.843461e+03 -5.558647e+03  6.086797e+03
## [24489] 3.938418e+02 -6.166872e+03  5.329877e+03 -5.229908e+03
## [24493] 2.357175e+04  3.240982e+03  3.020638e+03 -4.110170e+03
## [24497] -5.766487e+03  4.902382e+03 -5.757837e+03 -2.828731e+03
## [24501] -6.473060e+03 -3.631877e+03 -5.031853e+03 -1.208108e+04
## [24505] -4.640023e+03 -3.902331e+03 -4.671075e+03 -5.056180e+03
## [24509] -3.444380e+03 -5.052643e+03 -4.671075e+03  6.082411e+03
## [24513] -3.042543e+03  3.746723e+03  4.973597e+03 -5.405709e+03
## [24517] -2.147632e+02  3.666220e+03 -1.077520e+04 -4.878915e+03
## [24521] -4.782190e+03  1.911958e+03 -4.736087e+02  3.607971e+03
## [24525] 2.770402e+03 -3.125874e+03  4.028430e+03 -1.606548e+03
## [24529] -3.805158e+03 -1.068488e+04  5.111539e+03  2.568963e+03
## [24533] 1.157314e+03  1.813816e+02 -4.289581e+03 -1.676085e+03
## [24537] 3.841872e+04 -4.959939e+03 -1.181440e+04  1.029363e+05
## [24541] 2.474897e+05 -4.565390e+03  2.194509e+04 -5.350807e+03
## [24545] -4.472171e+03 -9.945656e+03 -4.311609e+03 -3.486652e+03
## [24549] 3.996607e+03 -4.110170e+03 -2.548562e+03 -2.863133e+03
## [24553] -4.671075e+03  2.493564e+03  3.369512e+03  3.864501e+03
## [24557] 3.703073e+03  2.309802e+03 -5.701760e+03 -3.248237e+03
## [24561] 7.293008e+03  1.433040e+03 -4.671075e+03  3.637342e+03
## [24565] 7.060992e+04 -3.008358e+03 -3.482575e+03 -3.125874e+03
## [24569] 6.616723e+03  4.085366e+04 -1.098304e+04 -4.782190e+03
## [24573] -4.723224e+03 -5.169440e+03 -4.886151e+03  2.391847e+05
## [24577] 8.580239e+02 -2.519912e+03 -5.278631e+03  2.469036e+03
## [24581] 1.408100e+03  3.246395e+04  1.432656e+04 -2.031774e+03
## [24585] 1.584666e+03 -2.652527e+03 -3.749393e+03 -2.830454e+03
## [24589] 2.825303e+03 -3.902331e+03  2.535238e+03  3.296266e+03
## [24593] 1.947315e+05  3.656662e+03  5.646837e+03  4.463236e+03
```

```
## [24593] 1.947515e+03  3.050002e+03 -5.040057e+03 -4.405250e+03
## [24597] 3.137949e+03  2.177858e+04  5.164984e+03  2.111460e+03
## [24601] 1.426783e+04 -2.239614e+03  1.360465e+04 -6.250550e+03
## [24605] -9.749934e+03  3.345788e+03 -3.749393e+03 -4.758016e+03
## [24609] 3.022524e+03  3.867056e+03  1.238273e+04  1.037265e+04
## [24613] 4.895618e+05  4.962605e+05 -2.691049e+02 -2.437907e+03
## [24617] -5.350125e+03  1.560352e+03  2.757624e+03 -1.764413e+04
## [24621] -5.991715e+03  3.393921e+03  3.119657e+03 -5.197869e+03
## [24625] 4.297166e+04  2.562562e+03 -4.517781e+03 -2.477435e+03
## [24629] -5.814462e+03 -1.047018e+04 -4.822535e+03  2.092207e+04
## [24633] 3.993213e+03 -3.062904e+03 -2.086676e+03 -2.881487e+03
## [24637] 1.834789e+03  1.756557e+03  2.100229e+03  2.472238e+03
## [24641] -2.911186e+03 -4.996430e+03  2.902831e+03  1.487941e+03
## [24645] -3.641725e+03 -1.030873e+04 -5.613548e+03  1.608608e+04
## [24649] 5.552361e+03 -3.001433e+03  2.770402e+03 -4.990029e+03
## [24653] -3.070972e+03  4.795743e+03  2.451907e+03  1.078914e+05
## [24657] 4.042583e+03 -5.253635e+03 -4.990029e+03 -3.943381e+03
## [24661] -3.623790e+03 -1.178525e+04 -1.117249e+03 -3.838079e+03
## [24665] -4.012998e+03  1.950177e+03 -4.830874e+03 -4.165072e+03
## [24669] 7.386983e+05  3.033143e+03  2.813107e+02 -3.687566e+03
## [24673] 1.786105e+03  1.223333e+05 -2.710195e+03  1.939043e+03
## [24677] -4.372911e+03  4.648544e+03  2.132759e+04 -3.936901e+03
## [24681] 5.861892e+03 -6.097498e+03  3.339387e+03 -4.666937e+03
## [24685] 1.903698e+03 -1.041504e+04 -1.922391e+03 -2.621846e+03
## [24689] -3.576976e+03 -3.694491e+03 -3.694491e+03  4.134955e+03
## [24693] -3.927324e+03 -4.947927e+03  1.833717e+04  3.448822e+03
## [24697] 5.169940e+03 -1.606548e+03  1.150956e+05  2.617851e+04
## [24701] -3.541553e+03 -4.158146e+03 -4.525850e+03  1.413975e+04
## [24705] -6.830011e+03 -2.898099e+04  5.119620e+03  1.074509e+04
## [24709] -4.110170e+03  1.465636e+04  6.926861e+03 -3.486652e+03
## [24713] -4.729625e+03 -4.914313e+03 -5.241404e+03 -4.751615e+03
## [24717] -3.028701e+03  4.905669e+02 -3.597319e+03  5.913139e+03
## [24721] 2.472238e+03 -4.408334e+03 -3.957232e+03  1.094221e+04
## [24725] -4.815927e+03 -1.537220e+04 -2.855064e+03 -1.114923e+04
## [24729] -5.186879e+03 -8.595560e+02 -2.955188e+03  7.391243e+02
## [24733] 1.896697e+03  2.868023e+05  3.311695e+03  3.965587e+04
## [24737] -3.541553e+03 -1.221071e+03  2.723695e+03 -3.805158e+03
## [24741] -4.372911e+03  1.419110e+03  7.300694e+04  1.107685e+03
## [24745] -4.782190e+03  2.199997e+04 -2.834546e+03 -2.860398e+03
## [24749] -4.844356e+03  2.059579e+03  3.044133e+03  5.552931e+02
## [24753] -3.435941e+03  4.415354e+03 -2.659484e+03  5.331005e+03
## [24757] 2.825303e+03  3.236791e+03 -9.382939e+03  1.358115e+03
## [24761] -3.254185e+03  3.033143e+03 -4.996430e+03  3.547317e+03
## [24765] 2.409624e+03 -4.934681e+03 -4.408334e+03  4.577040e+05
## [24769] -4.200495e+03  4.470623e+03  4.522057e+03 -3.333713e+03
## [24773] -4.525850e+03 -1.497971e+03  6.507608e+03 -2.617304e+03
## [24777] 2.720570e+05 -1.589711e+03 -1.051246e+04  3.342403e+03
## [24781] 6.355789e+03 -3.394118e+03 -3.993916e+03  6.104566e+02
## [24785] 1.633905e+04  7.706570e+03 -6.194132e+02  3.083853e+03
## [24789] -4.961600e+03 -8.250748e+03  6.659188e+04 -1.517351e+03
## [24793] -4.165072e+03 -3.321146e+03  5.250494e+04 -3.700364e+03
## [24797] 4.166210e+03  5.422090e+04  1.386134e+04  3.334700e+03
## [24801] -4.878915e+03  2.815481e+03 -1.051313e+03 -1.111306e+04
## [24805] -2.214907e+03 -2.659484e+03 -4.771057e+03  6.860155e+05
## [24809] -4.110170e+03  4.304687e+03  7.062897e+03 -8.060669e+03
## [24813] 4.465588e+03  3.646848e+04  2.978241e+03  9.057985e+04
## [24817] -6.127501e+03 -3.046012e+03 -4.636517e+03 -1.871251e+03
## [24821] -4.012998e+03 -1.133398e+03  3.049534e+03  2.331306e+03
## [24825] -1.683754e+03  2.097469e+03 -2.396743e+03 -3.150049e+03
## [24829] 3.915211e+03 -2.035965e+03 -4.067163e+03 -5.799121e+03
## [24833] -2.582937e+03  7.206844e+02  1.939043e+03 -3.017937e+03
## [24837] -5.105610e+03  2.623678e+03  1.514358e+05  1.506650e+05
## [24841] 1.066849e+04  9.839985e+03  1.142527e+03 -3.694491e+03
## [24845] 5.564238e+04 -3.930183e+03  1.578266e+03  4.993495e+04
## [24849] -3.516900e+03 -4.484193e+03  7.110028e+03 -4.037939e+03
## [24853] -5.321040e+03 -3.723861e+03  3.185121e+04 -4.165072e+03
## [24857] -4.507221e+02 -5.627419e+03  5.032393e+03 -3.125874e+03
## [24861] -3.125874e+03  1.719742e+05 -5.801803e+03  1.991097e+03
## [24865] -4.110170e+03 -1.785946e+03  3.417231e+05  8.927160e+04
## [24869] -1.744318e+03  2.323207e+03 -4.073402e+03  1.496040e+03
## [24873] 1.208054e+05 -2.396743e+03 -4.733689e+03  3.677978e+03
## [24877] -2.333745e+03 -8.496190e+02 -4.483578e+03  2.709997e+03
## [24881] -4.005377e+03 -2.396743e+03  1.942821e+04  9.072589e+03
## [24885] 2.999716e+03  2.978241e+03 -1.184039e+03 -2.429427e+03
## [24889] -3.546608e+03 -3.476515e+03 -6.797739e+03  2.973243e+04
## [24893] 9.593320e+04 -1.259152e+03 -1.102023e+03 -5.001933e+03
```

```
## [24897]  8.420152e+03 -4.372911e+03 -2.211746e+02  5.423731e+03
## [24901]  9.378168e+03 -3.008358e+03 -1.309862e+03  3.311695e+03
## [24905]  1.695781e+03 -3.270743e+03 -5.086755e+03 -5.363312e+03
## [24909] -3.805158e+03 -6.358151e+03 -2.481533e+03 -4.110170e+03
## [24913]  2.869229e+03 -4.685017e+03  2.930557e+03  2.945063e+03
## [24917]  2.160669e+03  8.644224e+02 -4.599948e+03 -2.906243e+03
## [24921]  6.351300e+04  3.952258e+03 -5.350042e+03 -1.427380e+03
## [24925] -1.484852e+03  2.347641e+03 -4.359137e+03 -6.104128e+02
## [24929]  3.123166e+04  1.934207e+03  2.506809e+03  2.047347e+03
## [24933] -4.463236e+03 -3.278812e+03  1.530745e+04 -4.301784e+03
## [24937] -4.890380e+03 -1.620748e+03 -3.957232e+03 -3.902331e+03
## [24941] -3.663916e+03 -2.973800e+03  1.185213e+03 -4.892857e+03
## [24945] -4.186405e+03  8.141864e+04 -8.831928e+02  3.378383e+03
## [24949] -2.756901e+03  3.852608e+03  1.113688e+04 -3.914835e+03
## [24953] -9.917595e+02 -4.372911e+03  5.174711e+03  1.971826e+03
## [24957]  2.617464e+03 -4.892857e+03 -3.303138e+03 -1.187061e+04
## [24961] -4.574350e+03  5.969261e+03 -4.318568e+03 -2.574981e+03
## [24965]  2.442063e+04  3.592840e+04 -3.479803e+03  7.072218e+02
## [24969]  1.114086e+03 -4.996430e+03 -2.875026e+03  3.644340e+03
## [24973] -4.366063e+03  1.780663e+03 -3.125874e+03 -6.155302e+03
## [24977]  3.972775e+03  1.380441e+04  8.955224e+04 -6.029228e+03
## [24981] -3.075408e+03  1.195794e+05 -3.749393e+03  1.352345e+03
## [24985] -4.012998e+03 -3.333713e+03  1.331313e+04  8.644224e+02
## [24989]  3.209523e+03 -2.275487e+03  1.740902e+04 -3.102891e+03
## [24993] -3.583217e+03 -5.052196e+03  7.688078e+04  1.369523e+03
## [24997]  3.921295e+03 -1.094182e+03 -2.141221e+03 -3.322870e+03
## [25001] -2.647224e+03  2.680077e+03  2.361123e+03 -4.671075e+03
## [25005] -2.376734e+03 -3.694491e+03 -3.749393e+03  9.105399e+03
## [25009] -5.294594e+03 -4.012998e+03  8.437883e+03 -4.855027e+03
## [25013]  2.079877e+04 -1.999818e+03 -4.047557e+03 -4.580751e+03
## [25017]  6.918597e+03  2.005009e+04 -2.918034e+03  4.677494e+03
## [25021] -4.543775e+03 -4.255396e+03  4.331257e+03  3.588278e+03
## [25025]  2.437909e+04 -3.076633e+03  8.458850e+03  1.072262e+03
## [25029]  3.575709e+03 -4.428677e+03 -9.106700e+03  3.209076e+03
## [25033] -4.463236e+03 -3.036529e+02  3.051550e+03  2.580490e+03
## [25037]  3.620066e+03  6.066445e+03 -3.957232e+03  6.897993e+03
## [25041] -2.587879e+03  8.317515e+03 -1.071894e+04 -3.615828e+03
## [25045] -1.998453e+03  3.592307e+04 -5.722114e+03 -4.794614e+03
## [25049]  1.299547e+04 -6.012349e+03  3.103810e+04  2.494120e+03
## [25053] -4.755086e+03  1.104148e+05  1.291661e+03 -5.570487e+03
## [25057] -8.526975e+03 -5.266763e+03 -4.141890e+03 -4.267821e+03
## [25061]  2.984311e+03  1.325649e+03  7.021302e+02  1.263794e+04
## [25065] -5.417549e+03 -6.137793e+03  2.817848e+03 -4.320124e+03
## [25069]  2.276542e+03  2.348618e+05 -3.883472e+03  1.804065e+03
## [25073] -4.982311e+03 -1.114357e+04 -2.622848e+03  2.581835e+04
## [25077]  9.308798e+03  7.953027e+03 -2.515593e+03 -5.625973e+03
## [25081] -2.275396e+03  5.381306e+03 -1.222891e+03  2.194192e+03
## [25085]  8.164285e+03  8.858247e+03  1.229590e+03  1.173835e+03
## [25089] -4.420759e+03  9.735404e+01  7.050454e+04  6.749914e+02
## [25093] -2.413458e+03 -3.948695e+03 -4.283625e+03 -4.460746e+03
## [25097] -4.326612e+03  7.970316e+02 -3.820937e+03  1.439352e+02
## [25101]  6.964033e+04  2.072454e+03 -4.831400e+03 -6.817525e+03
## [25105] -4.330435e+03  4.004483e+03  8.233662e+03 -4.313850e+03
## [25109]  2.217920e+03  1.365829e+03 -4.267236e+03  4.213993e+03
## [25113] -6.474874e+03  4.185229e+02 -5.865325e+03  3.862585e+03
## [25117]  2.981987e+03 -3.837326e+03  2.489753e+04  2.691458e+04
## [25121] -4.228161e+03  3.224818e+04 -4.946968e+03 -6.138377e+03
## [25125]  4.239799e+04  7.648673e+02  1.355318e+02 -3.259693e+03
## [25129]  1.477399e+04  3.491881e+02 -3.832819e+03 -5.449646e+03
## [25133] -5.209709e+03 -4.891339e+03 -4.239083e+03 -9.610075e+03
## [25137] -4.445728e+03 -3.580915e+03 -4.881029e+03 -1.042620e+04
## [25141]  5.585562e+04  6.235637e+02  2.514418e+03  8.033197e+03
## [25145]  2.235872e+03  1.603639e+04 -4.434004e+03  1.205412e+03
## [25149] -3.633395e+03 -5.419702e+03 -4.794614e+03 -3.228623e+03
## [25153] -3.348873e+03 -5.407822e+03  1.071860e+04  7.520138e+05
## [25157] -5.145081e+03  1.181131e+03 -2.762705e+03 -3.213223e+03
## [25161]  2.664295e+03 -1.612392e+03  4.592592e+03  1.588170e+03
## [25165]  2.686791e+04 -2.318954e+03  7.267051e+03 -4.946968e+03
## [25169]  1.719778e+04 -3.162579e+03  1.694318e+04  8.155151e+04
## [25173] -5.088272e+03  1.002055e+03 -4.059397e+03 -5.221076e+03
## [25177] -5.210294e+03 -2.204367e+03 -5.712387e+03 -4.628598e+03
## [25181] -4.794614e+03 -2.934223e+03 -1.095698e+04 -5.740191e+03
## [25185]  1.564475e+04 -5.625973e+03  2.373407e+04 -1.710831e+04
## [25189]  2.229689e+03  1.598045e+03  2.322385e+04 -2.607152e+03
## [25193]  2.449363e+03  1.018183e+03 -5.210294e+03  8.285723e+03
```

