

# 101b\_project

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## Load packages needed:

```
library(ggplot2)
library(readxl)
library(DescTools)
library(agricolae)
```

## Read in Data(make sure working directory is correct):

```
data <- read_excel("project.xlsx")
# data <- read_csv('project.csv')
head(data)
```

```
## # A tibble: 6 x 13
##   `Participant Name`      Age Sex  Location (Island & Hous~1 Date
##   <chr>                <dbl> <chr> <chr>                <dtm>
## 1 Sophia Carlsen         63 F    Hayarano - 95         2024-05-21 00:00:00
## 2 Kyosuke Endo           23 M    Hayarano - 396        2024-05-21 00:00:00
## 3 Husaam Ahmad           78 M    Hayarano - 418        2024-05-21 00:00:00
## 4 RODGER AITKEN          71 M    Akkeshi - 31          2024-05-21 00:00:00
## 5 DR KRISTINA BLOMGREN   51 F    Akkeshi - 18          2024-05-21 00:00:00
## 6 Alexander Wilson       26 M    Akkeshi - 407         2024-05-21 00:00:00
## # i abbreviated name: 1: `Location (Island & House Number)`
## # i 8 more variables: `Time Pre-Jump` <dtm>,
## #   `Pre-Jump Adrenaline (pg/mL)` <dbl>, `Time Jumped (sec)` <dbl>,
## #   `Time Post-Jumping` <dtm>, `Post-Jump Adrenaline (pg/mL)` <dbl>,
## #   `Change in Blood Adrenaline Levels` <dbl>,
## #   `Percent Change of Blood Adrenaline Levels` <dbl>, `Additional Notes` <chr>
```

## Create Model:

```
# Define response variable, treatments, and blocks
response <- data$`Change in Blood Adrenaline Levels`
treatments <- as.factor(data$`Time Jumped (sec)`)
age <- (data$Age)
gender <- (data$Sex)
head(treatments)
```

```
## [1] 30 30 30 30 30 30
## Levels: 30 60 90 120
```

```
# Simple model
modell1 <- lm(response ~ treatments + age + gender)
summary(modell1)

##
## Call:
## lm(formula = response ~ treatments + age + gender)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -3153.01  -334.62   43.96   440.58  953.68
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   3161.970    189.864   16.654 <2e-16 ***
## treatments60   2098.330    185.094   11.337 <2e-16 ***
## treatments90   4067.552    187.381   21.707 <2e-16 ***
## treatments120  5581.360    186.472   29.931 <2e-16 ***
## age              1.816       2.907    0.625  0.533
## genderM        -1796.291    132.883  -13.518 <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 679.2 on 102 degrees of freedom
## Multiple R-squared:  0.9298, Adjusted R-squared:  0.9264
## F-statistic: 270.3 on 5 and 102 DF,  p-value: < 2.2e-16
```

```
# ANOVA
modell1_aov <- aov(response ~ treatments + age + gender)
summary(modell1_aov)

##              Df    Sum Sq  Mean Sq F value Pr(>F)
## treatments    3 539006855 179668952 389.508 <2e-16 ***
## age           1   20067     20067    0.044  0.835
## gender        1 84288805 84288805 182.731 <2e-16 ***
## Residuals    102 47049720   461272
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
coef(modell1_aov)

##      (Intercept) treatments60 treatments90 treatments120      age
##      3161.96990   2098.32996   4067.55243   5581.36023   1.81645
##      genderM
##      -1796.29070
```

```
# Model Equation
```

```
# Model without factor
treatments_nofac <- data$`Time Jumped (sec)`
modell1_nofac <- lm(response ~ treatments_nofac + age + gender)
summary(modell1_nofac)
```

```
##
## Call:
## lm(formula = response ~ treatments_nofac + age + gender)
```

```
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -3311.3  -301.0   162.8   511.0   889.4
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    1397.295     215.318   6.489 2.98e-09 ***
## treatments_nofac    62.350       2.004  31.116 < 2e-16 ***
## age              2.453       2.908   0.844  0.401
## genderM          -1800.411     134.825 -13.354 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 689.7 on 104 degrees of freedom
## Multiple R-squared:  0.9262, Adjusted R-squared:  0.9241
## F-statistic:  435 on 3 and 104 DF,  p-value: < 2.2e-16

# Assuming data has been loaded and the model has been fit
# as discussed First, fit a model without a baseline to get
# coefficients for all levels
model_no_baseline <- lm(response ~ 0 + treatments_nofac + age +
  gender, data = data)

# Calculate the mean coefficient for treatments
treatment_coefs <- coef(model_no_baseline)[grep("treatments",
  names(coef(model_no_baseline)))]
mean_treatment_effect <- mean(treatment_coefs)

# Construct the model equation including the average
# treatment effect
model_coefs <- coef(model_no_baseline)
coeff_names <- names(model_coefs)

# Initialize the equation with the intercept (manually
# calculated or assumed here)
equation <- "y = 1397.295"

# Add the average treatment effect to the equation
equation <- sprintf("%s + %.2f*Treatment", equation, mean_treatment_effect)

# Add other coefficients for 'age' and 'gender'
for (name in coeff_names[!grepl("treatments", coeff_names)]) {
  sign <- ifelse(model_coefs[name] >= 0, "+", "-")
  equation <- sprintf("%s %s %.2f%s", equation, sign, abs(model_coefs[name]),
    name)
}

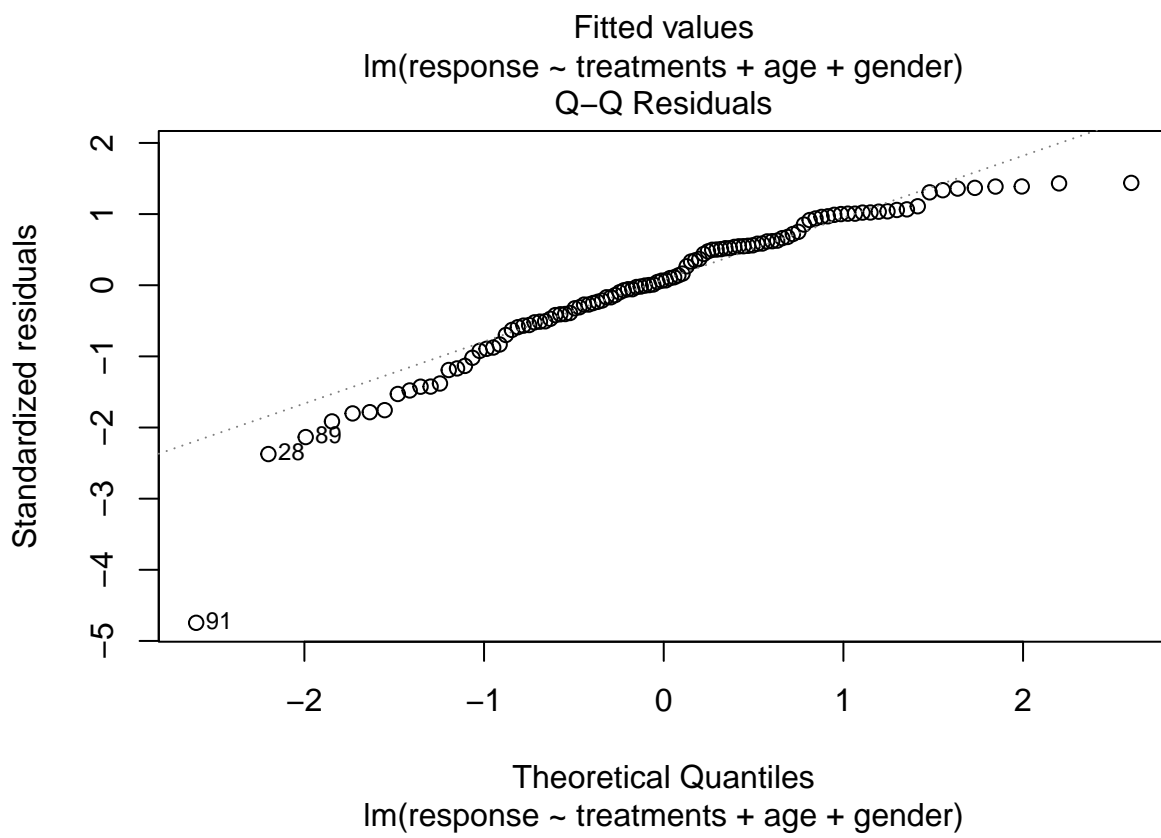
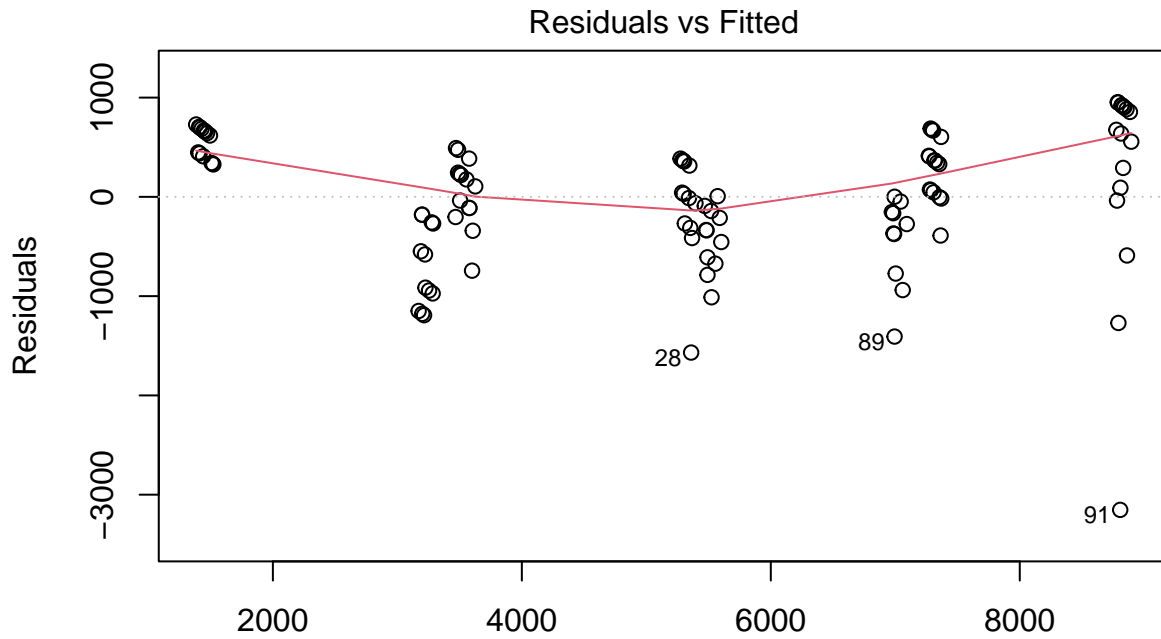
# Add the error term
equation <- sprintf("%s + e", equation)

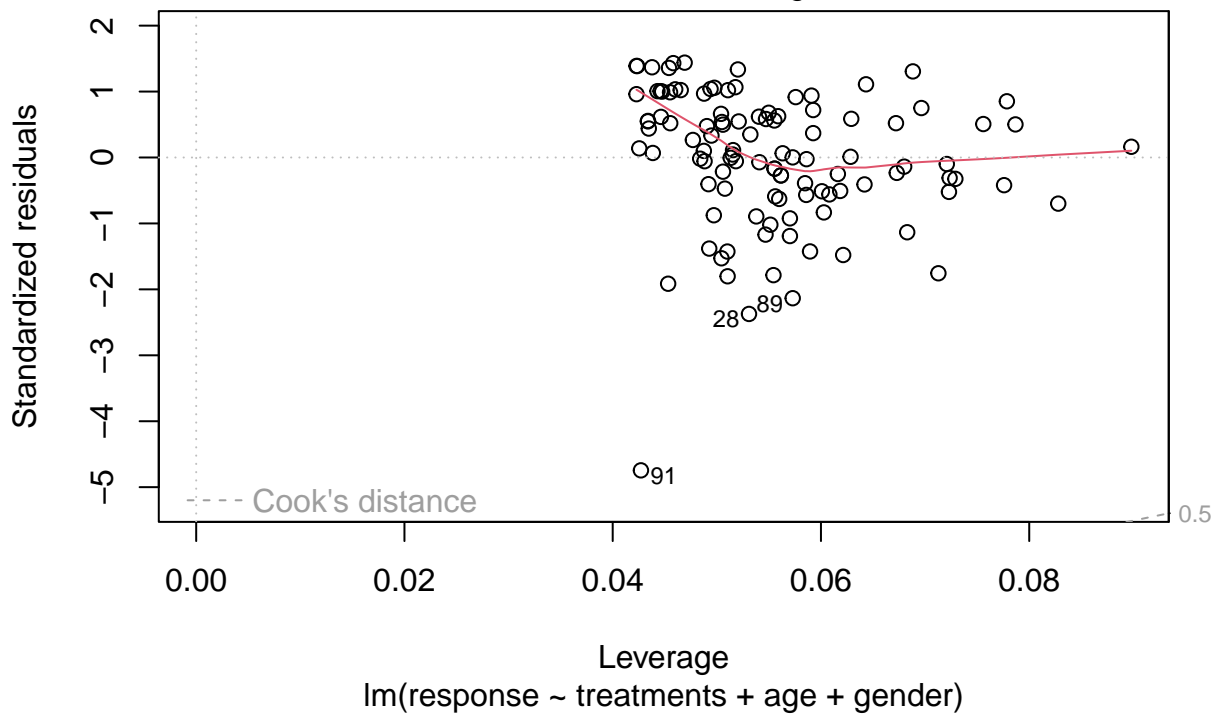
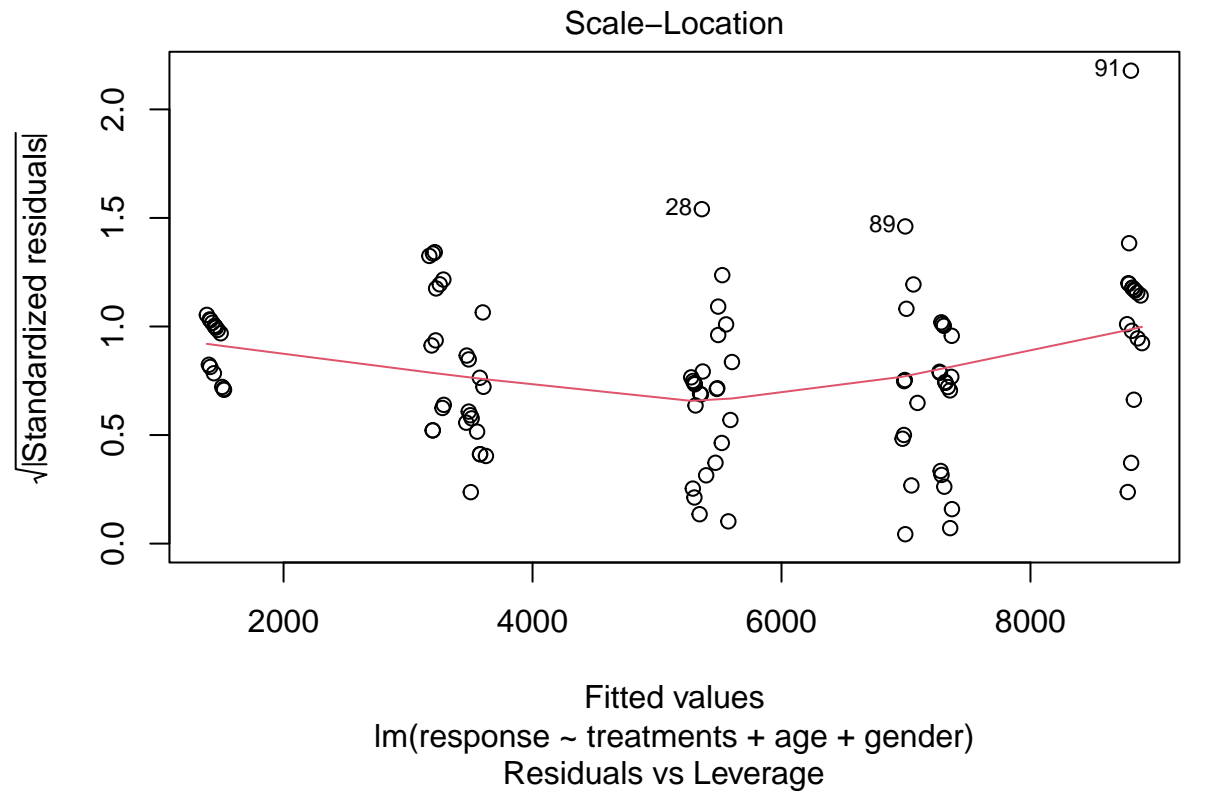
# Print the simplified equation
equation

## [1] "y = 1397.295 + 62.35*Treatment + 2.45*age + 1397.29*genderF - 403.12*genderM + e"
```