```
## [25197] -4.970110e+03 -4.212919e+03  2.123020e+03  2.238447e+04
## [25201] -5.210294e+03  4.780356e+03  1.153181e+04  2.341182e+03
## [25205]  3.383396e+03 -3.994769e+03 -4.238054e+03 -3.131897e+03
## [25209]  2.953372e+05 -4.365424e+03  2.613076e+03  1.712723e+03
## [25213]  1.591865e+04 -1.834179e+03  4.083900e+03  8.811418e+03
## [25217] -3.395519e+03 -4.947553e+03 -2.657407e+03 -3.339737e+03
## [25221]  2.996170e+03 -3.466225e+03 -1.099404e+04 -4.202608e+03
## [25225] -3.955127e+03  1.708545e+03 -4.659219e+03  2.068118e+03
## [25229] -2.974035e+03 -2.452678e+03 -1.131302e+04 -4.267821e+03
## [25233] -5.976440e+03  1.398709e+03  3.236352e+02 -3.190859e+03
## [25237]  3.197683e+03 -1.897242e+03 -5.418133e+03 -3.356418e+03
## [25241] -4.704290e+03 -5.625973e+03 -4.683500e+03  2.230067e+03
## [25245] -4.947553e+03  2.068118e+03 -4.025389e+03 -2.397264e+03
## [25249] -3.661795e+03 -1.162560e+03  3.705064e+04 -4.374727e+03
## [25253] -2.296330e+03 -2.348622e+03 -3.280627e+03  1.360890e+05
## [25257] -4.111986e+03  8.603995e+03 -2.935831e+02  4.758413e+03
## [25261]  7.392142e+02 -2.864948e+03 -7.614088e+02  7.791585e+02
## [25265]  2.111241e+03 -2.977855e+03  1.615679e+03 -2.536102e+03
## [25269] -3.488467e+03 -4.037818e+03 -2.965740e+03 -2.282984e+03
## [25273]  7.220595e+03 -2.657108e+03 -1.790327e+03 -2.657108e+03
## [25277] -2.976062e+03 -2.646786e+03 -1.230793e+04 -1.024150e+03
## [25281] -2.393470e+03 -2.708682e+03 -4.628457e+03 -3.030964e+03
## [25285]  1.144470e+04  6.352661e+02 -4.015261e+03  1.539787e+03
## [25289] -2.883921e+03  2.507527e+04  2.521931e+03  4.643758e+04
## [25293]  2.797147e+03 -2.758310e+03  2.095337e+04 -1.374605e+03
## [25297] -3.006850e+03 -3.599581e+03 -1.496042e+03 -2.768223e+03
## [25301] -4.817271e+03  4.768495e+03  4.678363e+04 -3.127689e+03
## [25305] -2.023267e+03  7.352666e+03  1.086530e+04  1.359927e+02
## [25309]  3.550806e+03  3.076114e+03  1.207751e+04 -2.712010e+03
## [25313] -9.130397e+02  2.350721e+03 -3.293132e+03 -2.241429e+03
## [25317] -4.641871e+03  2.786824e+03 -1.991766e+03 -3.596317e+03
## [25321] -1.536559e+03 -2.560383e+03 -2.680968e+03 -2.022966e+03
## [25325]  5.989980e+03  5.610177e+03 -3.325206e+03  3.420666e+03
## [25329]  6.718282e+03 -2.615285e+03 -2.006277e+03 -5.246073e+03
## [25333] -1.456495e+03  1.015640e+04  7.967830e+03 -7.270869e+01
## [25337]  4.186800e+03 -2.412807e+03 -3.391742e+03 -2.059142e+03
## [25341]  4.387420e+03  8.935894e+01 -3.335529e+03 -1.880651e+03
## [25345]  3.242482e+04 -4.212777e+03 -2.604962e+03  5.097341e+03
## [25349]  7.037913e+02 -2.449269e+03 -2.449269e+03  3.466556e+03
## [25353] -3.280627e+03 -2.057871e+03  1.076947e+04 -3.797098e+03
## [25357] -2.768223e+03  4.100398e+03  4.709170e+04 -3.317574e+03
## [25361] -3.726069e+03  5.546683e+03  4.570531e+05 -2.823124e+03
## [25365]  6.258123e+03  9.992084e+03  1.842414e+04 -1.527782e+03
## [25369]  4.067949e+03 -3.043439e+03 -4.251148e+03  4.986658e+03
## [25373] -9.840686e+02  8.154331e+03  4.297915e+03  1.164859e+04
## [25377]  9.206034e+03 -2.144704e+03 -1.711144e+03 -1.824685e+02
## [25381] -2.035841e+03 -3.436320e+03  1.892502e+04  5.042440e+03
## [25385]  4.186800e+03 -1.410071e+03  8.132346e+03 -3.030122e+03
## [25389] -2.712010e+03  3.075032e+03 -9.216478e+03 -1.429506e+03
## [25393]  1.683354e+04  5.670981e+03  6.609293e+03 -8.059874e+02
## [25397] -2.437302e+03  7.856331e+03 -1.800607e+03  4.277167e+03
## [25401]  4.315870e+03 -1.802285e+03  4.359886e+03  5.825236e+03
## [25405] -3.446643e+03 -4.006310e+02  4.273633e+03  3.679463e+03
## [25409]  1.080327e+05  8.767315e+03 -2.265710e+03  1.651200e+04
## [25413] -3.183902e+03  4.744214e+03  8.129380e+04  1.451584e+03
## [25417]  3.901789e+03 -1.991766e+03  3.420666e+03 -2.064210e+03
## [25421] -2.296330e+03  1.909291e+04 -3.893823e+03 -1.880651e+03
## [25425] -2.734600e+03 -2.352544e+03 -2.033590e+03 -1.870328e+03
## [25429] -1.672812e+03 -4.799773e+03 -2.574342e+03  1.139613e+04
## [25433] -2.615285e+03  5.129273e+03 -2.504170e+03 -9.233625e+02
## [25437] -3.391742e+03 -2.265710e+03  3.242505e+04  4.279400e+03
## [25441] -1.553788e+03 -3.046115e+03  2.732061e+04  2.785026e+03
## [25445]  3.110269e+03  1.173532e+04 -2.582342e+02 -2.252957e+03
## [25449]  7.270607e+03  7.226298e+03  4.520917e+03  4.091284e+03
## [25453]  4.197634e+03  3.768665e+03 -1.690267e+03  3.397365e+03
## [25457] -1.419998e+03 -1.018136e+02  1.002048e+03  3.298405e+04
## [25461]  7.363867e+03  2.391714e+04 -1.131249e+03  6.014395e+03
## [25465]  8.132022e+02  7.279961e+03 -1.603141e+03  2.501832e+04
## [25469]  2.462590e+04  7.303742e+03  5.174356e+03  1.251712e+03
## [25473]  2.086468e+02 -8.603620e+02  4.367979e+03  1.593853e+04
## [25477]  4.201963e+03 -6.444616e+02  1.216938e+04 -1.302196e+03
## [25481] -5.887351e+02 -1.450203e+03  3.778368e+03  4.001525e+03
## [25485] -1.833893e+03 -3.046282e+03 -2.919427e+03  4.588640e+03
## [25489] -3.766359e+03  6.340484e+03 -1.799077e+03 -2.040595e+03
## [25493] -1.997508e+03  5.966001e+03  6.863520e+03  1.122557e+04
## [25497] -2.991214e+03 -2.103642e+03  1.485898e+04  5.848952e+03
```

```
## [25497] 2.391214e+03  2.186842e+03  1.185898e+04  3.189525e+03
## [25501] 5.144436e+03  5.707830e+03 -1.985938e+03  1.040293e+04
## [25505] 6.558542e+03  3.885733e+03  6.815132e+03  4.163214e+03
## [25509] 1.796430e+04  9.471471e+02  1.470709e+04 -6.190121e+02
## [25513] -2.303503e+03  2.828021e+03 -9.205099e+01 -3.703311e+03
## [25517] -1.383398e+03  5.258660e+03  5.412401e+03  4.105238e+03
## [25521] -8.566043e+02  4.279400e+03 -1.757754e+03  7.277734e+03
## [25525] -3.010677e+03  5.615017e+03 -1.832755e+03  5.992542e+03
## [25529] -1.604984e+03  8.595188e+03  1.205998e+04 -1.438467e+03
## [25533] 1.714652e+04  7.571706e+03  1.828244e+04  1.088926e+04
## [25537] 3.631009e+03  1.294923e+04 -1.840901e+03  5.631358e+03
## [25541] 7.987386e+03  6.321232e+02  5.837176e+03  1.317805e+04
## [25545] 5.348518e+03 -2.107400e+03 -2.092392e+01  1.242243e+04
## [25549] 1.323523e+04  6.213554e+03  1.863131e+04  7.330189e+03
## [25553] 3.785296e+02  6.677966e+02  7.657548e+02  7.143523e+03
## [25557] -5.618338e+00  7.393075e+02  5.590035e+03  1.376321e+04
## [25561] 1.502613e+03  1.276855e+03  5.576530e+03  6.332938e+03
## [25565] 8.185182e+03  6.803396e+03  3.236282e+02  5.848261e+03
## [25569] 6.464942e+02  4.859748e+03  9.471471e+02 -2.998906e+02
## [25573] 7.418768e+03 -2.998906e+02  1.157886e+02  4.808021e+03
## [25577] 5.229258e+03  6.181402e+03  7.755809e+02 -8.880814e+03
## [25581] -5.077302e+02  6.573536e+03  7.010823e+03  1.939969e+04
## [25585] 1.967451e+04  9.472179e+02  5.203705e+03  1.223122e+03
## [25589] -8.504343e+01  6.820449e+03  7.205496e+03 -2.031655e+02
## [25593] 7.796243e+03  6.854156e+03  6.462957e+03  6.408722e+03
## [25597] -1.076348e+03 -1.676605e+03  5.227877e+03  1.899730e+04
## [25601] -4.580333e+02 -7.232598e+03  2.194399e+03 -6.188447e+02
## [25605] 1.114703e+03  3.055002e+04  6.753699e+03 -3.733542e+02
## [25609] 4.506732e+00  4.764916e+04  6.333263e+03  6.587410e+03
## [25613] 9.586273e+04  6.661195e+03  6.324384e+03  5.484761e+03
## [25617] 5.074697e+03  7.105947e+03  8.948327e+03  5.866639e+03
## [25621] 6.829666e+03  6.021168e+03  1.407635e+04  1.314088e+04
## [25625] 5.048301e+03  1.230937e+04  1.211863e+04  3.209698e+04
## [25629] 1.137298e+04  3.765957e+04  6.568470e+03  5.307531e+03
## [25633] 6.747700e+03  6.379419e+03  5.925426e+03  5.987034e+03
## [25637] 6.741279e+03  5.794955e+03  5.203176e+03  8.960757e+03
## [25641] 1.375000e+04  5.112852e+03  7.741081e+03  5.929109e+03
## [25645] 7.009973e+03  6.348460e+03  5.113592e+03  1.219540e+04
## [25649] 1.122136e+04  8.955826e+03  5.110293e+03  1.843472e+05
## [25653] 1.290551e+04  1.287779e+04  4.690558e+03  7.325402e+03
## [25657] 5.903696e+03  4.545087e+04  1.256864e+04  1.047694e+04
## [25661] 7.380303e+03  6.829364e+03  1.306982e+04  4.139090e+03
## [25665] 7.558384e+03  1.214082e+04  1.244567e+04  5.717586e+03
## [25669] 5.662541e+03  5.883791e+03  3.041567e+04  7.813759e+03
## [25673] 1.731980e+04  5.539581e+03  1.192940e+04  5.580874e+03
## [25677] 1.633102e+04  7.533241e+03  6.270171e+03  6.286204e+03
## [25681] 4.764114e+03  7.938319e+03  1.322171e+04  1.170783e+04
## [25685] 2.186658e+02  1.195949e+04  5.775053e+03  5.674171e+03
## [25689] 1.913518e+04  1.333997e+04  1.920885e+04  7.346841e+03
## [25693] 1.552267e+04  7.782034e+03  5.976208e+03  6.778872e+03
## [25697] 5.414690e+03  1.042280e+04  5.550631e+03  6.935458e+03
## [25701] 1.569771e+04  1.293783e+04  1.813718e+04  1.117891e+04
## [25705] 5.627481e+03  7.278460e+03  1.180219e+04  6.994554e+03
## [25709] 1.664381e+04  1.769750e+04  7.313145e+03  5.210749e+04
## [25713] 5.896296e+03  6.078364e+03  2.518099e+04  1.303073e+04
## [25717] -1.547086e+02  2.489317e+04  7.171691e+03  1.411793e+04
## [25721] 6.964624e+03  6.378770e+03  7.483306e+03  1.409330e+04
## [25725] 5.568968e+03  4.775113e+03  6.587258e+03  6.701883e+03
## [25729] 4.957355e+03  1.243007e+04  4.889432e+04  1.284575e+04
## [25733] 5.870524e+03  1.508111e+04  7.688602e+03  1.329417e+04
## [25737] 6.089402e+03  5.556846e+03  6.178946e+03  2.526469e+04
## [25741] 8.539290e+03  1.349505e+04  1.211112e+04  1.375860e+04
## [25745] 1.286198e+04  5.199751e+03  6.622798e+03  6.430831e+03
## [25749] 7.606896e+03  5.110191e+03  5.757203e+03  1.393027e+04
## [25753] 7.379967e+03  5.370651e+03  4.907829e+04  1.263791e+04
## [25757] 5.811427e+04  6.494043e+03  1.276275e+04  1.295256e+04
## [25761] 5.523672e+03  1.351023e+04  1.271178e+04  9.054918e+03
## [25765] -1.357676e+03  6.909723e+03  7.078245e+03  3.303821e+04
## [25769] 6.212544e+03  5.781331e+03  1.370915e+04  5.650180e+03
## [25773] 1.262065e+04  6.240716e+03  6.364313e+03  8.859488e+03
## [25777] 5.871035e+03  5.469567e+03  6.258522e+03  6.943834e+03
## [25781] 1.170188e+04  7.974692e+03  2.407479e+04  1.169853e+04
## [25785] 8.284207e+03  5.947514e+03  5.883243e+03  2.280289e+04
## [25789] 1.385517e+04  5.349187e+03  1.144875e+04  1.061071e+04
## [25793] 6.756012e+03  8.465059e+03  1.182278e+04  7.267179e+03
## [25797] 1.284575e+04  1.031247e+04  1.574719e+04  7.118211e+03
```

```
## [25801] 8.178898e+03 1.564938e+04 8.445659e+03 1.187593e+04
## [25805] 9.101301e+03 7.741081e+03 1.025500e+04 1.317260e+04
## [25809] 1.755399e+04 1.354700e+04 6.170931e+03 1.375103e+04
## [25813] 9.119433e+03 6.915868e+03 5.583401e+03 9.541187e+03
## [25817] 7.796289e+03 7.795982e+03 6.534135e+03 7.220719e+03
## [25821] 1.218943e+04 7.383986e+03 6.683535e+03 1.412225e+04
## [25825] 6.089436e+03 1.227050e+04 4.847450e+03 6.785361e+03
## [25829] 5.102901e+03 8.478567e+03 5.666654e+03 7.533241e+03
## [25833] 7.812192e+03 7.730479e+03 1.259274e+04 7.046789e+03
## [25837] 1.266150e+04 1.253094e+04 5.344048e+04 8.103420e+03
## [25841] 1.311685e+04 2.356392e+05 1.038073e+04 1.856414e+04
## [25845] 1.248789e+04 7.421187e+03 1.860453e+05 5.373034e+03
## [25849] 5.914299e+03 1.165917e+04 7.193791e+03 7.913824e+03
## [25853] 3.847495e+04 1.360075e+04 1.187768e+04 7.273403e+03
## [25857] 1.311912e+04 1.182865e+04 1.234825e+04 6.357331e+03
## [25861] 1.280000e+04 1.787830e+04 6.741279e+03 6.756784e+03
## [25865] 1.172993e+04 9.925474e+03 4.952768e+03 6.756784e+03
## [25869] 3.723411e+03 7.128600e+03 5.050238e+03 1.096918e+04
## [25873] 8.049498e+03 6.862709e+03 1.124696e+04 6.373134e+03
## [25877] 6.516131e+03 5.197224e+03 1.408098e+04 7.482197e+03
## [25881] 1.922251e+04 4.296718e+04 1.152526e+04 5.795210e+03
## [25885] 5.509747e+03 6.899121e+03 1.423826e+04 6.733912e+03
## [25889] 7.795194e+03 1.007436e+04 5.548060e+03 6.088992e+03
## [25893] 1.167866e+04 6.400368e+03 1.217227e+04 8.269474e+03
## [25897] 7.226593e+03 6.797625e+03 9.826678e+02 5.737111e+03
## [25901] 6.554569e+03 7.105306e+03 1.373306e+04 3.115003e+05
## [25905] 5.839373e+03 5.495295e+03 6.708423e+03 1.063950e+04
## [25909] 1.254285e+04 3.304470e+04 5.465883e+03 7.349606e+03
## [25913] 1.298823e+04 4.080877e+04 7.325402e+03 6.653403e+03
## [25917] 1.371530e+04 7.577429e+03 1.670945e+04 7.285166e+03
## [25921] 1.078559e+04 1.012049e+04 6.957257e+03 5.765841e+03
## [25925] 3.246468e+04 2.541256e+04 6.256624e+03 1.215294e+04
## [25929] 5.936464e+03 9.715497e+03 1.266995e+04 1.298817e+04
## [25933] 7.199727e+03 6.622798e+03 2.422274e+04 4.872983e+03
## [25937] 5.805704e+03 2.315571e+04 5.976208e+03 8.379194e+03
## [25941] 1.896016e+04 5.974299e+03 1.258981e+04 5.892612e+03
## [25945] 6.969018e+03 4.509383e+03 6.626024e+03 1.014193e+04
## [25949] 6.266402e+03 8.259533e+03 5.528531e+03 3.777912e+03
## [25953] 1.198177e+04 2.316152e+04 3.060014e+04 4.337880e+04
## [25957] 5.429344e+03 5.050238e+03 1.372435e+04 1.266001e+04
## [25961] 6.023755e+03 6.993208e+03 7.347490e+03 7.235297e+03
## [25965] 8.029593e+03 6.437830e+03 1.304108e+04 1.451243e+04
## [25969] 7.422127e+03 1.328353e+04 8.756649e+03 1.308563e+04
## [25973] 5.508974e+03 7.752119e+03 1.130203e+04 9.587629e+01
## [25977] 1.548394e+04 4.743420e+03 6.813211e+03 1.148667e+04
## [25981] 8.000475e+03 1.626911e+04 8.048389e+03 6.370475e+03
## [25985] 6.537123e+03 4.814509e+03 1.154381e+04 6.385629e+03
## [25989] 7.610231e+03 4.535114e+04 7.520985e+03 1.714200e+04
## [25993] 1.265445e+04 5.814311e+03 6.100452e+03 8.295934e+03
## [25997] 1.205621e+04 1.426251e+04 6.519815e+03 1.563123e+04
## [26001] 7.017934e+03 3.959813e+03 7.197285e+03 5.957455e+03
## [26005] 7.412332e+03 1.274108e+04 1.422939e+04 5.557618e+03
## [26009] 1.473427e+04 1.084064e+04 1.039413e+04 8.828150e+03
## [26013] 5.318133e+03 1.102902e+04 1.185411e+04 1.261692e+04
## [26017] 8.548413e+03 1.032283e+04 3.771777e+04 7.021602e+03
## [26021] 1.037300e+04 7.004368e+03 6.273517e+03 1.535568e+04
## [26025] 6.161960e+03 5.029824e+04 6.864127e+03 1.223809e+04
## [26029] 1.263489e+04 1.055589e+05 5.383091e+03 7.782443e+03
## [26033] 1.132813e+04 8.268318e+03 1.434711e+04 1.289393e+04
## [26037] 7.421108e+03 6.426119e+03 1.098433e+04 5.948117e+03
## [26041] 6.546128e+03 6.330713e+03 1.814499e+04 1.910055e+04
## [26045] 7.760916e+03 6.556040e+03 1.149914e+04 1.209164e+04
## [26049] 6.488422e+03 1.225350e+04 5.718396e+03 7.184360e+03
## [26053] 1.282996e+04 8.355597e+03 7.937236e+03 1.264504e+04
## [26057] 6.553265e+03 7.007965e+03 7.017993e+03 1.402637e+04
## [26061] 5.930528e+03 1.271433e+04 5.380874e+03 1.262016e+04
## [26065] 1.104439e+04 5.201518e+03 4.865883e+03 -1.791847e+03
## [26069] 1.395635e+04 5.711974e+03 1.030973e+04 2.297231e+04
## [26073] 1.349133e+04 5.465751e+03 1.294661e+04 6.532317e+03
## [26077] 6.160455e+03 5.419792e+03 1.880313e+04 5.917283e+03
## [26081] 6.608176e+03 2.028186e+04 1.285086e+04 1.301647e+04
## [26085] 4.654189e+03 1.222960e+04 1.041467e+04 7.611997e+03
## [26089] 5.402794e+03 1.113854e+04 8.337421e+03 7.043609e+03
## [26093] 4.908728e+04 4.747551e+03 6.911662e+03 1.911404e+04
## [26097] 6.717648e+03 1.242004e+04 9.265535e+03 3.735834e+04
## [26101] 2.131001e+04 1.874566e+04 5.117965e+03 7.625286e+03
```

```
## [26101] 2.151001e+04 1.874366e+04 5.117965e+03 7.625286e+03
## [26105] 3.561509e+04 1.278536e+04 5.017858e+03 5.632583e+03
## [26109] 1.870386e+04 6.048413e+03 4.786885e+03 6.596043e+03
## [26113] 1.137169e+04 1.205155e+04 5.325805e+03 5.513164e+03
## [26117] 6.962695e+03 5.962569e+03 1.402320e+04 6.346207e+03
## [26121] 6.748641e+03 5.269003e+03 9.402522e+03 1.201950e+04
## [26125] 1.170057e+04 1.063498e+04 -8.475702e+02 1.429138e+04
## [26129] 5.170296e+03 6.793927e+03 4.773370e+03 6.592360e+03
## [26133] 6.700428e+03 1.300380e+04 1.261727e+04 9.468613e+04
## [26137] 1.707556e+04 6.291305e+03 1.141439e+04 1.163696e+04
## [26141] 5.061163e+03 2.446022e+04 6.039648e+03 4.424782e+03
## [26145] 5.825856e+03 1.226566e+04 1.565365e+04 6.681377e+03
## [26149] -1.916223e+03 2.062757e+04 6.079343e+03 9.052151e+04
## [26153] 7.020472e+03 7.538343e+03 5.120497e+03 8.038838e+03
## [26157] 1.222336e+04 1.887951e+04 5.952616e+03 1.276234e+04
## [26161] 5.807424e+03 7.385405e+03 7.513188e+03 1.273335e+04
## [26165] 1.182789e+04 1.136062e+04 6.212029e+03 1.321164e+04
## [26169] 1.671957e+04 6.157163e+03 6.463010e+03 1.217241e+04
## [26173] 7.122664e+03 1.250884e+04 6.105554e+03 4.532274e+03
## [26177] 1.264932e+04 6.691137e+03 6.778112e+03 5.165972e+03
## [26181] 6.985951e+03 1.463660e+04 5.984657e+03 1.449326e+04
## [26185] 6.608176e+03 1.060399e+04 1.221957e+04 5.536936e+03
## [26189] 6.337278e+03 5.556845e+03 7.644039e+03 1.271415e+04
## [26193] 1.942583e+04 6.436130e+03 1.004428e+04 1.183120e+04
## [26197] 3.055903e+04 1.413153e+04 4.546777e+03 7.326038e+03
## [26201] 4.559099e+03 6.272435e+03 5.070316e+03 1.466078e+04
## [26205] 1.324368e+04 5.854466e+03 1.453638e+04 6.317077e+03
## [26209] 5.016745e+04 6.228247e+03 1.026571e+04 6.154593e+03
## [26213] 1.123377e+04 1.261361e+04 9.984465e+03 5.930528e+03
## [26217] 5.482035e+03 6.115507e+03 6.795372e+03 4.268105e+05
## [26221] 4.449901e+03 7.164320e+03 5.949419e+03 6.017123e+03
## [26225] 2.824750e+03 1.243518e+04 8.370494e+03 4.504802e+03
## [26229] 6.170408e+03 1.260205e+04 1.606228e+04 1.262016e+04
## [26233] 6.940309e+03 8.472854e+03 6.226057e+03 7.005450e+03
## [26237] 1.250968e+04 5.919536e+03 1.299133e+04 5.144583e+03
## [26241] 1.798473e+04 1.037009e+04 6.352535e+03 5.774131e+03
## [26245] 4.924452e+05 5.378761e+03 7.842745e+03 5.563573e+03
## [26249] 6.712174e+03 1.250032e+04 5.936855e+03 7.082514e+03
## [26253] 5.063264e+03 1.319917e+04 5.023853e+03 7.280575e+03
## [26257] 1.356421e+04 1.376920e+04 1.262459e+04 5.265696e+03
## [26261] 1.162339e+04 8.829731e+03 4.803644e+03 6.989298e+03
## [26265] 1.364688e+04 1.228856e+04 1.355785e+05 1.831156e+04
## [26269] 1.901575e+04 7.612817e+03 7.941554e+03 1.208437e+04
## [26273] 1.364688e+04 1.389635e+04 1.240947e+04 2.176813e+03
## [26277] 1.403053e+04 6.365780e+03 8.041023e+03 1.711693e+04
## [26281] 6.105754e+03 4.705836e+04 1.129759e+04 4.968784e+03
## [26285] 5.934285e+03 1.041947e+04 7.340123e+03 1.154753e+04
## [26289] 6.346153e+03 9.032629e+03 5.323692e+03 6.726558e+03
## [26293] 1.302566e+04 -8.037128e+02 6.694516e+03 1.149263e+04
## [26297] 1.429810e+04 3.384954e+05 5.726889e+03 6.573619e+03
## [26301] 5.438545e+03 5.502380e+03 9.739683e+03 5.476958e+04
## [26305] 6.486677e+03 1.260768e+04 8.149394e+03 6.557804e+03
## [26309] 5.684470e+03 1.270168e+04 5.918059e+03 4.885806e+04
## [26313] 7.030955e+03 1.219200e+04 4.367241e+04 2.371440e+04
## [26317] 2.564595e+04 8.209903e+03 1.401192e+04 6.294369e+03
## [26321] 7.040911e+03 8.896974e+03 1.268077e+04 5.001993e+05
## [26325] 1.375688e+04 6.179803e+03 5.592303e+03 1.090498e+04
## [26329] 1.347330e+04 1.261137e+04 4.728904e+03 1.934811e+04
## [26333] 1.526256e+04 -5.589324e+03 -4.677150e+03 7.866918e+03
## [26337] 1.939831e+05 5.389591e+03 6.997618e+03 1.331653e+04
## [26341] 1.052083e+05 1.114977e+04 1.070491e+04 6.358472e+03
## [26345] 1.306586e+04 1.334800e+04 6.217266e+03 7.358889e+03
## [26349] 6.291911e+03 1.227073e+04 2.563116e+04 5.714645e+03
## [26353] 6.028995e+03 1.901426e+04 1.769875e+04 5.570883e+03
## [26357] 5.900396e+03 6.656651e+03 9.291009e+03 5.290852e+03
## [26361] 4.474974e+03 7.640102e+03 1.343230e+04 1.359169e+04
## [26365] 9.043133e+03 6.409290e+03 1.583011e+04 1.313413e+04
## [26369] 1.416004e+04 1.933346e+04 6.993723e+03 6.140887e+03
## [26373] 7.813646e+03 1.267052e+04 1.732705e+04 8.922204e+03
## [26377] 4.516646e+03 6.259862e+03 7.057100e+03 7.854721e+03
## [26381] 2.886622e+04 6.559183e+03 6.876208e+03 5.413077e+03
## [26385] 3.036553e+04 4.718796e+04 5.789282e+03 1.051644e+04
## [26389] 6.357732e+03 1.197742e+04 1.184181e+04 1.002989e+04
## [26393] 5.146705e+03 1.372561e+04 1.296791e+04 6.719498e+03
## [26397] 1.914179e+04 1.408639e+04 1.325503e+04 6.448698e+03
## [26401] 6.551652e+03 6.725198e+03 1.232486e+04 9.232833e+03
```

```
##  [26405] 2.410418e+05  6.494141e+02  1.173714e+04  1.726279e+04
##  [26409] 7.861579e+03  7.671392e+03  9.314660e+03  6.442404e+03
##  [26413] 1.139939e+04  9.227262e+03  1.228837e+05  1.233692e+05
##  [26417] 1.248943e+04  5.818585e+03  5.977386e+03  6.547135e+03
##  [26421] 1.612173e+04  7.603350e+05  4.756527e+03  6.598353e+03
##  [26425] 1.224852e+04  1.044586e+04  1.270264e+04  1.075153e+04
##  [26429] 6.971636e+03  1.085705e+04  6.828312e+03  1.338439e+04
##  [26433] 8.203531e+03  3.256842e+04  8.162292e+03  1.206289e+04
##  [26437] 5.987339e+03  1.736122e+04  6.409168e+03  2.435790e+02
##  [26441] 1.367071e+04  1.312089e+04  7.730016e+03  5.304445e+03
##  [26445] 7.971464e+03  6.904894e+03  1.600019e+04  1.163471e+04
##  [26449] 5.068248e+03  5.120705e+03  4.392217e+03  1.079308e+04
##  [26453] 4.788230e+03  1.321375e+03  5.826524e+03  7.006692e+03
##  [26457] 5.568967e+03  8.620797e+03  7.869397e+02  1.319810e+04
##  [26461] 1.168887e+04  6.879139e+04  1.959745e+02  1.963985e+05
##  [26465] 1.411843e+04  1.225823e+04  4.682511e+03  6.316075e+03
##  [26469] 9.515666e+03  5.389591e+03  5.327047e+03  6.768165e+03
##  [26473] 4.203739e+03  5.786847e+03  1.112042e+04  4.056662e+04
##  [26477] 8.977425e+03  5.842333e+03  1.848917e+04  9.208841e+03
##  [26481] 8.084140e+03  1.176461e+04  6.939594e+03  3.213020e+04
##  [26485] 4.362936e+03  6.731755e+03  1.768553e+04  1.395356e+04
##  [26489] 6.817009e+03  3.671851e+04  5.907926e+03  7.199959e+04
##  [26493] 1.841892e+04  6.624497e+03  1.260125e+04  5.751123e+03
##  [26497] 5.155980e+03  1.224787e+04  7.355274e+03  1.084501e+04
##  [26501] 7.100191e+03  1.679341e+04  1.291305e+04  6.457898e+03
##  [26505] 6.939594e+03  1.677859e+04  1.263151e+04  7.233604e+03
##  [26509] 2.715325e+04  5.011082e+03  6.333026e+03  1.833865e+04
##  [26513] 6.270078e+03  7.399511e+03  6.370977e+03  5.078621e+03
##  [26517] 6.939594e+03  6.818697e+03  7.464304e+03  1.343783e+04
##  [26521] 6.101680e+03  6.163137e+03  5.709466e+03  1.449152e+04
##  [26525] 7.634249e+04  6.731755e+03  6.555956e+03  6.179363e+03
##  [26529] 1.687588e+04  1.690713e+04  4.477830e+03  6.419244e+03
##  [26533] 6.993723e+03  1.374343e+04  1.143938e+04  1.209221e+04
##  [26537] 6.652471e+03  6.298181e+03  6.818697e+03  5.900396e+03
##  [26541] 5.063073e+03  7.641335e+03  2.454048e+04  1.081885e+04
##  [26545] 6.610858e+03  1.502543e+04  1.223702e+04  1.676292e+04
##  [26549] 2.293924e+04  1.609399e+04  5.228687e+03  5.104686e+03
##  [26553] 6.403018e+03  1.292629e+04  7.770953e+03  1.395513e+04
##  [26557] 1.993016e+04  1.698495e+04  6.670297e+03  8.147262e+03
##  [26561] 1.263151e+04  1.160190e+04  1.173817e+04  9.631276e+03
##  [26565] 9.834626e+03  5.012998e+03  7.563113e+03  9.004404e+03
##  [26569] 1.759927e+04  1.862982e+04  5.485460e+04  1.742226e+04
##  [26573] 6.230601e+03  7.585201e+03  5.566296e+03  7.750259e+03
##  [26577] 2.787765e+04  6.348117e+03  6.530455e+03  8.308333e+03
##  [26581] 4.921875e+04  5.484717e+03  1.109118e+04  5.642425e+03
##  [26585] 1.390139e+04  1.325048e+05  1.347392e+04  5.236723e+03
##  [26589] 1.027194e+04  9.426192e+03  1.501620e+04  5.955298e+03
##  [26593] 1.329669e+04  5.942793e+03  1.234908e+04  6.320569e+03
##  [26597] 6.523915e+03  1.140407e+04  5.039055e+03  6.889824e+03
##  [26601] 1.910690e+04  8.365055e+03  6.101680e+03  8.370425e+03
##  [26605] 2.919565e+02  7.147434e+03  7.387315e+03  8.898458e+03
##  [26609] 1.211801e+05  7.072052e+03  3.099649e+03  6.286659e+03
##  [26613] 1.021203e+04 -5.840769e+03  6.808744e+03  1.312418e+04
##  [26617] 7.857895e+03  8.562595e+03  5.919933e+03  6.939594e+03
##  [26621] 1.247060e+04  8.984792e+03  1.801894e+04  6.491742e+03
##  [26625] 1.212798e+04  1.282640e+04  6.300552e+03  7.140878e+03
##  [26629] 1.304063e+04  1.293844e+04  4.950427e+03  5.036290e+03
##  [26633] 1.351504e+04  1.322735e+04  4.031506e+03  1.282128e+04
##  [26637] 1.377207e+04  1.275754e+04  6.163137e+03  1.476599e+04
##  [26641] 5.353867e+03  6.284018e+03  1.249737e+04 -5.517525e+02
##  [26645] 1.158420e+04  1.717956e+04  4.830174e+04  1.146439e+04
##  [26649] 1.125663e+04  1.845203e+04  5.184353e+03  9.114176e+03
##  [26653] 1.108857e+04  7.189090e+03  9.077418e+03  1.175038e+04
##  [26657] 1.301777e+04  1.211576e+04  1.401002e+04  1.322561e+04
##  [26661] 1.232587e+04  1.118019e+04  8.349772e+03  7.971464e+03
##  [26665] 1.250573e+04  5.848202e+03  6.854134e+03  1.219167e+04
##  [26669] 1.205333e+04  1.116048e+04  1.284006e+04  5.436526e+03
##  [26673] 5.861027e+03  4.778615e+03  5.932437e+03  5.692595e+03
##  [26677] 6.718168e+03  5.629498e+03  6.017782e+03  6.135283e+03
##  [26681] 1.017587e+04  2.183285e+04  1.263104e+04  2.803706e+04
##  [26685] 1.162632e+04  1.128853e+05  1.247743e+04  1.346139e+04
##  [26689] 2.533729e+03  1.880771e+03  3.931401e+03  1.837028e+03
##  [26693] 3.005888e+04  1.208289e+04  1.340756e+04  1.406478e+04
##  [26697] 2.977696e+03  2.200780e+03  1.502014e+04 -1.974843e+04
##  [26701] 4.617332e+03  5.415793e+03  1.868457e+04  6.614163e+03
```