## Plot Models:

```
# Basic plots  
plot(model1)
```





```
# Post-hoc test
```

```
tukey1 <- TukeyHSD(model1_aov, "treatments")
```

```
## Warning in replications(paste("~", xx), data = mf): non-factors ignored: age
```

```
tukey1
```

```
## Tukey multiple comparisons of means
## 95% family-wise confidence level
##
## Fit: aov(formula = response ~ treatments + age + gender)
##
## $treatments
##      diff      lwr      upr p adj
## 60-30 2159.544 1676.745 2642.344    0
## 90-30 4347.663 3864.863 4830.463    0
## 120-30 5912.863 5430.063 6395.663    0
## 90-60 2188.119 1705.319 2670.918    0
## 120-60 3753.319 3270.519 4236.118    0
## 120-90 1565.200 1082.400 2048.000    0

posthoc_lsd <- LSD.test(model1_aov, "treatments", p.adj = "none")
posthoc_lsd

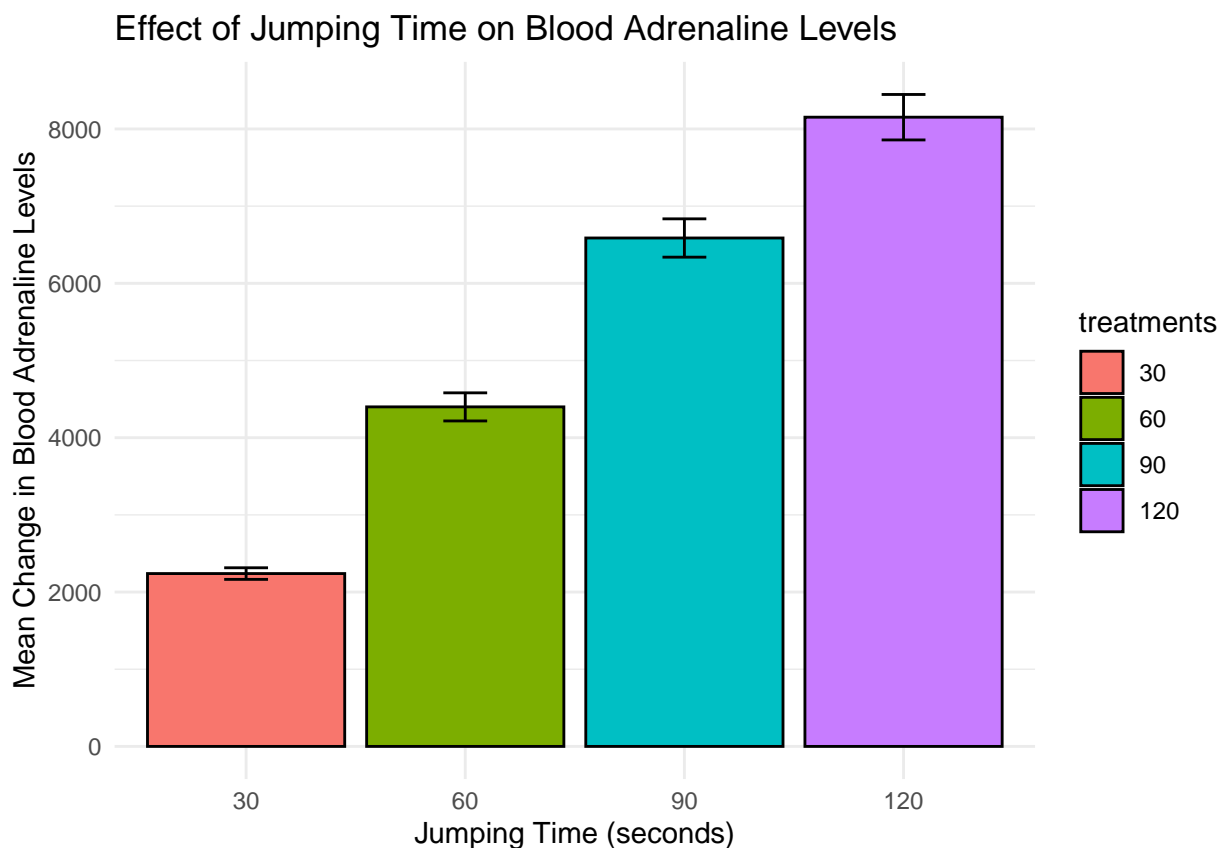
## $statistics
##      MSerror Df      Mean      CV t.value      LSD
## 461271.8 102 5344.599 12.70759 1.983495 366.6424
##
## $parameters
##      test p.adjusted      name.t ntr alpha
## Fisher-LSD      none treatments  4 0.05
##
## $means
##      response      std r      se      LCL      UCL      Min      Max      Q25
## 120 8152.444 1530.2463 27 130.7063 7893.189 8411.700 5586.9 9741.4 6818.60
## 30 2239.581 390.7401 27 130.7063 1980.326 2498.837 1848.2 3019.2 2022.05
## 60 4399.126 946.2791 27 130.7063 4139.871 4658.381 2856.9 5660.9 3731.05
## 90 6587.244 1289.3710 27 130.7063 6327.989 6846.500 4512.4 7971.9 5262.35
##      Q50      Q75
## 120 8744.1 9740.35
## 30 2113.1 2310.90
## 60 3961.9 5329.95
## 90 7352.1 7682.70
##
## $comparison
## NULL
##
## $groups
##      response groups
## 120 8152.444      a
## 90 6587.244      b
## 60 4399.126      c
## 30 2239.581      d
##
## attr(,"class")
## [1] "group"
```