```
## [26705] 4.909470e+03 6.678639e+03 7.029842e+03 1.435594e+04
## [26709] 5.110286e+03 1.361281e+04 5.396179e+03 1.276790e+04
## [26713] 1.202747e+04 1.208490e+04 1.519651e+04 1.174455e+04
## [26717] 1.336761e+04 6.286090e+03 5.565217e+03 4.379861e+03
## [26721] 5.683991e+03 6.237459e+03 1.026506e+04 4.352635e+03
## [26725] 6.913956e+03 7.556803e+03 1.145693e+04 1.493377e+04
## [26729] 1.243969e+04 7.403448e+03 1.203000e+04 1.400853e+04
## [26733] 1.368585e+04 5.741148e+03 1.140334e+04 1.194178e+04
## [26737] 7.854550e+03 4.977364e+03 4.286271e+03 5.575132e+03
## [26741] 6.559261e+03 1.368318e+04 4.477730e+03 6.306630e+03
## [26745] 6.662413e+03 1.423115e+04 7.272687e+03 1.815146e+04
## [26749] 1.274367e+04 5.312641e+03 5.533308e+03 7.705905e+03
## [26753] 6.314726e+03 5.885802e+03 7.532711e+03 1.396841e+04
## [26757] 3.952500e+04 1.168528e+04 5.109345e+03 5.829622e+03
## [26761] 1.576513e+04 6.963086e+03 7.082536e+03 8.097768e+03
## [26765] 2.113977e+04 5.002216e+03 3.525622e+03 6.113927e+03
## [26769] 1.502152e+04 1.472551e+04 1.081226e+04 5.041770e+03
## [26773] 9.820752e+03 6.194931e+03 6.815308e+03 8.156590e+03
## [26777] 1.357646e+04 5.727486e+03 2.073213e+04 5.782804e+03
## [26781] 6.706564e+03 5.188339e+03 6.406323e+03 7.859166e+03
## [26785] 1.448225e+04 5.422194e+03 5.198298e+03 1.210532e+04
## [26789] 6.285256e+03 4.236330e+03 1.312410e+04 7.292333e+03
## [26793] 5.194708e+03 1.276139e+04 4.641175e+04 5.694342e+03
## [26797] 1.149392e+04 7.644410e+03 1.364526e+04 4.535767e+03
## [26801] 6.338500e+03 5.325469e+03 6.496647e+03 5.537657e+03
## [26805] 1.181944e+04 7.140707e+03 1.224720e+04 4.388104e+03
## [26809] 5.325469e+03 6.169501e+03 6.022515e+03 1.274095e+04
## [26813] 5.712924e+03 7.062130e+03 2.008222e+04 5.104384e+03
## [26817] 7.137454e+03 5.389626e+03 6.367798e+03 7.269970e+03
## [26821] 1.263167e+04 1.407263e+04 2.589554e+04 6.649586e+03
## [26825] 7.467729e+03 8.689460e+03 1.359641e+04 6.098791e+03
## [26829] 6.611028e+03 1.216043e+04 7.023609e+03 7.273105e+03
## [26833] 4.909789e+03 1.531717e+04 5.328604e+03 5.600558e+03
## [26837] 6.309765e+03 5.930488e+03 1.161473e+04 6.446489e+03
## [26841] 5.486366e+03 5.338142e+03 7.480944e+03 6.763966e+03
## [26845] 2.465971e+04 7.353669e+03 4.691304e+04 1.409728e+04
## [26849] 7.593598e+03 6.149599e+03 1.410822e+04 1.206567e+04
## [26853] 6.172636e+03 3.743420e+03 7.947973e+03 6.006114e+04
## [26857] 1.247821e+04 5.520063e+03 8.426266e+03 5.009999e+04
## [26861] 7.110337e+03 1.810642e+04 4.114827e+04 5.828764e+03
## [26865] 1.850370e+04 2.015182e+04 1.970174e+04 1.098122e+04
## [26869] 1.259573e+04 5.918699e+03 7.687512e+03 7.318176e+03
## [26873] 1.427388e+04 6.569789e+03 5.971489e+03 1.201654e+04
## [26877] 1.318073e+04 7.272226e+03 1.479251e+04 1.369313e+04
## [26881] 5.981114e+03 6.061354e+03 1.293719e+04 6.649168e+03
## [26885] 1.368631e+04 5.070824e+03 6.220985e+03 1.189312e+04
## [26889] 5.305529e+03 1.406699e+04 1.787165e+04 6.499782e+03
## [26893] 1.280199e+04 1.179463e+05 5.574715e+03 6.192250e+03
## [26897] 5.831889e+03 1.170260e+04 5.752078e+03 2.048360e+04
## [26901] 4.023112e+03 6.396955e+03 5.475272e+03 9.514132e+03
## [26905] 4.626996e+03 7.310171e+03 1.419358e+04 5.056214e+03
## [26909] 5.568854e+03 1.328392e+04 1.234895e+04 5.473258e+03
## [26913] 1.906719e+04 1.285889e+04 1.276191e+04 1.109319e+04
## [26917] 5.773019e+03 5.989858e+03 5.642943e+03 7.695327e+03
## [26921] 5.509816e+03 2.061260e+04 1.369296e+04 6.288808e+03
## [26925] 6.309765e+03 1.200440e+04 1.044493e+04 4.305637e+03
## [26929] 1.277829e+04 5.686247e+03 5.776571e+03 9.061142e+04
## [26933] 1.384309e+04 6.396955e+03 -5.982173e+03 1.941960e+04
## [26937] 1.414254e+04 1.229315e+04 6.572506e+03 7.013822e+03
## [26941] 6.722310e+03 6.026067e+03 5.606835e+03 5.438002e+03
## [26945] 5.358771e+03 6.282997e+03 1.456131e+04 1.335469e+04
## [26949] 5.712650e+04 7.497324e+03 6.234324e+03 1.304360e+04
## [26953] 4.772660e+03 -4.037462e+03 1.372839e+04 6.303455e+03
## [26957] 1.344347e+04 5.665289e+03 6.201201e+03 4.740869e+03
## [26961] 1.278678e+04 6.344770e+03 5.815092e+03 2.691045e+04
## [26965] 6.013145e+03 7.812152e+03 4.548440e+03 6.775197e+03
## [26969] 1.415418e+04 1.187107e+04 7.284103e+03 8.099277e+03
## [26973] 5.964796e+03 5.782554e+03 6.930149e+03 1.302264e+04
## [26977] 4.997756e+03 6.398293e+03 3.981405e+04 3.857145e+03
## [26981] 1.546739e+04 1.244279e+04 1.253390e+04 -1.695879e+03
## [26985] 6.101926e+03 1.289661e+04 1.261169e+04 6.988603e+03
## [26989] 1.248093e+04 1.161105e+04 1.083786e+04 6.777211e+03
## [26993] 4.107333e+03 5.738013e+03 1.212239e+04 1.202424e+04
## [26997] 5.575132e+03 1.565384e+04 5.891053e+03 1.144121e+04
## [27001] 9.048542e+04 4.688055e+03 6.631667e+03 5.325469e+03
## [27005] 1.029198e+05 1.243227e+04 6.818904e+03 1.325457e+04
```

```
## [27005] 1.029198e+03 1.243227e+04 6.818964e+03 1.323437e+04
## [27009] 6.080551e+03 5.246475e+03 7.269552e+03 7.807510e+03
## [27013] 5.159285e+03 5.727903e+03 5.623215e+03 7.556803e+03
## [27017] 1.237419e+04 6.233489e+03 1.126976e+04 5.228340e+03
## [27021] 2.022314e+04 4.353483e+03 6.347870e+03 1.134827e+04
## [27025] 5.948570e+03 4.740221e+03 5.645675e+03 4.470967e+03
## [27029] 6.767424e+03 5.103967e+03 2.619001e+04 7.493772e+03
## [27033] 5.767189e+03 1.390341e+04 3.913067e+03 1.482563e+04
## [27037] 5.769883e+03 7.078510e+03 1.277030e+04 7.017294e+03
## [27041] 6.725445e+03 4.564820e+03 5.818227e+03 1.353694e+04
## [27045] 6.201496e+03 1.722624e+04 5.955918e+03 6.685040e+03
## [27049] 7.033562e+03 2.019045e+04 1.122794e+04 1.164362e+04
## [27053] 1.396764e+04 5.270150e+03 5.416210e+03 6.233489e+03
## [27057] 1.280801e+04 1.473259e+04 7.120166e+03 1.368830e+04
## [27061] 6.870670e+03 2.031367e+04 7.237849e+03 5.973090e+03
## [27065] 1.378287e+04 1.436515e+04 5.438002e+03 6.315653e+03
## [27069] 1.409927e+04 6.760406e+03 6.546182e+03 6.080968e+03
## [27073] 1.463247e+04 1.786029e+04 4.274406e+03 1.469050e+04
## [27077] 6.233906e+03 7.217761e+04 1.344661e+04 7.141934e+03
## [27081] 2.655587e+04 6.802847e+03 6.688175e+03 4.606476e+03
## [27085] 1.171293e+04 1.206253e+04 -1.769711e+03 1.227773e+04
## [27089] 5.159036e+03 5.756305e+03 6.656179e+03 5.562043e+03
## [27093] 6.350107e+04 6.857425e+03 1.306279e+04 3.973586e+03
## [27097] 5.170173e+03 1.362612e+04 6.247151e+03 1.301950e+04
## [27101] 1.255679e+04 1.200440e+04 1.157291e+04 6.572089e+03
## [27105] 5.444528e+03 4.239465e+03 1.120831e+04 5.683112e+03
## [27109] 1.229002e+04 1.251040e+04 7.698894e+03 1.323442e+04
## [27113] 1.289389e+04 -1.974416e+03 5.741148e+03 7.439288e+03
## [27117] 5.948988e+03 6.367769e+03 6.288808e+03 5.806871e+04
## [27121] 5.843812e+04 1.276505e+04 1.147744e+04 5.984410e+03
## [27125] 7.023609e+03 6.725445e+03 1.158872e+04 1.134400e+04
## [27129] 1.423963e+04 6.804835e+03 1.333235e+04 4.743606e+03
## [27133] 2.170199e+04 1.262833e+04 7.140014e+03 1.153251e+04
## [27137] 1.240427e+04 6.169145e+03 1.270243e+04 1.415731e+04
## [27141] 1.304360e+04 6.001114e+03 7.400730e+03 5.670190e+03
## [27145] 1.290326e+04 6.483726e+03 1.328845e+04 1.286160e+04
## [27149] 6.857425e+03 6.351839e+03 1.010522e+05 5.041770e+03
## [27153] 7.273428e+03 1.166629e+04 6.496647e+03 5.367125e+03
## [27157] 6.924476e+03 1.307217e+04 5.927780e+03 6.309765e+03
## [27161] 1.972819e+04 1.203025e+04 7.272687e+03 4.922463e+03
## [27165] 1.281953e+04 6.288808e+03 5.726693e+03 4.987192e+03
## [27169] 2.046329e+04 5.902182e+03 5.117629e+03 4.389268e+03
## [27173] 6.912327e+03 6.763549e+03 5.188339e+03 1.327027e+04
## [27177] 7.948390e+03 7.149220e+03 1.276191e+04 5.661737e+03
## [27181] 5.169063e+03 4.528655e+03 1.294063e+04 6.815769e+03
## [27185] 1.228634e+04 7.533914e+03 1.140631e+04 8.180322e+03
## [27189] 1.308881e+04 7.972482e+03 1.297603e+04 3.622347e+03
## [27193] 1.353337e+04 2.535211e+04 1.198361e+04 1.353209e+04
## [27197] 9.104882e+03 1.582750e+04 1.645489e+03 -3.932851e+03
## [27201] 7.449916e+02 -2.939587e+03 2.521143e+03 2.710386e+03
## [27205] 7.371686e+03 1.264512e+04 1.936961e+03 4.119150e+03
## [27209] 3.219660e+04 2.199444e+03 -7.649693e+03 3.372178e+03
## [27213] 1.777168e+04 2.503310e+03 1.107414e+03 7.749017e+03
## [27217] 6.274002e+03 8.248294e+03 1.653791e+03 1.982607e+04
## [27221] 1.380962e+04 8.523443e+03 8.315603e+03 3.356158e+03
## [27225] 3.524793e+02 2.762939e+02 1.523238e+04 2.774295e+03
## [27229] 7.537011e+03 1.949588e+04 7.354225e+03 7.244091e+02
## [27233] 1.242635e+03 8.268767e+03 9.118024e+03 6.615891e+03
## [27237] 3.797550e+04 1.348730e+02 -5.938309e+03 6.351746e+02
## [27241] 2.480400e+04 1.175062e+04 8.901137e+03 1.223723e+03
## [27245] 4.273350e+02 1.187328e+04 7.297142e+03 5.937398e+03
## [27249] 2.006420e+03 1.435073e+02 2.558851e+04 7.100592e+01
## [27253] -1.474744e+03 1.674373e+03 9.576977e+03 7.105361e+03
## [27257] 2.150776e+03 3.163351e+03 1.082631e+03 9.748658e+02
## [27261] 4.325616e+04 1.192784e+05 3.886286e+04 1.182705e+03
## [27265] 1.523093e+03 2.785935e+04 2.018925e+04 1.899956e+04
## [27269] 1.942937e+03 9.567690e+03 1.386563e+04 1.764568e+04
## [27273] 2.424353e+03 1.182705e+03 9.539137e+03 6.606050e+03
## [27277] -4.193954e+03 1.025275e+04 6.349990e+03 2.110400e+03
## [27281] -4.338064e+03 7.596330e+02 1.435073e+02 2.992263e+03
## [27285] 2.346112e+03 1.863650e+04 8.874289e+03 1.187453e+04
## [27289] 7.625014e+03 2.686249e+03 8.227111e+03 2.554399e+03
## [27293] 3.497192e+03 1.165702e+04 1.390545e+03 1.658076e+03
## [27297] 1.485356e+02 1.150545e+03 2.760555e+02 1.598385e+03
## [27301] 1.033565e+04 8.912343e+02 1.134134e+04 1.647301e+03
## [27305] 7.361868e+03 8.193464e+03 1.884392e+04 8.460094e+03
```

```
## [27309]  7.337574e+03  9.250132e+02 -3.580519e+02  5.588174e+04
## [27313]  9.528309e+03  1.030272e+03  1.135315e+04  1.728107e+04
## [27317]  3.188481e+03  2.293754e+03  1.258693e+03  2.071511e+05
## [27321]  8.268767e+03  9.576977e+02  1.764568e+03  9.077548e+03
## [27325]  2.429602e+04  8.794705e+03  4.023354e+03  7.514612e+03
## [27329]  3.628709e+03  2.575038e+03  6.590532e+02 -3.831467e+03
## [27333]  2.316960e+03  7.645248e+03  2.063172e+04  2.794268e+03
## [27337]  2.150392e+04  6.035384e+04  6.073285e+02 -4.067515e+03
## [27341]  9.461357e+02  1.133676e+04  2.510747e+03  1.348889e+03
## [27345]  9.522760e+03  6.833947e+02  1.925793e+03  1.979042e+04
## [27349]  2.138272e+03  2.587542e+03  1.170304e+04  2.226764e+03
## [27353]  3.446482e+03  8.476607e+03  1.000473e+04  7.509678e+02
## [27357] -4.702121e+03  2.861169e+03  2.203172e+03  2.822963e+03
## [27361]  8.995743e+02  6.833947e+02  8.864245e+03  2.271006e+04
## [27365] -1.759093e+04  9.400216e+03  1.527258e+03  1.167214e+04
## [27369]  8.018068e+02  1.590991e+03  3.835462e+03  1.477476e+03
## [27373]  1.435073e+02  7.749954e+03  9.200251e+03  7.427190e+03
## [27377]  1.598385e+03  1.972407e+03  4.367768e+04  3.432146e+03
## [27381]  8.943194e+03  4.273350e+02  1.019048e+04  2.086154e+03
## [27385]  9.427049e+03  6.058519e+03  1.261289e+04  8.752019e+03
## [27389]  2.358616e+03  6.803933e+03  7.936719e+03  1.082633e+03
## [27393]  1.024510e+03 -2.645795e+03  6.850719e+03  1.343934e+04
## [27397]  9.860805e+03  3.561603e+03  1.471549e+03  9.357680e+02
## [27401]  3.012310e+03 -7.090842e+02  1.639409e+03  2.822963e+03
## [27405]  1.114150e+04  2.794523e+03  7.237897e+03  7.237897e+03
## [27409]  8.402436e+03  1.926007e+04  3.654322e+03  2.214260e+03
## [27413]  1.598385e+03 -4.124063e+03  5.515431e+02  2.527328e+03
## [27417]  7.718871e+02  3.707288e+03  7.419956e+03  1.840556e+03
## [27421]  4.002636e+02  7.657753e+03 -2.159311e+03  9.797267e+02
## [27425]  2.150079e+03  7.070397e+03  2.917850e+03  7.527022e+03
## [27429]  1.815794e+03  3.787051e+03  9.911621e+03  2.429743e+03
## [27433]  2.170749e+03  7.956472e+03  3.068240e+04 -2.730416e+03
## [27437]  7.788442e+03  6.738586e+03  3.250723e+04 -4.738627e+02
## [27441]  8.053197e+03  5.358514e+02  4.028844e+03  5.575180e+03
## [27445]  1.152576e+04  5.918541e+03  2.182806e+03  1.676375e+03
## [27449]  3.718687e+03  8.477055e+03 -5.947133e+01 -3.267690e+04
## [27453]  1.221284e+04 -5.447088e+03  7.303451e+03  8.759944e+03
## [27457]  6.833947e+02  2.434604e+03 -3.246211e+03  5.613026e+02
## [27461]  1.252392e+04  1.721615e+04  1.529510e+03  1.979071e+04
## [27465]  2.803766e+03  8.894539e+03  1.220151e+04  2.093794e+03
## [27469]  1.751941e+03  2.790188e+04  2.051824e+04  2.787540e+03
## [27473]  1.382902e+03 -8.925882e+00  1.149200e+04  1.304524e+05
## [27477]  4.049567e+04  6.610032e+04  3.532615e+03  8.483806e+03
## [27481]  3.288507e+03  7.313200e+03  1.231622e+03  7.364358e+03
## [27485]  5.733035e+03  2.986962e+03  2.621357e+03  3.274216e+04
## [27489]  3.875217e+03  6.915499e+04  1.174824e+03  1.527258e+03
## [27493]  1.473490e+04  1.371554e+04  2.686251e+03  9.095555e+02
## [27497]  2.188807e+03  3.058507e+04  1.368291e+04  1.195898e+03
## [27501]  2.650850e+03  1.409809e+05  7.581924e+04  7.670262e+02
## [27505]  5.305444e+05 -3.979707e+03  1.097616e+04  1.798581e+03
## [27509]  6.192624e+03  2.731457e+04  2.302849e+03  6.266109e+03
## [27513]  1.647053e+03  7.040575e+03  2.937645e+04  9.615183e+03
## [27517]  6.606050e+03  8.693907e+03  7.985624e+03  1.078753e+04
## [27521]  2.096704e+04  6.513549e+03  3.189974e+03  1.722593e+03
## [27525]  1.707444e+04  2.499498e+03  7.593827e+02  1.598385e+03
## [27529]  2.276236e+05  6.889878e+03  4.355967e+02  7.521040e+03
## [27533]  2.505731e+03  1.050854e+03  7.406796e+04  3.422878e+03
## [27537]  1.212054e+03  7.021729e+03 -8.039062e+01  2.258655e+02
## [27541]  1.017069e+04  1.764568e+03  1.872056e+03  1.296442e+04
## [27545]  1.507035e+03  2.321112e+04  3.312896e+03  6.946426e+03
## [27549]  7.449913e+03  1.091340e+04  7.017613e+03  2.281254e+03
## [27553] -4.739938e+03  1.027551e+04  8.106098e+04  1.788290e+04
## [27557] -3.148348e+03  9.860805e+03  9.332064e+03  4.383553e+03
## [27561]  2.407328e+03  9.958789e+03  3.020788e+03  2.069587e+03
## [27565]  8.136334e+03 -4.836131e+01  1.018948e+04  1.408866e+03
## [27569] -2.785275e+02 -1.347882e+03  7.018252e+04 -4.030931e+03
## [27573]  8.695027e+03  9.742902e+03  1.954987e+03  4.486050e+04
## [27577]  1.099074e+03  8.792153e+03  3.130407e+04  3.101095e+04
## [27581]  1.616586e+03  2.018925e+03  1.498347e+05  1.187566e+03
## [27585]  2.321282e+03  2.870490e+03  1.700835e+03  1.164968e+04
## [27589]  8.302346e+03  3.676337e+03  5.106326e+03  5.500165e+04
## [27593] -5.910988e+03  1.368086e+03  2.838911e+03  3.852147e+03
## [27597]  2.207946e+02  2.615124e+03  7.660126e+04  4.120711e+03
## [27601] -2.820714e+03  1.194756e+03  2.771261e+03  1.125417e+04
## [27605]  8.523443e+03  1.341512e+04  8.732551e+03  1.748592e+03
## [27609]  1.865787e+04  2.909984e+03  7.931317e+03  5.075844e+02
```

```
## [27609]  1.865787e+04  2.900084e+03  7.931317e+03  5.075844e+02
## [27613]  1.325235e+03  3.631912e+03  3.559360e+04  1.575925e+03
## [27617]  9.881879e+03  1.477643e+03  1.647301e+03  1.099074e+03
## [27621]  4.278973e+03  9.748658e+02  8.638467e+03  5.307724e+04
## [27625]  1.242635e+03  7.670262e+02  9.748658e+02  3.048496e+03
## [27629]  2.406843e+03  2.018925e+03  7.152786e+03  2.680575e+03
## [27633] -1.877547e+02 -4.539742e+03  1.368086e+03  1.021983e+04
## [27637]  2.182806e+03  2.030299e+03  9.445125e+03  1.190678e+04
## [27641]  3.131165e+02  1.197403e+03  7.073194e+03  1.382902e+03
## [27645]  3.295169e+03  1.753541e+05  2.340685e+03 -3.542156e+03
## [27649]  1.636917e+03  3.098370e+03  1.469551e+04  1.188004e+04
## [27653]  1.586613e+04  8.288571e+03  4.098779e+05  8.315656e+03
## [27657]  2.869839e+03  2.577680e+03  3.356194e+03  1.708744e+04
## [27661]  9.036223e+03 -2.580014e+01  2.202197e+04  2.289924e+03
## [27665] -5.245472e+03  1.413019e+03  3.775595e+04  2.288960e+03
## [27669]  3.215767e+05  1.685149e+03  4.371154e+04  1.831118e+03
## [27673]  2.196195e+03  2.742656e+03  3.152530e+03  3.075757e+03
## [27677]  1.064387e+04  3.511228e+03  3.025047e+03  5.311652e+03
## [27681] -2.411362e+02  3.128627e+03  1.040168e+04  2.184459e+03
## [27685] -4.966506e+03  2.321172e+03  2.985568e+04 -4.797764e+03
## [27689]  3.038023e+03  2.348979e+04  1.800798e+03  1.870192e+03
## [27693] -3.714607e+03  2.496273e+03  9.593122e+04  1.518486e+04
## [27697]  9.863266e+02  9.535609e+03  7.009030e+03  4.640053e+03
## [27701]  7.947761e+03  3.973626e+03  4.132125e+03  2.200419e+03
## [27705]  2.529012e+03  1.095744e+04  1.056270e+04  2.452217e+03
## [27709]  1.090915e+04  8.212583e+03  2.992429e+03  3.360370e+03
## [27713]  2.944691e+03  9.514287e+03  9.312954e+03  2.445816e+03
## [27717] -4.414114e+03  4.247833e+03  1.001253e+04  1.111353e+04
## [27721]  4.137975e+03  3.675553e+03  1.524175e+05  1.076344e+05
## [27725]  1.017276e+04  1.731913e+05  1.638600e+03  3.230606e+04
## [27729]  3.702912e+03  9.251818e+04  4.052393e+03  3.812213e+03
## [27733]  1.166336e+03  9.411401e+03  1.916813e+04  9.579837e+03
## [27737]  3.301887e+03  3.944474e+03  1.124227e+04  1.145261e+03
## [27741]  3.409038e+03 -3.741927e+03  2.468275e+03  7.097845e+03
## [27745]  2.526972e+03  6.316774e+04 -2.826597e+03  1.109748e+04
## [27749]  8.552971e+03  1.488429e+05  1.060147e+04  2.345141e+03
## [27753]  4.400482e+03  3.842290e+05  1.268814e+04  2.777195e+03
## [27757]  3.749414e+03  1.491473e+04  9.264374e+03 -4.315228e+03
## [27761]  2.592483e+03  7.668902e+03  3.690494e+03  1.968965e+03
## [27765]  4.990602e+03 -2.979471e+03  7.110598e+03  2.191708e+03
## [27769]  1.212203e+04  1.269470e+03  4.027145e+04  8.836102e+03
## [27773]  2.614323e+04  4.149575e+03  4.059865e+03 -2.056423e+02
## [27777]  8.143444e+03  9.043942e+03  2.113332e+03  1.477309e+03
## [27781]  1.243168e+04  8.004744e+03  2.369840e+03  2.941647e+03
## [27785]  9.244063e+03  8.537904e+02  8.469091e+03  1.850253e+03
## [27789]  5.895057e+02  8.919734e+03  1.088712e+04  1.072457e+04
## [27793]  1.071610e+04  2.924456e+03  9.459621e+03  1.700529e+04
## [27797]  8.508915e+03  8.793182e+04  7.108233e+04  8.724662e+03
## [27801]  9.535609e+03  8.496411e+03  1.106909e+04  1.118754e+04
## [27805]  1.832634e+04  8.919734e+03  8.537904e+02  1.961849e+03
## [27809]  2.113332e+03  4.237377e+03  6.608594e+04  5.538144e+03
## [27813]  7.784145e+04  2.445816e+03  9.520793e+03  2.592483e+03
## [27817]  1.053022e+03  4.467886e+03  8.836102e+03  4.706786e+03
## [27821]  1.826820e+04 -3.836666e+03  2.448571e+03  2.791920e+03
## [27825]  2.653656e+03  1.180672e+05  1.006902e+04  1.773797e+03
## [27829]  1.732741e+04  1.060907e+04  7.597404e+03  8.220923e+03
## [27833]  1.106545e+04  3.301665e+03  2.109156e+03  1.479060e+05
## [27837]  8.628262e+03  2.892572e+03  3.431497e+03  2.903035e+03
## [27841]  3.243410e+03  6.781280e+04  6.791005e+02  2.228784e+04
## [27845]  3.438599e+03  7.890615e+04 -4.059159e+03  7.962894e+03
## [27849]  7.547214e+03  1.245918e+04  3.415439e+03  1.469579e+03
## [27853]  7.540844e+03  9.472125e+03  3.360370e+03  8.345131e+03
## [27857] -3.150183e+02  3.889731e+04  4.196637e+03  3.285067e+03
## [27861]  1.013398e+03  2.914411e+03  2.800519e+03  9.609613e+03
## [27865]  4.895933e+03  1.746321e+03  1.759447e+03  9.923968e+03
## [27869]  1.644737e+03  1.396623e+04  7.776334e+03  4.240396e+03
## [27873]  9.179516e+03  3.364139e+04  1.693999e+04 -4.566885e+03
## [27877] -4.393039e+03  2.189309e+03  2.779416e+03  2.856610e+03
## [27881]  2.732675e+03  2.244702e+04  7.765926e+02  2.184459e+03
## [27885]  2.883954e+03  2.676115e+03  2.260436e+03  3.866929e+03
## [27889]  2.308668e+03  1.114354e+04  2.184459e+03  9.188802e+05
## [27893]  3.307386e+05  2.547252e+05  3.488833e+04 -1.837547e+03
## [27897] -2.482194e+02  2.775808e+04  3.086793e+03 -4.404622e+03
## [27901]  1.032480e+04 -2.221596e+03 -2.217862e+03  6.119410e+03
## [27905] -3.422501e+03 -3.541787e+03 -1.335188e+03  9.730302e+03
## [27909] -3.590205e+03  7.766176e+03  3.514648e+03 -6.247453e+02
```

```
## [27913]  7.863705e+03  1.947399e+04  4.719901e+03  5.082181e+03
## [27917] -8.336302e+03 -1.404671e+03 -2.240357e+03  4.789072e+03
## [27921] -2.506995e+03 -1.901082e+03 -1.121768e+03 -3.115914e+03
## [27925] -1.161195e+03 -3.617276e+03 -1.096331e+03  4.432192e+03
## [27929] -2.710937e+03 -1.044060e+03  7.323456e+03 -1.667579e+03
## [27933] -3.145263e+03 -2.110225e+03 -1.242815e+03 -1.782616e+03
## [27937] -4.296129e+03 -2.366020e+03 -8.574647e+02 -2.240094e+03
## [27941] -2.299156e+03 -1.572068e+03 -3.487132e+03 -9.074065e+01
## [27945] -1.062636e+04  3.287941e+03 -3.493975e+03 -2.269685e+03
## [27949]  5.605682e+03  5.076548e+03 -4.982728e+03 -2.635536e+02
## [27953] -8.332332e+03 -8.534723e+03 -5.354567e+01 -1.446601e+02
## [27957]  9.084363e+03  9.824703e+03 -2.868632e+03 -3.619947e+03
## [27961] -1.048220e+04  5.287572e+03 -1.165473e+03  1.302276e+05
## [27965] -3.177197e+03 -4.165074e+03  7.449014e+03 -2.922675e+03
## [27969]  4.010914e+03 -2.665391e+03 -2.258836e+03  3.381551e+03
## [27973] -3.292652e+03 -2.651435e+03 -1.100093e+03 -3.606236e+03
## [27977] -8.863457e+03 -2.335109e+02 -2.221198e+03  5.712703e+03
## [27981] -1.017677e+04 -3.577773e+03 -2.554164e+03 -3.558877e+03
## [27985]  5.351195e+04 -1.037631e+04  1.074117e+05 -9.746685e+03
## [27989] -2.360839e+03 -3.542296e+03 -3.997982e+03 -1.361816e+03
## [27993] -2.191627e+03 -3.284892e+03  5.863975e+03 -3.075613e+03
## [27997] -9.067141e+03 -2.240357e+03  5.808947e+05 -4.459565e+03
## [28001]  7.158030e+03 -1.430269e+03 -2.209520e+03 -1.301614e+03
## [28005] -1.267324e+03 -2.511322e+03 -2.215671e+03  3.768372e+03
## [28009] -2.294996e+03 -1.979689e+03 -3.674448e+03 -1.429160e+03
## [28013]  4.282821e+03 -2.865711e+03 -1.639655e+03  4.255361e+04
## [28017] -2.764915e+03 -3.765427e+03  4.407986e+04  1.507590e+03
## [28021] -1.817557e+03 -4.253535e+03 -1.251938e+03 -2.203961e+03
## [28025]  9.490659e+04 -2.096239e+03  1.201741e+04  3.877131e+03
## [28029] -9.334554e+02 -2.557627e+03 -1.130245e+03 -2.240357e+03
## [28033] -9.483596e+03 -1.200729e+03  3.063579e+02 -3.334456e+03
## [28037]  3.504960e+03 -2.338527e+03 -6.399077e+02 -1.360330e+03
## [28041]  2.547334e+04  3.234207e+03 -1.866334e+03 -2.863613e+03
## [28045] -3.516845e+03 -8.069591e+03 -2.929779e+03  1.108634e+05
## [28049]  4.374177e+03 -1.835680e+03 -2.184444e+03 -2.565839e+03
## [28053] -3.034915e+03 -2.212845e+03  6.504905e+03 -7.323011e+02
## [28057] -2.331153e+03  2.346869e+04 -3.096889e+03 -3.455363e+03
## [28061]  4.265470e+04 -3.448028e+02  4.935190e+02 -1.737949e+03
## [28065]  8.266785e+03  4.223757e+03  8.587358e+03 -2.677477e+03
## [28069] -3.410927e+03 -3.247523e+03  9.048743e+03 -3.452871e+03
## [28073]  8.174463e+03  6.436754e+03  2.935786e+03 -1.533041e+03
## [28077] -2.799033e+03 -2.412004e+03  5.001867e+03 -1.640338e+02
## [28081] -2.571672e+02  1.443310e+03 -2.080134e+03 -1.926723e+03
## [28085]  3.180545e+03 -1.066244e+02 -9.224184e+02 -2.007840e+03
## [28089]  1.983044e+02 -3.799719e+03  3.809818e+03 -3.492365e+03
## [28093] -2.170457e+03  4.022811e+04  4.420916e+03 -2.358030e+03
## [28097] -3.326625e+03  9.205996e+04 -1.143144e+03  5.521620e+05
## [28101]  6.851175e+05 -2.448196e+03 -5.783209e+02 -3.078569e+03
## [28105] -2.868072e+03  6.032641e+03 -8.212144e+03 -3.086877e+03
## [28109] -4.235504e+02 -1.619160e+03 -2.898279e+03  3.130566e+02
## [28113] -8.487389e+03 -4.001541e+03 -7.882354e+03 -2.207313e+03
## [28117] -1.891321e+03 -8.429351e+03 -2.024351e+03 -1.269029e+03
## [28121] -2.665107e+03 -1.503919e+03 -2.320812e+03  4.462818e+03
## [28125] -3.114968e+03  6.003212e+04  2.734112e+04 -3.750158e+03
## [28129] -7.582360e+03  1.853600e+04 -3.619348e+03 -3.084982e+03
## [28133]  3.688316e+03 -2.442105e+03  2.094198e+05 -2.518260e+03
## [28137] -5.492753e+01 -8.377582e+02  1.439619e+05 -2.017901e+03
## [28141] -3.189677e+03 -1.892548e+03 -6.915105e+02 -2.040106e+03
## [28145] -1.365704e+03  9.112821e+04  5.181393e+03  6.918000e+03
## [28149] -2.584715e+03 -5.187893e+02 -4.253547e+03 -9.184718e+03
## [28153] -4.231459e+03 -8.293034e+02  2.477989e+04 -1.065332e+04
## [28157] -8.718035e+03  1.193897e+04 -2.457566e+03 -8.844625e+03
## [28161] -3.347723e+03 -2.807430e+03  4.404060e+03 -2.890148e+03
## [28165] -1.449500e+03  1.086963e+04 -1.084117e+03  6.201968e+02
## [28169]  9.802370e+03  5.730499e+03 -2.045486e+03 -1.216463e+03
## [28173]  5.843332e+03 -2.957153e+03 -9.224301e+02  2.849068e+03
## [28177] -2.085225e+03 -2.512169e+03 -1.736950e+03  1.167868e+05
## [28181] -4.100244e+03  1.245912e+02  9.848621e+03 -2.153140e+03
## [28185]  4.982066e+03 -4.390819e+03 -1.472557e+03 -4.321134e+02
## [28189] -3.264345e+03 -1.245809e+03 -6.896766e+03 -1.882514e+03
## [28193]  3.149535e+02 -9.580824e+03 -3.633178e+03  1.838977e+04
## [28197]  7.877186e+03  3.545170e+03 -3.700145e+03 -1.122223e+04
## [28201] -9.139551e+02  4.002210e+05 -3.412870e+03  2.768355e+03
## [28205] -2.785370e+03 -1.055894e+04 -3.208010e+03 -2.271511e+03
## [28209] -1.978056e+03  4.270762e+03 -3.662442e+03 -3.895710e+03
```