## Other Plots:

```
# Calculate means and confidence intervals for plotting
treatment_means <- aggregate(response ~ treatments, data = data,
  mean)
treatment_se <- aggregate(response ~ treatments, data = data,
  function(x) sd(x)/sqrt(length(x)))

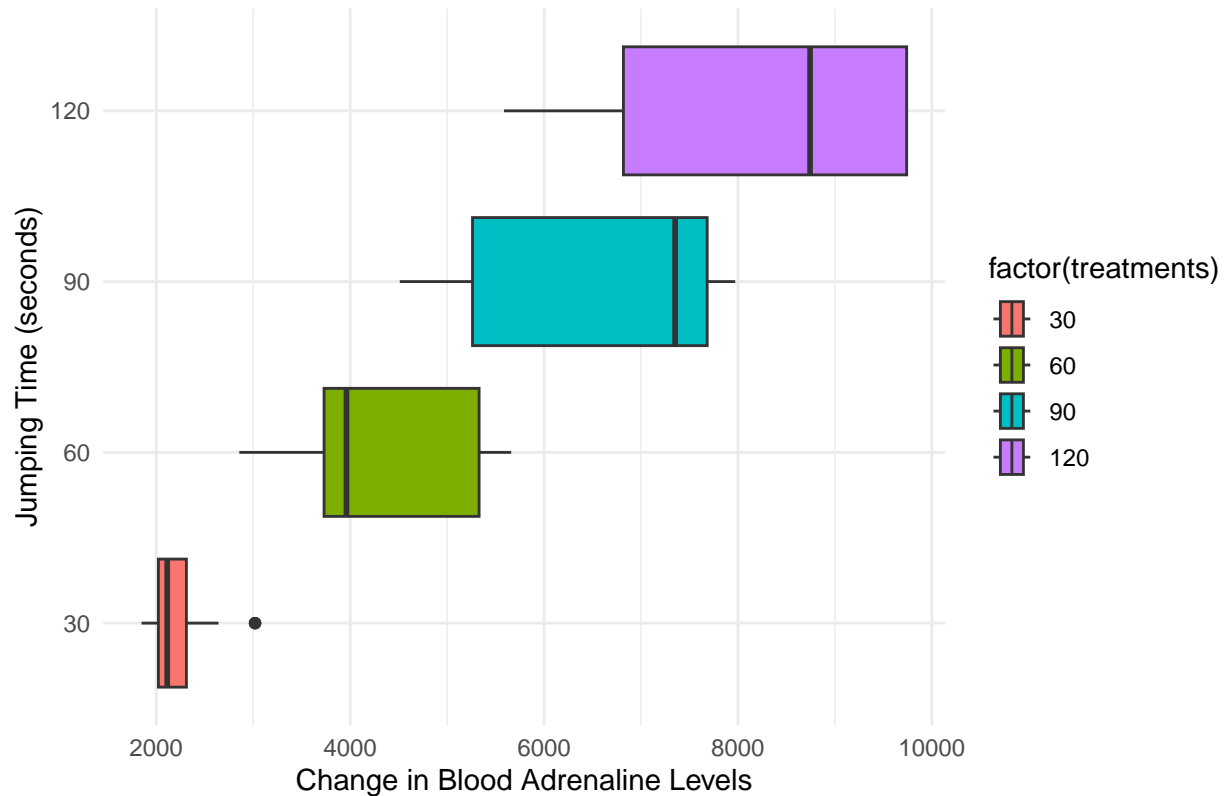
# Merge means and standard errors for plotting
plot_data <- merge(treatment_means, treatment_se, by = "treatments")
names(plot_data) <- c("treatments", "mean", "se")

# Bar Graph Plot for each level of treatment
ggplot(plot_data, aes(x = treatments, y = mean, fill = treatments)) +
  geom_bar(stat = "identity", position = position_dodge(),
    color = "black") + geom_errorbar(aes(ymin = mean - se,
  ymax = mean + se), width = 0.2, position = position_dodge(0.9)) +
  labs(title = "Effect of Jumping Time on Blood Adrenaline Levels",
    x = "Jumping Time (seconds)", y = "Mean Change in Blood Adrenaline Levels") +
  theme_minimal()
```



```
# Boxplot
ggplot(data, aes(y = factor(treatments), x = response, fill = factor(treatments))) +
  geom_boxplot() + labs(title = "Adrenaline Level Changes Across Jumping Times",
  y = "Jumping Time (seconds)", x = "Change in Blood Adrenaline Levels") +
  theme_minimal()
```

## Adrenaline Level Changes Across Jumping Times



```
a <- read.csv("project.csv")
head(a)
```

```
##      Participant.Name Age Sex Location..Island...House.Number.      Date
## 1      Sophia Carlsen 63  F      Hayarano - 95 May 21, 2024
## 2      Kyosuke Endo  23  M      Hayarano - 396 May 21, 2024
## 3      Husaam Ahmad  78  M      Hayarano - 418 May 21, 2024
## 4      RODGER AITKEN 71  M      Akkeshi - 31 May 21, 2024
## 5 DR KRISTINA BLOMGREN 51  F      Akkeshi - 18 May 21, 2024
## 6      Alexander Wilson 26  M      Akkeshi - 407 May 21, 2024
##      Time.Pre.Jump Pre.Jump.Adrenaline..pg.mL. Time.Jumped..sec. Time.Post.Jumping
## 1      11:38      32.4      30      11:41
## 2      11:43      41.0      30      11:48
## 3      11:51      38.5      30      11:53
## 4      11:58      33.9      30      11:59
## 5      12:04      41.1      30      12:07
## 6      12:10      38.4      30      12:15
##      Post.Jump.Adrenaline..pg.mL. Change.in.Blood.Adrenaline.Levels
## 1      3051.6      3019.2
## 2      2153.7      2112.7
## 3      1887.2      1848.7
## 4      2146.8      2112.9
## 5      2352.1      2311.0
## 6      2151.5      2113.1
##      Percent.Change.of.Blood.Adrenaline.Levels
## 1      9318.519
## 2      5152.927
```



```

## 3          4801.818
## 4          6232.743
## 5          5622.871
## 6          5502.865
##
##                                     Additional.Notes
## 1                                     smoked a couple times throughout her life
## 2                                     mostly healthy individual with almost no smoking
## 3          light - moderate smoker for most of life, recently got heart disease
## 4 alternative light & moderate smoker, had and recovered from bowel cancer towards end of life
## 5          light-non smoker for most of life, got liver cancer in recent years
## 6          light - non smoker for most of life

```

```

age <- as.factor(a$Age)
gender <- as.factor(a$Sex)
response <- a$Post.Jump.Adrenaline..pg.mL.
treatments <- as.factor(a$Time.Jumped..sec.)

model2 <- aov(response ~ treatments + age + gender)
summary(model2)

```

```

##           Df      Sum Sq   Mean Sq F value    Pr(>F)
## treatments  3 538880120 179626707 438.732 < 2e-16 ***
## age         60 66174542   1102909   2.694 0.000446 ***
## gender       1 47584442   47584442 116.223 8.39e-14 ***
## Residuals   43 17605172    409423
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

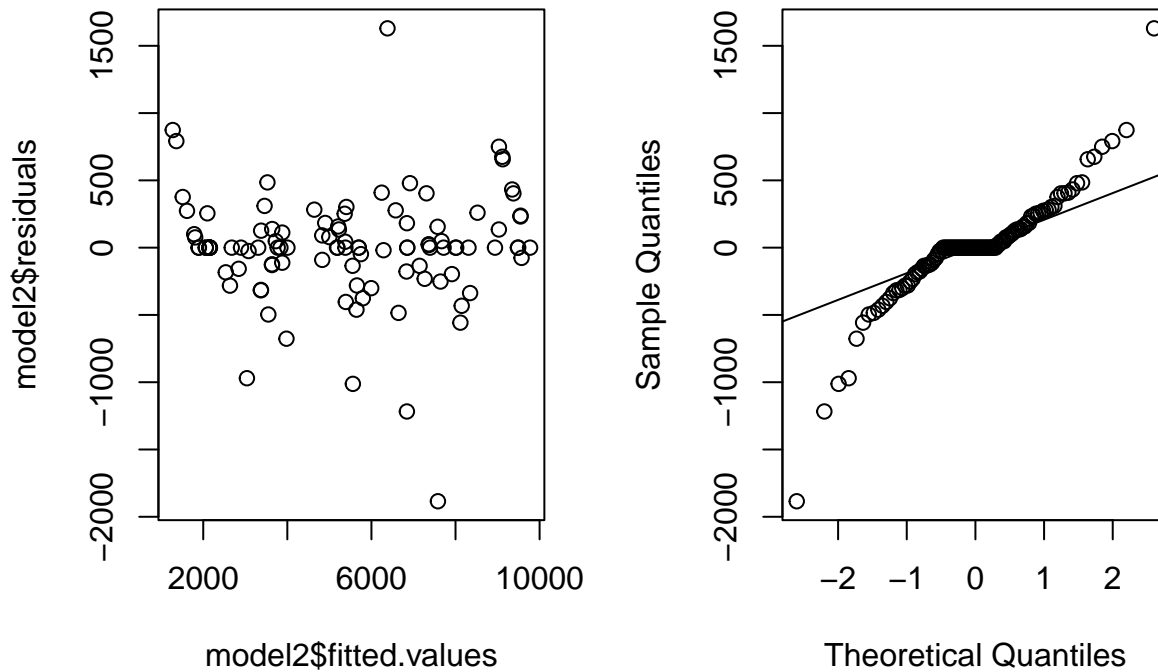
```

par(mfrow = c(1, 2))
plot(model2$fitted.values, model2$residuals)

qqnorm(model2$residuals)
qqline(model2$residuals)

```

## Normal Q-Q Plot



```
PostHocTest(model2, method = "lsd")
```

```
##
##   Posthoc multiple comparisons of means : Fisher LSD
##   95% family-wise confidence level
##
## $treatments
##      diff   lwr.ci   upr.ci   pval
## 60-30  2160.915 1809.711 2512.118 8.4e-16 ***
## 90-30  4346.967 3995.763 4698.170 < 2e-16 ***
## 120-30 5912.796 5561.593 6264.000 < 2e-16 ***
## 90-60  2186.052 1834.849 2537.255 5.7e-16 ***
## 120-60 3751.881 3400.678 4103.085 < 2e-16 ***
## 120-90 1565.830 1214.626 1917.033 2.0e-11 ***
##
## $age
##      diff      lwr.ci      upr.ci   pval
## 4-2    6.951000e+02 -1129.806101  2520.0061009 0.44660
## 5-2    9.132148e+02  -911.691286  2738.1209157 0.31853
## 8-2    2.393400e+03   568.493899  4218.3061009 0.01136 *
## 10-2   1.004415e+03  -820.491286  2829.3209157 0.27318
## 13-2   5.720000e+02 -1008.415043  2152.4150429 0.46941
## 14-2  -2.070815e+02 -2031.987582  1617.8246194 0.82007
## 15-2   1.798957e+03   218.542365  3379.3724503 0.02664 *
## 16-2   2.389000e+03   564.093899  4213.9061009 0.01150 *
## 18-2   2.424419e+03   599.512418  4249.3246194 0.01041 *
## 19-2   7.422148e+02 -1082.691286  2567.1209157 0.41662
## 20-2   8.010993e+02  -612.466928  2214.6654467 0.25940
## 21-2   1.159988e+03  -282.726986  2602.7029116 0.11222
## 22-2   1.500016e+03    9.986458  2990.0456413 0.04855 *
```

## 23-2	1.007515e+03	-817.391286	2832.4209157	0.27172	
## 24-2	1.734821e+03	292.106348	3177.5362450	0.01958	*
## 25-2	7.511148e+02	-1073.791286	2576.0209157	0.41109	
## 26-2	4.028864e+02	-990.908637	1796.6814770	0.56298	
## 27-2	1.390622e+03	-99.407370	2880.6518141	0.06659	.
## 28-2	-3.110519e+02	-2135.957953	1513.8542490	0.73272	
## 29-2	9.159148e+02	-908.991286	2740.8209157	0.31712	
## 30-2	2.509748e+03	684.842047	4334.6542490	0.00817	**
## 31-2	5.512333e+02	-1029.181710	2131.6483762	0.48560	
## 32-2	-6.628019e+02	-2243.216895	917.6131910	0.40236	
## 33-2	1.531515e+03	-293.391286	3356.4209157	0.09779	.
## 34-2	9.995148e+02	-825.391286	2824.4209157	0.27549	
## 35-2	7.879938e+02	-702.035765	2278.0234190	0.29214	
## 36-2	1.880119e+03	55.212418	3705.0246194	0.04374	*
## 39-2	2.431919e+03	607.012418	4256.8246194	0.01020	*
## 41-2	1.993494e+03	503.464235	3483.5234190	0.00992	**
## 42-2	2.714719e+03	889.812418	4539.6246194	0.00448	**
## 43-2	1.900548e+03	75.642047	3725.4542490	0.04161	*
## 44-2	1.012515e+03	-812.391286	2837.4209157	0.26938	
## 45-2	2.074400e+03	249.493899	3899.3061009	0.02684	*
## 46-2	1.004415e+03	-820.491286	2829.3209157	0.27318	
## 47-2	2.308874e+03	728.459031	3889.2891169	0.00518	**
## 48-2	1.016083e+03	-564.331710	2596.4983762	0.20169	
## 49-2	2.471333e+03	890.918290	4051.7483762	0.00294	**
## 50-2	1.754210e+02	-1314.608604	1665.4505795	0.81345	
## 51-2	1.491707e+03	-88.707635	3072.1224503	0.06368	.
## 53-2	1.347369e+03	-233.046524	2927.7835614	0.09275	.
## 55-2	5.283000e+02	-1296.606101	2353.2061009	0.56239	
## 58-2	1.002915e+03	-821.991286	2827.8209157	0.27389	
## 59-2	1.950324e+03	369.909031	3530.7391169	0.01677	*
## 62-2	-9.714074e+01	-1677.555784	1483.2743021	0.90193	
## 63-2	1.257933e+03	-184.781615	2700.6482820	0.08580	.
## 65-2	1.250119e+03	-574.787582	3075.0246194	0.17426	
## 67-2	3.185815e+02	-1261.833561	1898.9965243	0.68637	
## 68-2	2.224048e+03	399.142047	4048.9542490	0.01809	*
## 69-2	1.900881e+03	320.466439	3481.2965243	0.01955	*
## 71-2	1.000615e+03	-824.291286	2825.5209157	0.27497	
## 74-2	1.785724e+03	205.309031	3366.1391169	0.02771	*
## 75-2	-4.092000e+02	-2234.106101	1415.7061009	0.65339	
## 76-2	2.523948e+03	699.042047	4348.8542490	0.00784	**
## 77-2	1.010298e+03	-570.116895	2590.7131910	0.20422	
## 78-2	1.152778e+03	-337.251814	2642.8073696	0.12603	
## 80-2	-2.065815e+02	-2031.487582	1618.3246194	0.82050	
## 84-2	1.587167e+03	6.751624	3167.5817095	0.04907	*
## 86-2	3.340315e+02	-1246.383561	1914.4465243	0.67206	
## 89-2	4.638000e+02	-1361.106101	2288.7061009	0.61089	
## 93-2	-2.995519e+02	-2124.457953	1525.3542490	0.74223	
## 5-4	2.181148e+02	-1606.791286	2043.0209157	0.81067	
## 8-4	1.698300e+03	-126.606101	3523.2061009	0.06734	.
## 10-4	3.093148e+02	-1515.591286	2134.2209157	0.73415	
## 13-4	-1.231000e+02	-1703.515043	1457.3150429	0.87592	
## 14-4	-9.021815e+02	-2727.087582	922.7246194	0.32434	
## 15-4	1.103857e+03	-476.557635	2684.2724503	0.16615	
## 16-4	1.693900e+03	-131.006101	3518.8061009	0.06803	.