```
## [28213] -2.138110e+03 -5.072030e+02 -3.916670e+03 -1.330113e+03
## [28217] -1.574769e+03 -1.186759e+03 -2.231548e+03 -1.379545e+03
## [28221] -3.057566e+03 2.134258e+05 -4.369188e+03 -7.421847e+02
## [28225] -1.321974e+03 -1.830318e+03 2.368617e+03 4.218355e+03
## [28229] 4.502249e+03 -9.056470e+03 -2.217777e+03 -1.071263e+04
## [28233] -3.577937e+03 -2.367924e+03 -2.364338e+03 3.245421e+03
## [28237] 6.674359e+03 -8.691419e+02 -3.956831e+03 1.665500e+04
## [28241] -1.334237e+03 4.368470e+03 -2.370223e+03 1.317310e+04
## [28245] 9.809816e+03 -2.232191e+03 6.375026e+05 -2.404712e+02
## [28249] -2.627328e+03 4.061592e+03 -8.002600e+03 4.515044e+03
## [28253] -2.310420e+03 -2.426037e+03 -3.039220e+03 -3.949100e+02
## [28257] -1.116850e+04 2.208644e+03 9.273347e+03 -6.103458e+02
## [28261] -2.405238e+03 3.921374e+03 -9.050512e+02 1.079764e+04
## [28265] -2.715856e+03 4.819386e+04 5.048715e+03 4.851127e+03
## [28269] -1.367778e+03 -8.470260e+03 2.592261e+03 -2.395368e+03
## [28273] 4.900688e+03 -1.877385e+03 -2.641636e+03 -1.888388e+03
## [28277] -2.234003e+03 3.487011e+03 -9.298210e+03 -2.745178e+03
## [28281] -2.445455e+03 -2.300180e+03 8.735901e+03 -9.170346e+02
## [28285] -3.060164e+03 5.271239e+03 -3.112816e+03 4.807406e+05
## [28289] 5.938959e+03 -1.614251e+03 -2.299428e+03 -3.836857e+03
## [28293] 4.655378e+03 -1.045336e+03 -2.033280e+03 4.904673e+03
## [28297] -2.585922e+03 5.979621e+04 -3.488157e+03 -9.388397e+03
## [28301] -2.078834e+03 -2.895440e+03 -2.455192e+03 -2.300169e+03
## [28305] 4.599530e+03 -6.309178e+03 4.847109e+03 1.742990e+04
## [28309] -8.331794e+03 -2.822656e+03 6.827368e+03 -1.264869e+03
## [28313] -1.030772e+04 -1.472708e+03 8.134217e+03 -1.801145e+03
## [28317] -2.345596e+03 5.902280e+03 -1.132019e+03 -1.420000e+03
## [28321] 1.039982e+03 -2.111238e+03 -3.569951e+03 -1.541880e+03
## [28325] -3.533962e+03 6.714740e+02 1.581154e+04 -1.029661e+03
## [28329] -3.057641e+02 4.404704e+03 4.433484e+03 1.291269e+04
## [28333] 7.391642e+02 5.469661e+03 -8.756836e+02 -3.399727e+03
## [28337] -2.568574e+03 1.861658e+04 5.976799e+03 -1.051122e+04
## [28341] 3.633003e+03 -3.006224e+03 8.276483e+03 6.128415e+03
## [28345] -5.178171e+02 -2.075568e+03 1.043455e+05 -8.393629e+03
## [28349] -1.662048e+03 3.748849e+03 -9.698206e+03 -1.699505e+03
## [28353] -2.136406e+03 -3.337890e+03 -2.275020e+03 -1.814008e+03
## [28357] 4.818683e+03 -1.048429e+04 -9.818214e+03 -2.018270e+03
## [28361] -8.676375e+02 -1.661488e+03 4.849963e+03 3.464099e+04
## [28365] 4.109573e+03 -3.908674e+03 -4.718969e+03 -2.691922e+03
## [28369] 4.273701e+03 -2.213629e+03 4.434088e+03 -3.306812e+03
## [28373] -1.196890e+03 -9.190797e+03 -2.067758e+03 -2.817951e+03
## [28377] -1.677211e+03 -8.396947e+03 -3.212804e+03 5.121916e+03
## [28381] -2.298877e+03 -2.411694e+03 -9.868054e+03 9.559604e+02
## [28385] -4.257147e+02 -3.514651e+03 -2.248843e+03 4.447917e+03
## [28389] 5.624121e+03 -2.247353e+03 7.037741e+03 -2.239293e+03
## [28393] 9.593516e+03 2.257889e+03 1.817970e+03 -2.308525e+03
## [28397] 1.093479e+05 1.447291e+04 4.499817e+03 2.506569e+03
## [28401] -3.105876e+03 -2.434440e+03 1.014031e+03 -2.245268e+03
## [28405] 1.697962e+03 -9.814316e+03 -1.014536e+04 6.125162e+03
## [28409] -2.793142e+03 5.647813e+03 -8.703421e+03 5.508643e+03
## [28413] 2.894908e+03 -1.063982e+03 -1.179755e+04 -2.878121e+03
## [28417] -1.533273e+03 -2.595729e+03 5.464508e+03 -2.993805e+03
## [28421] -9.675392e+03 -9.883966e+03 5.704678e+04 -2.914852e+01
## [28425] -6.631230e+02 -2.727339e+03 5.840753e+03 1.006197e+04
## [28429] -3.962636e+03 -8.375693e+03 -1.122964e+04 3.772347e+03
## [28433] -3.689179e+03 -1.850570e+03 5.195382e+03 -8.178606e+03
## [28437] -6.477966e+02 -2.245268e+03 -1.986982e+03 -2.906028e+03
## [28441] -3.061464e+03 -7.905234e+03 3.199722e+03 -3.131277e+03
## [28445] 6.094144e+03 -8.847905e+03 3.753009e+03 -3.887611e+03
## [28449] 4.872297e+03 -1.969008e+03 5.095958e+03 -2.506995e+03
## [28453] 3.352492e+03 -4.445214e+03 -3.518225e+03 1.390154e+03
## [28457] -8.848685e+03 -2.022266e+03 3.003954e+03 -2.270821e+03
## [28461] 4.414394e+03 5.792657e+03 -3.076376e+03 -3.342050e+03
## [28465] -1.332315e+03 -3.528743e+03 -2.641025e+03 -3.040834e+03
## [28469] -3.098972e+03 -9.576171e+02 -3.683919e+03 2.013946e+04
## [28473] -2.846326e+03 -2.059774e+03 -2.564026e+03 -1.300754e+03
## [28477] 4.840738e+03 -2.892902e+03 -2.479174e+03 -2.306697e+03
## [28481] 3.682200e+03 -3.312889e+02 -3.781723e+03 -1.851390e+03
## [28485] 6.820577e+03 4.761747e+03 3.576477e+03 -3.620972e+03
## [28489] -3.880494e+03 -9.775869e+02 -2.041326e+03 -3.477143e+03
## [28493] -1.399724e+03 -2.045784e+03 -1.898639e+03 5.002705e+03
## [28497] -1.158592e+03 1.191710e+04 -1.038293e+04 -1.647331e+03
## [28501] -3.845378e+03 -2.887274e+03 9.300674e+03 -3.154458e+03
## [28505] 1.435410e+04 -2.112478e+03 -2.824741e+03 -1.033763e+04
## [28509] -1.222230e+03 3.400813e+03 -3.056503e+03 4.220906e+04
## [28513] 4.447742e+04 8.348186e+03 1.161762e+03 -2.429899e+03
```

```
## [28513]  4.447742e+04 -8.548186e+03 -1.101702e+03 -2.429899e+03
## [28517] -9.537192e+02 -1.603418e+03  8.982340e+04  3.136804e+04
## [28521] -4.114426e+03  5.411566e+03  1.173482e+04  1.846452e+04
## [28525]  4.421140e+02 -2.287013e+01 -2.828889e+03 -2.092329e+03
## [28529] -3.907985e+03 -2.660947e+03 -2.812413e+03 -1.606586e+03
## [28533]  3.007869e+05  3.222715e+03 -1.621499e+03 -3.738407e+03
## [28537]  7.530989e+01 -3.190633e+03  4.850744e+03  5.179662e+04
## [28541]  7.684483e+03 -1.679688e+03 -2.092329e+03  6.180542e+03
## [28545]  5.349602e+03 -4.310132e+03  6.967107e+03 -1.139540e+04
## [28549] -2.047696e+03  6.621034e+03 -9.881098e+02  5.127256e+03
## [28553] -4.292025e+03 -1.018024e+04 -2.230105e+03 -9.106166e+03
## [28557] -2.285007e+03 -2.736356e+03 -3.977388e+03  6.636270e+03
## [28561] -7.715227e+03  8.551702e+04 -3.480746e+02 -3.224533e+03
## [28565] -1.035753e+04 -1.492428e+03  6.847301e+03 -1.676650e+03
## [28569]  1.253926e+04  4.126875e+04 -2.154830e+03  3.793067e+03
## [28573]  2.495261e+04 -8.107440e+03 -1.997467e+03 -3.838379e+03
## [28577]  3.093558e+03  4.194738e+03 -2.958300e+03  3.983458e+04
## [28581] -2.936192e+03  3.068103e+03 -9.566679e+03  2.320045e+05
## [28585]  4.832080e+03  6.511918e+03 -3.419728e+03  8.944602e+02
## [28589]  5.213074e+03 -7.889581e+02  2.517674e+04  1.032542e+04
## [28593] -7.397157e+03 -2.788170e+03  6.314860e+03 -2.617618e+03
## [28597]  6.531709e+03  8.180387e+03 -3.265155e+03 -8.557039e+03
## [28601] -2.904377e+03 -1.009373e+04 -2.039373e+03  6.702865e+03
## [28605]  1.678707e+04  6.491840e+03 -3.992951e+03 -1.888615e+02
## [28609] -1.975348e+03 -3.130787e+03 -1.183111e+03 -1.299300e+03
## [28613] -3.172726e+03  3.600071e+03  3.137255e+03 -2.094486e+03
## [28617]  3.547828e+03 -1.426578e+03 -2.103940e+03  1.130766e+04
## [28621] -1.822291e+03  7.905234e+03 -2.938209e+02 -7.453613e+02
## [28625]  1.720557e+04  4.810883e+05  3.709331e+05  2.108070e+05
## [28629]  2.709921e+05  1.189231e+05  2.062496e+05  8.842658e+04
## [28633]  2.499043e+04  2.212183e+04  1.640118e+04  2.843897e+04
## [28637]  2.224780e+04  2.755079e+04  1.650803e+04  1.568220e+04
## [28641]  2.806496e+04  2.224433e+04  1.508120e+04  1.605895e+04
## [28645]  1.472085e+04  2.483215e+04  5.285943e+05  2.200614e+04
## [28649]  2.173938e+04  7.524581e+04  1.669316e+04  1.512101e+04
## [28653]  6.383435e+05  7.948979e+05  3.599151e+04  2.159331e+04
## [28657]  1.717780e+04  2.439314e+04  1.636183e+04  1.868936e+04
## [28661]  2.784370e+04  1.567298e+04  4.280819e+04  1.621571e+04
## [28665]  2.265259e+04  2.088560e+04  1.654958e+04  2.361406e+04
## [28669]  6.758132e+04  2.379187e+04  4.937142e+04  1.472068e+04
## [28673]  1.737385e+04  2.033092e+04  1.898978e+04  4.254400e+04
## [28677]  1.584243e+04  2.192008e+04  3.491789e+04  2.200614e+04
## [28681]  2.182105e+04  1.699773e+04  4.080398e+04  2.947582e+04
## [28685]  2.751963e+04  2.115923e+04  1.515828e+04  1.503980e+04
## [28689]  2.995463e+04  2.117497e+04  2.909792e+04  1.519358e+04
## [28693]  1.492894e+04  1.289078e+05  3.101131e+04  3.293295e+04
## [28697]  1.690100e+04  1.859346e+05  1.615950e+04  1.546218e+04
## [28701]  2.879744e+04  2.288037e+04  2.362289e+04  1.666464e+04
## [28705]  2.792244e+04  2.195006e+04  1.456989e+04  2.917931e+04
## [28709]  1.524764e+04  2.330855e+04  1.309301e+04  2.998809e+04
## [28713]  1.596772e+04  1.981832e+04  1.543260e+04  4.134779e+04
## [28717]  1.568570e+04  2.988553e+04  2.308060e+04  2.381610e+04
## [28721]  6.883620e+04  1.750408e+04  1.681046e+04  2.303954e+04
## [28725]  1.546369e+04  2.762929e+04  2.327611e+04  1.548927e+04
## [28729]  1.521056e+04  1.722547e+04  2.623228e+04  1.749041e+04
## [28733]  1.588571e+04  1.545548e+04  1.493520e+04  2.487699e+05
## [28737]  2.717515e+04  2.909321e+04  1.505273e+04  2.901084e+04
## [28741]  4.807750e+04  2.791880e+04  2.529138e+04  1.700692e+04
## [28745]  2.853807e+04  1.527394e+04  1.648590e+04  1.539343e+04
## [28749]  2.801706e+04  1.687549e+04  2.704218e+04  1.422137e+04
## [28753]  1.666907e+04  2.082911e+04  7.596716e+05  1.683923e+04
## [28757]  1.561398e+04  2.751327e+04  1.624487e+04  2.846455e+04
## [28761]  3.134439e+04  2.284524e+04  1.567153e+04  2.072026e+04
## [28765]  1.395791e+04  1.540125e+04  2.219283e+04  9.074300e+03
## [28769]  2.811764e+04  1.724546e+04  1.568420e+04  1.559290e+04
## [28773]  1.425657e+04  1.725734e+04  1.632930e+04  2.559876e+04
## [28777]  1.672232e+04  2.569047e+04  1.863415e+04  1.591742e+04
## [28781]  1.578753e+04  2.734323e+04  2.859068e+04  2.098987e+04
## [28785]  1.710197e+04  1.607816e+04  1.505970e+04  2.361082e+04
## [28789]  3.268524e+04  6.451254e+04  1.558608e+04  1.760016e+04
## [28793]  1.568312e+04  2.098149e+04  6.346064e+04  2.046775e+04
## [28797]  2.788188e+04  2.580938e+05  2.184930e+04  4.108874e+04
## [28801]  2.729102e+04  1.582053e+04  1.631984e+04  1.979451e+04
## [28805]  2.071294e+04  1.636094e+04  2.195868e+04  2.261545e+04
## [28809]  1.737158e+04  1.675220e+04  2.570190e+04  3.414232e+04
## [28813]  2.217592e+04  2.249342e+04  2.671414e+04  4.742171e+04
```