```

## 18-4 1.729319e+03 -95.587582 3554.2246194 0.06268 .
## 19-4 4.711481e+01 -1777.791286 1872.0209157 0.95872
## 20-4 1.059993e+02 -1307.566928 1519.5654467 0.88050
## 21-4 4.648880e+02 -977.826986 1907.6029116 0.51925
## 22-4 8.049160e+02 -685.113542 2294.9456413 0.28204
## 23-4 3.124148e+02 -1512.491286 2137.3209157 0.73159
## 24-4 1.039721e+03 -402.993652 2482.4362450 0.15338
## 25-4 5.601481e+01 -1768.891286 1880.9209157 0.95093
## 26-4 -2.922136e+02 -1686.008637 1101.5814770 0.67454
## 27-4 6.955222e+02 -794.507370 2185.5518141 0.35178
## 28-4 -1.006152e+03 -2831.057953 818.7542490 0.27236
## 29-4 2.208148e+02 -1604.091286 2045.7209157 0.80838
## 30-4 1.814648e+03 -10.257953 3639.5542490 0.05124 .
## 31-4 -1.438667e+02 -1724.281710 1436.5483762 0.85520
## 32-4 -1.357902e+03 -2938.316895 222.5131910 0.09031 .
## 33-4 8.364148e+02 -988.491286 2661.3209157 0.36048
## 34-4 3.044148e+02 -1520.491286 2129.3209157 0.73820
## 35-4 9.289383e+01 -1397.135765 1582.9234190 0.90053
## 36-4 1.185019e+03 -639.887582 3009.9246194 0.19730
## 39-4 1.736819e+03 -88.087582 3561.7246194 0.06159 .
## 41-4 1.298394e+03 -191.635765 2788.4234190 0.08598 .
## 42-4 2.019619e+03 194.712418 3844.5246194 0.03089 *
## 43-4 1.205448e+03 -619.457953 3030.3542490 0.18983
## 44-4 3.174148e+02 -1507.491286 2142.3209157 0.72747
## 45-4 1.379300e+03 -445.606101 3204.2061009 0.13477
## 46-4 3.093148e+02 -1515.591286 2134.2209157 0.73415
## 47-4 1.613774e+03 33.359031 3194.1891169 0.04556 *
## 48-4 3.209833e+02 -1259.431710 1901.3983762 0.68414
## 49-4 1.776233e+03 195.818290 3356.6483762 0.02850 *
## 50-4 -5.196790e+02 -2009.708604 970.3505795 0.48562
## 51-4 7.966074e+02 -783.807635 2377.0224503 0.31507
## 53-4 6.522685e+02 -928.146524 2232.6835614 0.40982
## 55-4 -1.668000e+02 -1991.706101 1658.1061009 0.85462
## 58-4 3.078148e+02 -1517.091286 2132.7209157 0.73539
## 59-4 1.255224e+03 -325.190969 2835.6391169 0.11654
## 62-4 -7.922407e+02 -2372.655784 788.1743021 0.31770
## 63-4 5.628333e+02 -879.881615 2005.5482820 0.43574
## 65-4 5.550185e+02 -1269.887582 2379.9246194 0.54288
## 67-4 -3.765185e+02 -1956.933561 1203.8965243 0.63334
## 68-4 1.528948e+03 -295.957953 3353.8542490 0.09834 .
## 69-4 1.205781e+03 -374.633561 2786.1965243 0.13122
## 71-4 3.055148e+02 -1519.391286 2130.4209157 0.73729
## 74-4 1.090624e+03 -489.790969 2671.0391169 0.17117
## 75-4 -1.104300e+03 -2929.206101 720.6061009 0.22898
## 76-4 1.828848e+03 3.942047 3653.7542490 0.04953 *
## 77-4 3.151981e+02 -1265.216895 1895.6131910 0.68952
## 78-4 4.576778e+02 -1032.351814 1947.7073696 0.53889
## 80-4 -9.016815e+02 -2726.587582 923.2246194 0.32461
## 84-4 8.920667e+02 -688.348376 2472.4817095 0.26129
## 86-4 -3.610685e+02 -1941.483561 1219.3465243 0.64731
## 89-4 -2.313000e+02 -2056.206101 1593.6061009 0.79947
## 93-4 -9.946519e+02 -2819.557953 830.2542490 0.27780
## 8-5 1.480185e+03 -344.720916 3305.0912860 0.10919
## 10-5 9.120000e+01 -1733.706101 1916.1061009 0.92019

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## 13-5	-3.412148e+02	-1921.629858	1239.2002281	0.66544
## 14-5	-1.120296e+03	-2945.202397	704.6098046	0.22242
## 15-5	8.857426e+02	-694.672450	2466.1576355	0.26463
## 16-5	1.475785e+03	-349.120916	3300.6912860	0.11022
## 18-5	1.511204e+03	-313.702397	3336.1098046	0.10218
## 19-5	-1.710000e+02	-1995.906101	1653.9061009	0.85100
## 20-5	-1.121156e+02	-1525.681743	1301.4506319	0.87367
## 21-5	2.467731e+02	-1195.941801	1689.4880968	0.73181
## 22-5	5.868012e+02	-903.228357	2076.8308264	0.43143
## 23-5	9.430000e+01	-1730.606101	1919.2061009	0.91749
## 24-5	8.216065e+02	-621.108467	2264.3214301	0.25712
## 25-5	-1.621000e+02	-1987.006101	1662.8061009	0.85867
## 26-5	-5.103284e+02	-1904.123452	883.4666622	0.46428
## 27-5	4.774074e+02	-1012.622184	1967.4369993	0.52162
## 28-5	-1.224267e+03	-3049.172768	600.6394342	0.18315
## 29-5	2.700000e+00	-1822.206101	1827.6061009	0.99763
## 30-5	1.596533e+03	-228.372768	3421.4394342	0.08478
## 31-5	-3.619815e+02	-1942.396524	1218.4335614	0.64648
## 32-5	-1.576017e+03	-3156.431710	4.3983762	0.05061
## 33-5	6.183000e+02	-1206.606101	2443.2061009	0.49810
## 34-5	8.630000e+01	-1738.606101	1911.2061009	0.92446
## 35-5	-1.252210e+02	-1615.250580	1364.8086042	0.86621
## 36-5	9.669037e+02	-858.002397	2791.8098046	0.29125
## 39-5	1.518704e+03	-306.202397	3343.6098046	0.10054
## 41-5	1.080279e+03	-409.750580	2570.3086042	0.15098
## 42-5	1.801504e+03	-23.402397	3626.4098046	0.05288
## 43-5	9.873333e+02	-837.572768	2812.2394342	0.28131
## 44-5	9.930000e+01	-1725.606101	1924.2061009	0.91313
## 45-5	1.161185e+03	-663.720916	2986.0912860	0.20629
## 46-5	9.120000e+01	-1733.706101	1916.1061009	0.92019
## 47-5	1.395659e+03	-184.755784	2976.0743021	0.08199
## 48-5	1.028685e+02	-1477.546524	1683.2835614	0.89618
## 49-5	1.558119e+03	-22.296524	3138.5335614	0.05317
## 50-5	-7.377938e+02	-2227.823419	752.2357647	0.32359
## 51-5	5.784926e+02	-1001.922450	2158.9076355	0.46441
## 53-5	4.341537e+02	-1146.261339	2014.5687466	0.58245
## 55-5	-3.849148e+02	-2209.820916	1439.9912860	0.67269
## 58-5	8.970000e+01	-1735.206101	1914.6061009	0.92150
## 59-5	1.037109e+03	-543.305784	2617.5243021	0.19269
## 62-5	-1.010356e+03	-2590.770598	570.0594873	0.20420
## 63-5	3.447185e+02	-1097.996430	1787.4334672	0.63235
## 65-5	3.369037e+02	-1488.002397	2161.8098046	0.71149
## 67-5	-5.946333e+02	-2175.048376	985.7817095	0.45212
## 68-5	1.310833e+03	-514.072768	3135.7394342	0.15470
## 69-5	9.876667e+02	-592.748376	2568.0817095	0.21435
## 71-5	8.740000e+01	-1737.506101	1912.3061009	0.92350
## 74-5	8.725093e+02	-707.905784	2452.9243021	0.27174
## 75-5	-1.322415e+03	-3147.320916	502.4912860	0.15118
## 76-5	1.610733e+03	-214.172768	3435.6394342	0.08214
## 77-5	9.708333e+01	-1483.331710	1677.4983762	0.90198
## 78-5	2.395630e+02	-1250.466629	1729.5925548	0.74733
## 80-5	-1.119796e+03	-2944.702397	705.1098046	0.22262
## 84-5	6.739519e+02	-906.463191	2254.3668947	0.39456
## 86-5	-5.791833e+02	-2159.598376	1001.2317095	0.46388

## 89-5	-4.494148e+02	-2274.320916	1375.4912860	0.62197	
## 93-5	-1.212767e+03	-3037.672768	612.1394342	0.18721	
## 10-8	-1.388985e+03	-3213.891286	435.9209157	0.13212	
## 13-8	-1.821400e+03	-3401.815043	-240.9849571	0.02491	*
## 14-8	-2.600481e+03	-4425.387582	-775.5753806	0.00628	**
## 15-8	-5.944426e+02	-2174.857635	985.9724503	0.45227	
## 16-8	-4.400000e+00	-1829.306101	1820.5061009	0.99614	
## 18-8	3.101852e+01	-1793.887582	1855.9246194	0.97281	
## 19-8	-1.651185e+03	-3476.091286	173.7209157	0.07500	.
## 20-8	-1.592301e+03	-3005.866928	-178.7345533	0.02817	*
## 21-8	-1.233412e+03	-2676.126986	209.3029116	0.09187	.
## 22-8	-8.933840e+02	-2383.413542	596.6456413	0.23321	
## 23-8	-1.385885e+03	-3210.791286	439.0209157	0.13296	
## 24-8	-6.585787e+02	-2101.293652	784.1362450	0.36240	
## 25-8	-1.642285e+03	-3467.191286	182.6209157	0.07652	.
## 26-8	-1.990514e+03	-3384.308637	-596.7185230	0.00618	**
## 27-8	-1.002778e+03	-2492.807370	487.2518141	0.18179	
## 28-8	-2.704452e+03	-4529.357953	-879.5457510	0.00462	**
## 29-8	-1.477485e+03	-3302.391286	347.4209157	0.10982	
## 30-8	1.163481e+02	-1708.557953	1941.2542490	0.89829	
## 31-8	-1.842167e+03	-3422.581710	-261.7516238	0.02339	*
## 32-8	-3.056202e+03	-4636.616895	-1475.7868090	0.00033	***
## 33-8	-8.618852e+02	-2686.791286	963.0209157	0.34619	
## 34-8	-1.393885e+03	-3218.791286	431.0209157	0.13080	
## 35-8	-1.605406e+03	-3095.435765	-115.3765810	0.03535	*
## 36-8	-5.132815e+02	-2338.187582	1311.6246194	0.57351	
## 39-8	3.851852e+01	-1786.387582	1863.4246194	0.96624	
## 41-8	-3.999062e+02	-1889.935765	1090.1234190	0.59112	
## 42-8	3.213185e+02	-1503.587582	2146.2246194	0.72426	
## 43-8	-4.928519e+02	-2317.757953	1332.0542490	0.58881	
## 44-8	-1.380885e+03	-3205.791286	444.0209157	0.13433	
## 45-8	-3.190000e+02	-2143.906101	1505.9061009	0.72617	
## 46-8	-1.388985e+03	-3213.891286	435.9209157	0.13212	
## 47-8	-8.452593e+01	-1664.940969	1495.8891169	0.91461	
## 48-8	-1.377317e+03	-2957.731710	203.0983762	0.08595	.
## 49-8	7.793333e+01	-1502.481710	1658.3483762	0.92125	
## 50-8	-2.217979e+03	-3708.008604	-727.9494205	0.00445	**
## 51-8	-9.016926e+02	-2482.107635	678.7224503	0.25625	
## 53-8	-1.046031e+03	-2626.446524	534.3835614	0.18897	
## 55-8	-1.865100e+03	-3690.006101	-40.1938991	0.04537	*
## 58-8	-1.390485e+03	-3215.391286	434.4209157	0.13171	
## 59-8	-4.430759e+02	-2023.490969	1137.3391169	0.57475	
## 62-8	-2.490541e+03	-4070.955784	-910.1256979	0.00275	**
## 63-8	-1.135467e+03	-2578.181615	307.2482820	0.11979	
## 65-8	-1.143281e+03	-2968.187582	681.6246194	0.21324	
## 67-8	-2.074819e+03	-3655.233561	-494.4034757	0.01129	*
## 68-8	-1.693519e+02	-1994.257953	1655.5542490	0.85242	
## 69-8	-4.925185e+02	-2072.933561	1087.8965243	0.53301	
## 71-8	-1.392785e+03	-3217.691286	432.1209157	0.13109	
## 74-8	-6.076759e+02	-2188.090969	972.7391169	0.44233	
## 75-8	-2.802600e+03	-4627.506101	-977.6938991	0.00344	**
## 76-8	1.305481e+02	-1694.357953	1955.4542490	0.88596	
## 77-8	-1.383102e+03	-2963.516895	197.3131910	0.08468	.
## 78-8	-1.240622e+03	-2730.651814	249.4073696	0.10038	

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## 80-8 -2.599981e+03 -4424.887582 -775.0753806 0.00629 **
## 84-8 -8.062333e+02 -2386.648376 774.1817095 0.30933
## 86-8 -2.059369e+03 -3639.783561 -478.9534757 0.01186 *
## 89-8 -1.929600e+03 -3754.506101 -104.6938991 0.03873 *
## 93-8 -2.692952e+03 -4517.857953 -868.0457510 0.00478 **
## 13-10 -4.324148e+02 -2012.829858 1148.0002281 0.58395
## 14-10 -1.211496e+03 -3036.402397 613.4098046 0.18767
## 15-10 7.945426e+02 -785.872450 2374.9576355 0.31631
## 16-10 1.384585e+03 -440.320916 3209.4912860 0.13332
## 18-10 1.420004e+03 -404.902397 3244.9098046 0.12392
## 19-10 -2.622000e+02 -2087.106101 1562.7061009 0.77340
## 20-10 -2.033156e+02 -1616.881743 1210.2506319 0.77316
## 21-10 1.555731e+02 -1287.141801 1598.2880968 0.82887
## 22-10 4.956012e+02 -994.428357 1985.6308264 0.50595
## 23-10 3.100000e+00 -1821.806101 1828.0061009 0.99728
## 24-10 7.304065e+02 -712.308467 2173.1214301 0.31297
## 25-10 -2.533000e+02 -2078.206101 1571.6061009 0.78088
## 26-10 -6.015284e+02 -1995.323452 792.2666622 0.38894
## 27-10 3.862074e+02 -1103.822184 1876.2369993 0.60386
## 28-10 -1.315467e+03 -3140.372768 509.4394342 0.15329
## 29-10 -8.850000e+01 -1913.406101 1736.4061009 0.92254
## 30-10 1.505333e+03 -319.572768 3330.2394342 0.10348
## 31-10 -4.531815e+02 -2033.596524 1127.2335614 0.56609
## 32-10 -1.667217e+03 -3247.631710 -86.8016238 0.03916 *
## 33-10 5.271000e+02 -1297.806101 2352.0061009 0.56328
## 34-10 -4.900000e+00 -1829.806101 1820.0061009 0.99570
## 35-10 -2.164210e+02 -1706.450580 1273.6086042 0.77099
## 36-10 8.757037e+02 -949.202397 2700.6098046 0.33859
## 39-10 1.427504e+03 -397.402397 3252.4098046 0.12200
## 41-10 9.890790e+02 -500.950580 2479.1086042 0.18771
## 42-10 1.710304e+03 -114.602397 3535.2098046 0.06550 .
## 43-10 8.961333e+02 -928.772768 2721.0394342 0.32756
## 44-10 8.100000e+00 -1816.806101 1833.0061009 0.99290
## 45-10 1.069985e+03 -754.920916 2894.8912860 0.24353
## 46-10 9.094947e-13 -1824.906101 1824.9061009 1.00000
## 47-10 1.304459e+03 -275.955784 2884.8743021 0.10327
## 48-10 1.166852e+01 -1568.746524 1592.0835614 0.98819
## 49-10 1.466919e+03 -113.496524 3047.3335614 0.06804 .
## 50-10 -8.289938e+02 -2319.023419 661.0357647 0.26809
## 51-10 4.872926e+02 -1093.122450 2067.7076355 0.53735
## 53-10 3.429537e+02 -1237.461339 1923.3687466 0.66385
## 55-10 -4.761148e+02 -2301.020916 1348.7912860 0.60149
## 58-10 -1.500000e+00 -1826.406101 1823.4061009 0.99869
## 59-10 9.459093e+02 -634.505784 2526.3243021 0.23402
## 62-10 -1.101556e+03 -2681.970598 478.8594873 0.16701
## 63-10 2.535185e+02 -1189.196430 1696.2334672 0.72479
## 65-10 2.457037e+02 -1579.202397 2070.6098046 0.78729
## 67-10 -6.858333e+02 -2266.248376 894.5817095 0.38635
## 68-10 1.219633e+03 -605.272768 3044.5394342 0.18478
## 69-10 8.964667e+02 -683.948376 2476.8817095 0.25898
## 71-10 -3.800000e+00 -1828.706101 1821.1061009 0.99667
## 74-10 7.813093e+02 -799.105784 2361.7243021 0.32435
## 75-10 -1.413615e+03 -3238.520916 411.2912860 0.12558
## 76-10 1.519533e+03 -305.372768 3344.4394342 0.10036