```
## [28817] 2.745946e+04 1.421288e+04 1.643961e+04 1.630192e+04
## [28821] 1.538506e+04 1.640239e+04 9.420798e+03 6.636376e+04
## [28825] 2.067861e+04 2.882811e+04 2.163417e+04 2.111972e+04
## [28829] 1.570498e+04 2.210693e+04 1.637868e+04 1.672340e+04
## [28833] 1.747813e+04 1.163069e+05 1.572912e+04 2.248176e+04
## [28837] 1.524764e+04 2.271217e+04 1.631914e+04 3.675106e+04
## [28841] 1.717997e+04 1.609594e+04 1.521920e+04 2.786429e+04
## [28845] 1.420433e+04 1.345179e+05 1.683694e+04 1.731668e+04
## [28849] 1.646591e+04 4.960698e+04 3.159497e+04 2.042142e+04
## [28853] 1.893663e+04 1.609880e+04 1.647947e+04 3.357494e+04
## [28857] 2.216153e+05 4.295163e+04 1.732663e+04 1.886819e+04
## [28861] 1.783844e+04 2.366666e+04 1.629543e+04 8.705560e+05
## [28865] 1.663139e+04 1.300549e+05 3.830497e+04 4.311105e+05
## [28869] 9.346261e+04 1.504536e+04 2.813821e+04 1.640403e+04
## [28873] 1.596660e+04 1.461940e+04 1.575516e+04 3.943590e+04
## [28877] 1.604075e+04 1.840157e+04 1.427185e+04 2.092810e+04
## [28881] 2.962381e+04 3.192003e+04 3.414731e+04 1.708976e+04
## [28885] 1.560909e+04 2.262993e+04 1.623733e+04 1.664631e+04
## [28889] 5.095056e+04 2.118165e+04 1.533501e+04 1.522578e+04
## [28893] 1.575069e+04 1.631244e+04 1.090876e+04 2.056027e+04
## [28897] 1.969048e+04 2.660011e+04 3.337829e+04 2.167111e+04
## [28901] 1.449098e+04 2.715824e+04 1.760507e+04 1.431660e+04
## [28905] 1.527300e+04 1.667305e+04 2.753967e+04 3.092857e+04
## [28909] 2.814599e+04 1.548380e+04 6.586215e+04 2.747823e+04
## [28913] 2.278330e+04 2.793447e+04 1.572726e+04 1.583767e+04
## [28917] 1.731016e+04 1.661593e+04 3.066323e+04 3.073476e+04
## [28921] 1.699203e+04 1.473189e+04 1.632412e+04 2.621651e+04
## [28925] 1.066113e+04 2.513836e+04 1.696649e+04 2.111988e+04
## [28929] 1.575988e+04 1.517178e+04 2.156374e+04 1.649117e+04
## [28933] 1.591282e+04 6.633744e+04 2.812525e+04 1.808543e+04
## [28937] 1.540614e+04 2.260177e+04 1.737029e+04 2.910029e+04
## [28941] 1.569632e+04 1.251012e+05 1.762144e+04 1.568026e+04
## [28945] 2.675543e+04 2.574449e+04 1.569381e+04 1.612066e+04
## [28949] 2.002253e+04 2.481354e+04 2.401073e+04 2.865134e+04
## [28953] 2.266003e+04 1.536049e+04 1.600859e+04 2.081800e+04
## [28957] 1.379277e+04 2.787538e+04 1.589187e+04 2.928676e+04
## [28961] 1.625265e+04 1.257874e+04 4.579705e+04 2.131154e+04
## [28965] 2.554484e+04 2.766372e+04 2.128988e+04 9.078549e+04
## [28969] 1.505960e+04 1.729811e+05 2.245515e+04 2.274078e+04
## [28973] 2.178778e+04 2.784715e+04 1.540518e+04 2.275700e+04
## [28977] 1.465716e+04 1.635682e+04 2.128519e+04 1.530941e+04
## [28981] 2.820763e+04 2.112658e+04 1.583049e+04 1.797248e+04
## [28985] 2.953324e+04 1.673684e+04 1.494864e+04 1.555891e+04
## [28989] 3.034148e+05 2.311694e+04 1.534437e+04 6.416463e+03
## [28993] 2.335179e+04 5.868822e+03 1.693596e+04 2.173073e+04
## [28997] 2.012721e+04 6.493326e+04 1.584930e+04 2.167583e+04
## [29001] 1.432914e+04 2.843662e+04 1.693579e+04 2.371771e+04
## [29005] 2.273252e+04 1.572509e+04 3.354499e+04 1.659811e+04
## [29009] 1.518669e+04 2.552448e+04 1.595853e+04 2.779426e+04
## [29013] 1.217152e+05 2.160448e+04 1.641038e+04 1.617657e+04
## [29017] 1.566332e+04 1.665129e+04 2.706597e+04 2.680658e+04
## [29021] 1.301432e+04 1.563459e+04 2.268115e+04 2.964840e+04
## [29025] 1.356833e+05 1.600394e+05 3.145358e+04 5.769978e+04
## [29029] 1.610460e+04 2.001604e+04 2.107138e+04 1.547538e+04
## [29033] 2.819892e+04 2.784173e+04 1.569090e+04 2.901916e+04
## [29037] 2.763471e+04 1.519341e+04 2.805515e+04 1.634768e+04
## [29041] 1.719917e+04 1.644987e+04 2.168435e+04 1.647846e+04
## [29045] 2.484360e+04 2.302569e+04 1.700692e+04 2.188555e+04
## [29049] 2.333145e+04 4.415103e+04 1.644517e+04 2.318827e+04
## [29053] 9.967098e+04 1.723702e+04 2.719733e+04 2.914503e+04
## [29057] 1.504956e+04 2.949464e+04 1.674470e+04 2.096448e+04
## [29061] 2.256375e+04 1.554246e+04 2.712907e+04 6.157012e+04
## [29065] 1.494161e+04 1.879684e+04 1.548785e+04 1.973378e+04
## [29069] 1.622077e+04 1.612688e+04 2.324348e+04 1.495080e+04
## [29073] 1.652918e+04 1.479803e+04 1.548614e+04 1.584393e+04
## [29077] 1.759698e+04 1.431879e+04 1.747947e+04 1.736811e+04
## [29081] 1.616757e+04 1.571120e+04 2.361064e+04 1.460178e+04
## [29085] 6.703534e+05 3.028547e+04 1.659182e+04 1.648749e+04
## [29089] 2.691597e+04 1.686707e+04 1.495767e+04 1.551942e+04
## [29093] 1.754064e+04 1.569870e+04 1.528969e+04 1.821005e+05
## [29097] 1.997052e+05 2.227997e+04 1.807309e+04 1.512069e+04
## [29101] 1.631468e+04 2.070032e+04 1.618848e+04 1.604783e+04
## [29105] 1.581600e+04 2.240962e+04 2.155204e+04 1.571120e+04
## [29109] 1.576610e+04 1.451669e+05 1.648277e+04 3.351190e+04
## [29113] 6.045996e+05 1.914948e+04 4.040992e+04 1.568560e+04
## [29117] 6.605050e+04 1.631591e+04 1.427220e+04 2.010502e+04
```

```
## [29117] 6.695959e+04 1.631581e+04 1.427238e+04 2.810583e+04
## [29121] 2.664425e+04 1.749354e+04 2.148830e+04 2.350863e+04
## [29125] 1.679950e+04 4.561019e+04 2.202842e+04 1.594834e+04
## [29129] 1.666107e+04 6.937795e+04 2.685080e+04 1.608033e+04
## [29133] 1.984617e+04 2.151038e+04 1.563137e+04 1.623799e+04
## [29137] 1.641204e+04 4.717952e+05 1.680973e+04 1.602931e+04
## [29141] 2.920746e+04 1.655390e+04 2.116013e+04 1.795396e+04
## [29145] 1.577297e+04 1.576030e+04 1.757123e+04 2.308368e+04
## [29149] 1.778319e+04 8.178813e+04 2.347690e+04 1.528500e+04
## [29153] 2.907944e+04 1.567577e+04 2.189729e+04 1.415114e+04
## [29157] 1.620471e+04 1.504373e+04 2.273731e+04 1.545760e+04
## [29161] 2.287000e+04 1.684147e+04 2.424281e+04 -3.619550e+03
## [29165] 3.439287e+04 1.557432e+04 1.439373e+04 2.079761e+04
## [29169] 6.399924e+04 1.019723e+05 8.959625e+04 1.602968e+04
## [29173] 1.482698e+04 1.625961e+04 5.447660e+04 2.055093e+04
## [29177] 2.662460e+04 2.804406e+04 2.304202e+04 1.616283e+04
## [29181] 2.277928e+04 1.415277e+04 1.594362e+04 2.294042e+04
## [29185] 1.488724e+04 1.813016e+04 1.453529e+04 1.572726e+04
## [29189] 1.744488e+04 2.635663e+04 2.893641e+04 1.548236e+04
## [29193] 2.160711e+04 2.888525e+04 1.551006e+04 2.183552e+04
## [29197] 1.738491e+04 1.711830e+04 1.630828e+04 1.703589e+04
## [29201] 1.607942e+04 1.438450e+04 8.869982e+04 1.578129e+04
## [29205] 2.267487e+04 1.836783e+04 2.818147e+04 2.214710e+04
## [29209] 2.233216e+04 2.189669e+04 2.953198e+04 2.884669e+04
## [29213] 1.536648e+04 1.601423e+04 1.570480e+04 2.756648e+04
## [29217] 1.588420e+04 2.266176e+04 1.544903e+04 2.356866e+04
## [29221] 2.958081e+04 1.550336e+04 1.576030e+04 1.376570e+04
## [29225] 1.506764e+04 2.140152e+05 1.570540e+04 2.746875e+04
## [29229] 1.646762e+04 2.672411e+05 1.585062e+04 1.578827e+04
## [29233] 2.133261e+04 1.612108e+04 2.662076e+04 2.490825e+04
## [29237] 1.691641e+04 1.825226e+05 3.129459e+04 1.720027e+04
## [29241] 3.204040e+04 9.768010e+04 1.542539e+04 2.900773e+04
## [29245] 1.383484e+04 1.534491e+04 1.473916e+04 1.551080e+04
## [29249] 2.131671e+04 3.751337e+04 2.911587e+04 1.642965e+04
## [29253] 1.559443e+04 1.502269e+04 1.459689e+04 1.698754e+04
## [29257] 2.265311e+04 1.438905e+04 1.627965e+04 1.712425e+04
## [29261] 1.690317e+04 1.549847e+04 1.451326e+04 2.063620e+04
## [29265] 1.544357e+04 1.521763e+04 1.586397e+04 2.193610e+04
## [29269] 2.160222e+04 2.858395e+04 1.426766e+04 2.774505e+04
## [29273] 2.151664e+04 1.619161e+04 1.996558e+04 1.617309e+04
## [29277] 2.056791e+04 1.547304e+04 1.513707e+04 1.536648e+04
## [29281] 2.190595e+04 2.192881e+04 1.671432e+04 1.485424e+04
## [29285] 1.605177e+04 1.944911e+05 5.689689e+04 7.318156e+04
## [29289] 3.260472e+04 2.221066e+04 2.674138e+04 1.775464e+04
## [29293] 1.012709e+04 1.495996e+04 2.890222e+04 1.550581e+04
## [29297] 1.578368e+04 2.678080e+04 2.314826e+04 2.887931e+04
## [29301] 2.807333e+04 1.705685e+04 1.631733e+04 3.667149e+04
## [29305] 2.652965e+04 1.078699e+04 1.345427e+04 2.882440e+04
## [29309] 1.477061e+04 1.706935e+04 3.263071e+04 2.210642e+04
## [29313] 2.848608e+04 2.133733e+04 2.126819e+04 2.292109e+04
## [29317] 1.500587e+04 1.569797e+04 1.605098e+04 2.774505e+04
## [29321] 3.201717e+04 2.173197e+04 2.898966e+04 2.267466e+04
## [29325] 1.651696e+04 2.031935e+05 1.843809e+04 1.641387e+04
## [29329] 1.975213e+04 2.641805e+04 2.881754e+04 2.236360e+04
## [29333] 2.801042e+04 2.252193e+04 1.846105e+04 1.655015e+03
## [29337] 2.804957e+04 1.602682e+04 1.602543e+04 2.163575e+04
## [29341] 6.173611e+04 1.573395e+04 1.672480e+04 1.454199e+04
## [29345] 2.230937e+04 1.621870e+04 1.526060e+04 2.829289e+04
## [29349] 2.837611e+04 2.017409e+04 2.351034e+04 1.582231e+04
## [29353] 1.793380e+04 1.536648e+04 1.540504e+04 2.072068e+04
## [29357] 5.029055e+05 1.576475e+04 2.448713e+04 2.832107e+04
## [29361] 3.202060e+04 1.599687e+04 1.789162e+04 1.599215e+04
## [29365] 2.155204e+04 1.171565e+05 1.329272e+05 1.467200e+04
## [29369] 1.614294e+04 1.136584e+05 1.826688e+04 2.879123e+04
## [29373] 1.390705e+04 1.583160e+04 2.617350e+04 1.573215e+04
## [29377] 1.565687e+04 1.551687e+04 2.655308e+04 1.593510e+04
## [29381] 3.539553e+04 1.529308e+04 2.921852e+04 1.956292e+05
## [29385] 1.559443e+04 2.928536e+04 6.348615e+04 2.803717e+04
## [29389] 1.715341e+04 2.076900e+04 1.658524e+04 2.670473e+04
## [29393] 2.041580e+04 1.448022e+04 1.602542e+04 1.551942e+04
## [29397] 2.072800e+05 1.900429e+04 1.699526e+04 7.275497e+05
## [29401] 1.718883e+04 1.626715e+04 2.130831e+04 2.076674e+04
## [29405] 1.490145e+04 1.516551e+04 1.414896e+04 1.668282e+04
## [29409] 2.789699e+04 1.769843e+04 2.117833e+04 6.656541e+05
## [29413] 2.767409e+04 2.654538e+04 1.615833e+04 3.223579e+04
## [29417] 2.145712e+04 2.269411e+04 1.679326e+04 2.075107e+04
```

```
## [29417] 2.143712e+04 2.209111e+04 1.079520e+04 2.070107e+04
## [29421] 1.487118e+04 2.517785e+05 2.712170e+04 2.324986e+04
## [29425] 1.489590e+04 1.956969e+04 1.603015e+04 3.865125e+05
## [29429] 1.562939e+04 1.554405e+04 1.618865e+04 9.915612e+04
## [29433] 2.939287e+04 2.733691e+04 1.758846e+04 1.630828e+04
## [29437] 2.844368e+04 2.723733e+04 2.784946e+04 1.746781e+04
## [29441] 1.951196e+04 1.614590e+04 1.454199e+04 2.765692e+04
## [29445] 1.476959e+04 1.516551e+04 1.166959e+04 2.087218e+04
## [29449] 1.550836e+05 1.463119e+04 1.393172e+04 2.161944e+04
## [29453] 1.543674e+04 1.544899e+04 1.605459e+04 2.904080e+04
## [29457] 4.041119e+05 1.612118e+04 1.644111e+04 2.853856e+04
## [29461] 2.935449e+04 1.507524e+04 1.471469e+04 1.544829e+04
## [29465] 1.669607e+04 6.191615e+03 1.537317e+04 1.613358e+04
## [29469] 1.634142e+04 2.009367e+04 3.511920e+04 2.648281e+04
## [29473] 2.647481e+04 1.592574e+04 8.240914e+04 2.861384e+04
## [29477] 2.895557e+04 1.521005e+04 1.448022e+04 1.637103e+04
## [29481] 1.574050e+04 2.329152e+04 2.384048e+05 2.515336e+04
## [29485] 1.584066e+04 3.587011e+04 1.622549e+04 1.549206e+04
## [29489] 1.525211e+04 1.706935e+04 1.597587e+04 1.020513e+04
## [29493] 1.632205e+04 1.745480e+04 1.643651e+04 2.333167e+04
## [29497] 2.816073e+04 1.573186e+04 1.508768e+04 2.112966e+04
## [29501] 3.248511e+04 1.488343e+04 1.371617e+04 1.920354e+04
## [29505] 7.536092e+04 1.538493e+04 6.366702e+04 1.042050e+04
## [29509] 2.469955e+04 1.588408e+04 1.597609e+04 1.531526e+04
## [29513] 2.430279e+04 1.448022e+04 1.574646e+04 1.750041e+04
## [29517] 1.639649e+04 7.092830e+04 1.583553e+04 1.775967e+04
## [29521] 1.299115e+04 2.224313e+04 1.466620e+04 1.618225e+04
## [29525] 1.605194e+04 2.249475e+04 2.385078e+04 2.304889e+04
## [29529] 2.075466e+04 2.685294e+05 6.411936e+04 1.615605e+04
## [29533] 1.899103e+04 2.550959e+04 4.102463e+04 3.429557e+04
## [29537] 1.590637e+04 1.661369e+04 3.465853e+04 2.374069e+04
## [29541] 1.722032e+04 1.690232e+04 1.549098e+04 1.765375e+04
## [29545] 3.312816e+04 1.708766e+04 1.702001e+04 2.753098e+04
## [29549] 2.359726e+04 1.669533e+04 1.640188e+04 1.589260e+04
## [29553] 1.560351e+04 6.880883e+04 2.469892e+04 1.824965e+04
## [29557] 9.039901e+03 2.768328e+04 1.747340e+04 3.071775e+04
## [29561] 2.038064e+04 1.757850e+04 1.598528e+04 2.233943e+04
## [29565] 8.802845e+03 1.564077e+04 1.599687e+04 1.526992e+04
## [29569] 9.094293e+04 1.461603e+04 2.958533e+04 3.255659e+04
## [29573] 2.162031e+04 1.613358e+04 1.934399e+04 1.595429e+04
## [29577] 1.505273e+04 1.731888e+04 5.358944e+04 1.568902e+04
## [29581] 1.633472e+04 1.504113e+04 2.186126e+04 6.381996e+04
## [29585] 2.169271e+04 1.557432e+04 1.577280e+04 1.498401e+04
## [29589] 2.890862e+04 1.534462e+04 2.169811e+04 1.605931e+04
## [29593] 1.792449e+04 1.696494e+04 2.171135e+04 2.125328e+04
## [29597] 1.662039e+04 1.665189e+04 2.036383e+05 2.648986e+04
## [29601] 1.507501e+04 1.574453e+04 9.302642e+03 2.174924e+04
## [29605] 2.009029e+04 1.913366e+04 2.818914e+04 1.519720e+04
## [29609] 1.270784e+04 5.072560e+04 2.131569e+04 2.026618e+04
## [29613] 2.744735e+04 1.498179e+04 2.712907e+04 2.174564e+04
## [29617] 2.163567e+04 1.542825e+04 1.742242e+04 1.737208e+04
## [29621] 1.701361e+04 2.785267e+04 2.276900e+04 2.795757e+04
## [29625] 2.659805e+04 1.691641e+04 1.675110e+04 1.692328e+04
## [29629] 2.148830e+04 1.727053e+04 1.546367e+04 1.712425e+04
## [29633] 1.706141e+04 2.364810e+04 1.634698e+04 2.573038e+04
## [29637] 2.422461e+04 1.726643e+04 2.611716e+04 1.576030e+04
## [29641] 1.481568e+04 1.576808e+04 1.721458e+04 2.536478e+04
## [29645] 1.474983e+04 1.538659e+04 1.558119e+04 1.458514e+04
## [29649] 1.691641e+04 1.624355e+04 3.453005e+04 1.585568e+04
## [29653] 1.460649e+05 2.031199e+04 2.460385e+04 2.205987e+04
## [29657] 3.374203e+04 3.056494e+04 -1.559648e+03 2.017717e+04
## [29661] 1.358237e+05 1.987906e+04 2.326906e+04 2.844356e+04
## [29665] 1.510687e+04 2.074254e+04 1.047178e+04 1.624393e+04
## [29669] 2.947422e+04 2.913704e+04 1.663091e+04 2.577709e+04
## [29673] 1.654926e+04 2.196423e+04 1.684072e+04 2.756652e+04
## [29677] 1.260169e+05 1.689086e+04 1.002593e+04 1.582231e+04
## [29681] 2.878059e+04 1.546011e+04 4.363929e+05 1.485424e+04
## [29685] 1.524896e+04 3.489233e+04 1.560753e+04 2.860810e+04
## [29689] 2.727741e+04 2.212703e+04 1.420765e+04 2.680590e+04
## [29693] 1.445836e+04 2.976958e+04 1.617898e+04 2.339723e+04
## [29697] 2.073782e+04 1.524674e+04 1.551006e+04 2.215104e+04
## [29701] 7.599133e+04 2.268479e+04 1.794760e+05 2.192032e+04
## [29705] 5.776241e+04 1.757687e+04 2.263655e+04 1.700762e+04
## [29709] 2.406344e+04 2.960151e+04 1.476959e+04 1.483873e+04
## [29713] 2.616021e+04 6.355157e+04 8.675333e+05 9.928059e+04
## [29717] 1.550037e+04 3.549643e+04 2.244457e+04 1.702936e+04
```

```
## [29721] 1.652771e+04 1.513678e+04 2.284105e+04 1.702920e+04
## [29725] 1.669533e+04 1.593038e+04 1.396865e+04 1.623752e+04
## [29729] 1.524372e+04 2.322796e+04 1.554774e+04 1.597685e+04
## [29733] 2.812661e+04 2.373400e+04 1.696338e+04 1.535712e+04
## [29737] 8.824109e+04 1.746387e+04 8.901289e+04 2.343001e+04
## [29741] 6.521942e+04 2.875826e+04 2.243160e+04 2.228401e+04
## [29745] 1.619999e+04 2.564909e+04 2.803959e+04 1.922245e+04
## [29749] 1.670396e+04 1.622540e+04 2.224296e+04 1.651696e+04
## [29753] 1.646121e+04 2.254958e+04 1.660433e+04 1.551857e+04
## [29757] 2.005372e+04 5.902560e+04 2.946782e+04 2.776512e+04
## [29761] 2.159900e+04 1.061017e+05 1.731423e+04 2.231610e+04
## [29765] 1.490914e+04 8.920093e+04 1.547776e+04 6.575236e+04
## [29769] 2.575323e+04 1.687841e+04 1.434920e+04 1.562165e+04
## [29773] 3.447942e+04 1.534327e+04 1.619161e+04 2.838616e+04
## [29777] 1.578233e+04 2.276428e+04 1.660433e+04 2.230739e+04
## [29781] 2.286960e+04 1.598081e+04 1.453512e+04 1.596371e+04
## [29785] 6.743559e+04 8.665967e+04 6.673639e+05 1.265106e+05
## [29789] 1.462971e+04 8.141968e+04 1.521282e+04 1.516551e+04
## [29793] 3.396512e+04 1.532482e+04 2.950696e+04 2.346439e+04
## [29797] 2.116437e+04 1.686151e+04 1.619161e+04 1.534007e+04
## [29801] 1.551679e+05 1.712154e+04 2.824718e+04 1.009334e+04
## [29805] 1.586471e+04 1.534976e+04 1.782105e+04 4.017511e+04
## [29809] 2.279848e+04 2.295363e+04 1.318693e+05 2.186850e+04
## [29813] 3.564229e+04 1.527285e+04 1.510374e+04 2.581272e+04
## [29817] 2.134420e+04 2.910789e+04 1.653675e+04 3.573497e+05
## [29821] 1.656531e+04 1.690232e+04 1.533169e+04 2.804397e+04
## [29825] 1.548332e+04 1.736532e+04 1.560384e+04 2.202262e+04
## [29829] 6.399907e+04 2.249086e+04 1.970334e+04 2.211948e+04
## [29833] 1.920580e+04 1.506208e+04 1.517875e+04 1.572726e+04
## [29837] 2.219270e+04 3.557352e+04 2.202217e+04 3.251263e+04
## [29841] 1.799727e+04 1.732853e+04 2.169215e+04 1.497091e+04
## [29845] 2.126258e+04 1.156543e+05 1.794181e+04 2.632946e+04
## [29849] 2.276296e+04 1.486717e+04 1.972272e+04 1.771176e+04
## [29853] 1.498413e+04 1.410713e+04 1.981024e+04 1.444412e+04
## [29857] 2.323570e+04 2.093432e+04 1.596830e+04 1.587345e+04
## [29861] 1.662129e+04 1.819415e+04 5.584637e+03 1.650175e+04
## [29865] 1.586009e+04 1.427238e+04 1.544903e+04 1.371102e+05
## [29869] 1.487588e+04 1.203980e+04 1.599000e+04 1.676646e+04
## [29873] 1.513808e+04 3.016560e+04 1.561519e+04 1.683307e+04
## [29877] 6.445672e+04 1.811418e+04 1.633455e+04 2.804732e+04
## [29881] 1.818796e+04 1.633472e+04 2.741582e+04 1.614899e+04
## [29885] 5.362421e+04 2.975386e+04 2.580537e+04 2.956349e+04
## [29889] 8.312555e+04 1.734832e+04 1.440979e+04 1.544726e+04
## [29893] 1.593047e+04 1.721825e+04 2.231064e+04 1.718031e+04
## [29897] 2.231877e+04 2.195179e+04 1.448022e+04 2.461689e+04
## [29901] 2.189024e+04 2.291517e+04 2.747259e+04 1.709850e+04
## [29905] 2.167952e+04 2.222966e+04 4.763461e+04 2.045107e+04
## [29909] 1.657186e+04 1.475563e+04 1.568088e+04 1.467183e+04
## [29913] 1.456277e+04 2.409098e+04 1.706548e+04 1.468806e+04
## [29917] 2.207036e+04 2.325478e+04 1.528995e+04 1.609656e+04
## [29921] 2.145166e+04 1.620126e+04 1.551657e+04 2.739705e+04
## [29925] 2.576872e+04 2.022899e+04 1.507518e+04 2.915932e+04
## [29929] 1.652190e+04 3.586021e+04 1.503528e+04 2.937656e+04
## [29933] 1.647889e+04 2.133110e+04 2.165120e+04 1.503410e+04
## [29937] 1.645619e+04 1.689630e+04 1.751470e+04 1.565211e+04
## [29941] 3.146455e+04 1.613417e+04 2.245731e+04 1.693092e+04
## [29945] 2.216612e+04 1.928935e+04 1.129225e+05 1.613537e+04
## [29949] 1.548269e+04 1.518452e+04 1.736920e+04 1.497668e+04
## [29953] 2.179139e+04 1.665264e+04 1.548529e+04 7.083794e+04
## [29957] 1.456100e+04 2.095038e+04 1.479347e+04 2.225961e+04
## [29961] 1.321782e+04 1.529449e+04 2.320789e+04 1.638990e+04
## [29965] 2.233616e+04 1.652665e+04 1.625192e+04 2.971263e+04
## [29969] 2.800069e+05 1.659746e+04 1.612216e+04 2.177794e+04
## [29973] 1.474719e+04 2.784616e+04 3.061365e+04 1.503804e+04
## [29977] 1.593510e+04 2.186252e+04 1.532482e+04 1.828183e+04
## [29981] 1.489108e+04 1.874859e+04 1.686151e+04 1.434732e+04
## [29985] 3.455786e+04 2.115065e+04 1.665860e+04 2.316147e+04
## [29989] 2.429399e+04 1.559548e+04 2.120535e+04 1.939015e+04
## [29993] 1.543579e+04 1.692979e+04 1.576626e+04 2.069331e+04
## [29997] 1.062678e+05 1.758571e+04 1.604222e+04 2.254197e+04
## [30001] 1.579808e+04 1.684316e+04 1.553266e+04 1.593225e+04
## [30005] 1.915254e+04 2.269860e+04 1.397691e+04 2.805873e+04
## [30009] 1.702519e+04 8.264964e+04 1.523763e+04 4.395622e+04
## [30013] 1.597412e+04 2.171903e+04 1.496046e+04 2.066566e+04
## [30017] 8.374476e+04 2.175044e+04 1.858162e+04 1.452395e+04
## [30021] 1.589838e+04 2.338678e+04 1.966432e+05 2.335325e+04
```

```
## [30021] 1.589858e+04 2.338678e+04 1.066432e+05 2.333323e+04
## [30025] 1.941480e+04 2.199871e+04 1.579198e+04 1.003034e+05
## [30029] 1.526992e+04 1.508838e+04 2.078748e+04 2.227820e+04
## [30033] 1.633126e+04 1.882717e+05 2.058960e+04 2.061320e+04
## [30037] 1.693264e+04 8.513526e+04 1.628039e+04 2.736085e+04
## [30041] 2.199458e+04 8.761485e+04 2.160024e+04 1.628035e+04
## [30045] 1.731799e+04 1.486262e+04 -5.900484e+03 2.301272e+04
## [30049] 2.974975e+04 1.551372e+04 2.115822e+04 1.505923e+04
## [30053] 1.551562e+04 2.296321e+04 5.086235e+04 1.536025e+04
## [30057] 1.691641e+04 1.119094e+04 1.486717e+04 1.027281e+05
## [30061] 1.597422e+04 1.645603e+04 1.611094e+04 1.891259e+05
## [30065] 2.406128e+04 1.661067e+04 1.636043e+04 1.636370e+04
## [30069] 2.794619e+04 2.791879e+04 3.031857e+05 2.338275e+04
## [30073] 1.523942e+04 3.967436e+04 2.403597e+04 1.977196e+04
## [30077] 1.562939e+04 1.117613e+04 2.359441e+04 2.927879e+04
## [30081] 2.999161e+04 1.844837e+04 1.681045e+04 1.502456e+04
## [30085] 1.470624e+04 2.924663e+04 1.659774e+04 1.631878e+04
## [30089] 1.532252e+04 2.219820e+04 1.640283e+04 1.791888e+04
## [30093] 2.104369e+04 2.370720e+04 1.684724e+04 1.539236e+04
## [30097] 1.497359e+04 2.713942e+04 2.129390e+04 1.591161e+04
## [30101] 2.888362e+04 1.602529e+04 1.640910e+04 2.253544e+04
## [30105] 1.795038e+04 2.249559e+04 6.853979e+04 1.570905e+04
## [30109] 1.516916e+04 2.336861e+04 2.168905e+04 1.631325e+04
## [30113] 1.676646e+04 1.626429e+04 1.530961e+04 1.433801e+04
## [30117] 2.187581e+04 1.695184e+04 1.560197e+04 1.609286e+04
## [30121] 1.685124e+04 2.011221e+04 1.674185e+04 1.640113e+04
## [30125] 1.731670e+04 1.989331e+04 7.521205e+04 9.060953e+04
## [30129] 1.632887e+04 1.627965e+04 1.560020e+04 2.990891e+04
## [30133] 1.525058e+04 1.424897e+04 2.274766e+04 1.653513e+04
## [30137] 1.593510e+04 8.438614e+04 2.176353e+04 1.557699e+04
## [30141] 2.165612e+04 1.540561e+04 1.560873e+04 1.696775e+04
## [30145] 1.630912e+04 1.474011e+04 2.093996e+04 2.846496e+04
## [30149] 1.572441e+04 1.640568e+04 1.845380e+04 1.709565e+04
## [30153] 2.196609e+04 2.370660e+04 2.163846e+04 7.275734e+04
## [30157] 1.482391e+04 1.435493e+04 2.128243e+04 2.192514e+04
## [30161] 2.277164e+04 6.381996e+04 2.200026e+04 1.489590e+04
## [30165] 2.240054e+04 2.221066e+04 2.959494e+04 2.100545e+04
## [30169] 1.861205e+04 1.748995e+04 1.521098e+04 1.014068e+05
## [30173] 1.518452e+04 2.692741e+04 6.557305e+04 2.685209e+04
## [30177] 1.607078e+04 1.598377e+04 1.123329e+04 1.477924e+04
## [30181] 1.641550e+04 1.039032e+05 2.766501e+04 2.353951e+04
## [30185] 2.621073e+04 2.701094e+04 1.559795e+04 1.260600e+05
## [30189] 1.657601e+04 1.753521e+04 1.785843e+04 1.480672e+04
## [30193] 1.636173e+04 1.599000e+04 1.715865e+04 2.277478e+04
## [30197] 2.904548e+04 2.325651e+04 2.157390e+04 1.475278e+04
## [30201] 2.310484e+04 5.105899e+04 2.805730e+04 1.558398e+04
## [30205] 1.816350e+04 1.607078e+04 2.188950e+04 2.510725e+04
## [30209] 1.633455e+04 1.782855e+04 8.561591e+03 2.326492e+04
## [30213] 2.631295e+04 2.253982e+04 1.551942e+04 1.654239e+04
## [30217] 1.260984e+05 1.635078e+04 1.718183e+04 1.822591e+04
## [30221] 2.854387e+04 1.675650e+04 1.648646e+04 1.603578e+04
## [30225] 2.059134e+04 1.894153e+04 2.720798e+04 1.640456e+04
## [30229] 6.739038e+04 1.480054e+04 8.633579e+03 4.341258e+04
## [30233] 1.932596e+04 2.155784e+04 1.571017e+04 2.951320e+04
## [30237] 1.585199e+04 2.080616e+04 1.526992e+04 1.568259e+04
## [30241] 1.491721e+04 4.315699e+04 2.187749e+04 1.723611e+04
## [30245] 1.733702e+04 1.623869e+04 1.572560e+04 1.576337e+04
## [30249] 3.321632e+04 2.246428e+04 2.211379e+04 1.557449e+04
## [30253] 5.566572e+04 1.585925e+04 2.192119e+04 1.521622e+04
## [30257] 1.547764e+04 1.595973e+04 1.626429e+04 1.739001e+04
## [30261] 1.645710e+04 1.994545e+04 1.644583e+04 2.788290e+04
## [30265] 1.530873e+04 1.411961e+04 1.619784e+04 2.879179e+04
## [30269] 2.335756e+04 2.305070e+04 2.839350e+04 5.795376e+04
## [30273] 1.779792e+04 2.229685e+04 2.586672e+04 2.222913e+04
## [30277] 1.449419e+04 1.658325e+04 1.872671e+04 1.626309e+04
## [30281] 1.642684e+04 1.996442e+04 1.726371e+04 2.319051e+04
## [30285] 1.525367e+04 2.326013e+04 2.133750e+04 2.793400e+04
## [30289] 1.672179e+04 2.345741e+04 1.633455e+04 2.165088e+04
## [30293] 1.606783e+04 2.155633e+04 1.694085e+04 1.585199e+04
## [30297] 1.599964e+04 1.585145e+04 6.335457e+04 2.084966e+04
## [30301] 1.718229e+04 2.117899e+04 1.631536e+04 5.696039e+04
## [30305] 1.732656e+04 1.856113e+04 2.163711e+04 2.528594e+04
## [30309] 2.211092e+04 1.587575e+04 1.558500e+04 1.536664e+04
## [30313] 5.466279e+04 2.111371e+04 7.745443e+04 1.652987e+04
## [30317] 2.037907e+04 2.265704e+04 1.648172e+04 1.665860e+04
## [30321] 1.899316e+04 1.869404e+04 4.359758e+04 1.738615e+04
```

```
## [30325]  1.603015e+04  2.061094e+04  1.496061e+04  6.548142e+04
## [30329]  1.628454e+04  1.514171e+04  9.993842e+03  2.126385e+04
## [30333]  2.265704e+04  2.259600e+04  1.612813e+04  1.885223e+04
## [30337]  1.535921e+04  1.656714e+04  2.312042e+04  1.545478e+04
## [30341]  1.869162e+04  1.695807e+04  1.819887e+04  1.696432e+04
```

Conclusion

Of all models, the PCR model best predicted total healthcare charges of patients at time of discharge. The PCR model had very similar RMSE values to the linear model and lasso regression model, and thus, they have similar prediction performance. By listing the most important variables in predicting charges, we gained insight into the most important predictors for healthcare charges, particularly gaining knowledge that length of stay and total costs have much greater importance in predicting the charges compared to other variables. Birthweight is the top 6th highest importance, which is expected, as it often recorded in literature. It was of valuable insight to learn that the APR risk of mortality (minor, major, and moderate) has strong importance in determining total charges as well as congenital anomalies and Urgent admission types.