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## 77-10  5.883333e+00 -1574.531710 1586.2983762 0.99404
## 78-10  1.483630e+02 -1341.666629 1638.3925548 0.84180
## 80-10 -1.210996e+03 -3035.902397 613.9098046 0.18784
## 84-10  5.827519e+02 -997.663191 2163.1668947 0.46115
## 86-10 -6.703833e+02 -2250.798376 910.0317095 0.39705
## 89-10 -5.406148e+02 -2365.520916 1284.2912860 0.55335
## 93-10 -1.303967e+03 -3128.872768 520.9394342 0.15683
## 14-13 -7.790815e+02 -2359.496524 801.3335614 0.32571
## 15-13  1.226957e+03 -63.446072 2517.3608864 0.06183 .
## 16-13  1.817000e+03 236.584957 3397.4150429 0.02524 *
## 18-13  1.852419e+03 272.003476 3432.8335614 0.02268 *
## 19-13  1.702148e+02 -1410.200228 1750.6298577 0.82908
## 20-13  2.290993e+02 -850.529750 1308.7282682 0.67083
## 21-13  5.879880e+02 -529.534231 1705.5101569 0.29457
## 22-13  9.280160e+02 -249.955773 2105.9878722 0.11944
## 23-13  4.355148e+02 -1144.900228 2015.9298577 0.58127
## 24-13  1.162821e+03 45.299102 2280.3434902 0.04178 *
## 25-13  1.791148e+02 -1401.300228 1759.5298577 0.82029
## 26-13 -1.691136e+02 -1222.723609 884.4964483 0.74774
## 27-13  8.186222e+02 -359.349601 1996.5940451 0.16825
## 28-13 -8.830519e+02 -2463.466895 697.3631910 0.26607
## 29-13  3.439148e+02 -1236.500228 1924.3298577 0.66297
## 30-13  1.937748e+03 357.333105 3518.1631910 0.01744 *
## 31-13 -2.076667e+01 -1311.170146 1269.6368123 0.97426
## 32-13 -1.234802e+03 -2525.205331 55.6016271 0.06025 .
## 33-13  9.595148e+02 -620.900228 2539.9298577 0.22747
## 34-13  4.275148e+02 -1152.900228 2007.9298577 0.58821
## 35-13  2.159938e+02 -961.977996 1393.9656500 0.71336
## 36-13  1.308119e+03 -272.296524 2888.5335614 0.10234
## 39-13  1.859919e+03 279.503476 3440.3335614 0.02217 *
## 41-13  1.421494e+03 243.522004 2599.4656500 0.01918 *
## 42-13  2.142719e+03 562.303476 3723.1335614 0.00904 **
## 43-13  1.328548e+03 -251.866895 2908.9631910 0.09725 .
## 44-13  4.405148e+02 -1139.900228 2020.9298577 0.57695
## 45-13  1.502400e+03 -78.015043 3082.8150429 0.06188 .
## 46-13  4.324148e+02 -1148.000228 2012.8298577 0.58395
## 47-13  1.736874e+03 446.470595 3027.2775530 0.00952 **
## 48-13  4.440833e+02 -846.320146 1734.4868123 0.49140
## 49-13  1.899333e+03 608.929854 3189.7368123 0.00488 **
## 50-13 -3.965790e+02 -1574.550835 781.3928105 0.50081
## 51-13  9.197074e+02 -370.696072 2210.1108864 0.15785
## 53-13  7.753685e+02 -515.034960 2065.7719975 0.23222
## 55-13 -4.370000e+01 -1624.115043 1536.7150429 0.95579
## 58-13  4.309148e+02 -1149.500228 2011.3298577 0.58525
## 59-13  1.378324e+03 87.920595 2668.7275530 0.03688 *
## 62-13 -6.691407e+02 -1959.544220 621.2627382 0.30152
## 63-13  6.859333e+02 -431.588861 1803.4555272 0.22249
## 65-13  6.781185e+02 -902.296524 2258.5335614 0.39167
## 67-13 -2.534185e+02 -1543.821997 1036.9849604 0.69402
## 68-13  1.652048e+03 71.633105 3232.4631910 0.04089 *
## 69-13  1.328881e+03 38.478003 2619.2849604 0.04383 *
## 71-13  4.286148e+02 -1151.800228 2009.0298577 0.58725
## 74-13  1.213724e+03 -76.679405 2504.1275530 0.06458 .
## 75-13 -9.812000e+02 -2561.615043 599.2150429 0.21731

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## 76-13	1.951948e+03	371.533105	3532.3631910	0.01669	*
## 77-13	4.382981e+02	-852.105331	1728.7016271	0.49703	
## 78-13	5.807778e+02	-597.194045	1758.7496006	0.32564	
## 80-13	-7.785815e+02	-2358.996524	801.8335614	0.32602	
## 84-13	1.015167e+03	-275.236812	2305.5701456	0.11994	
## 86-13	-2.379685e+02	-1528.371997	1052.4349604	0.71179	
## 89-13	-1.082000e+02	-1688.615043	1472.2150429	0.89083	
## 93-13	-8.715519e+02	-2451.966895	708.8631910	0.27225	
## 15-14	2.006039e+03	425.623846	3586.4539318	0.01407	*
## 16-14	2.596081e+03	771.175381	4420.9875823	0.00636	**
## 18-14	2.631500e+03	806.593899	4456.4061009	0.00573	**
## 19-14	9.492963e+02	-875.609805	2774.2023972	0.30001	
## 20-14	1.008181e+03	-405.385447	2421.7469281	0.15758	
## 21-14	1.367069e+03	-75.645504	2809.7843931	0.06269	.
## 22-14	1.707098e+03	217.067939	3197.1271227	0.02572	*
## 23-14	1.214596e+03	-610.309805	3039.5023972	0.18656	
## 24-14	1.941903e+03	499.187829	3384.6177264	0.00952	**
## 25-14	9.581963e+02	-866.709805	2783.1023972	0.29556	
## 26-14	6.099679e+02	-783.827156	2003.7629585	0.38238	
## 27-14	1.597704e+03	107.674112	3087.7332956	0.03619	*
## 28-14	-1.039704e+02	-1928.876471	1720.9357305	0.90906	
## 29-14	1.122996e+03	-701.909805	2947.9023972	0.22133	
## 30-14	2.716830e+03	891.923529	4541.7357305	0.00445	**
## 31-14	7.583148e+02	-822.100228	2338.7298577	0.33863	
## 32-14	-4.557204e+02	-2036.135413	1124.6946725	0.56392	
## 33-14	1.738596e+03	-86.309805	3563.5023972	0.06134	.
## 34-14	1.206596e+03	-618.309805	3031.5023972	0.18942	
## 35-14	9.950753e+02	-494.954283	2485.1049005	0.18510	
## 36-14	2.087200e+03	262.293899	3912.1061009	0.02596	*
## 39-14	2.639000e+03	814.093899	4463.9061009	0.00561	**
## 41-14	2.200575e+03	710.545717	3690.6049005	0.00475	**
## 42-14	2.921800e+03	1096.893899	4746.7061009	0.00238	**
## 43-14	2.107630e+03	282.723529	3932.5357305	0.02462	*
## 44-14	1.219596e+03	-605.309805	3044.5023972	0.18479	
## 45-14	2.281481e+03	456.575381	4106.3875823	0.01548	*
## 46-14	1.211496e+03	-613.409805	3036.4023972	0.18767	
## 47-14	2.515956e+03	935.540513	4096.3705984	0.00251	**
## 48-14	1.223165e+03	-357.250228	2803.5798577	0.12590	
## 49-14	2.678415e+03	1097.999772	4258.8298577	0.00139	**
## 50-14	3.825025e+02	-1107.527123	1872.5320610	0.60732	
## 51-14	1.698789e+03	118.373846	3279.2039318	0.03576	*
## 53-14	1.554450e+03	-25.965043	3134.8650429	0.05371	.
## 55-14	7.353815e+02	-1089.524619	2560.2875823	0.42089	
## 58-14	1.209996e+03	-614.909805	3034.9023972	0.18820	
## 59-14	2.157406e+03	576.990513	3737.8205984	0.00862	**
## 62-14	1.099407e+02	-1470.474302	1690.3557836	0.88909	
## 63-14	1.465015e+03	22.299866	2907.7297635	0.04671	*
## 65-14	1.457200e+03	-367.706101	3282.1061009	0.11464	
## 67-14	5.256630e+02	-1054.752080	2106.0780058	0.50595	
## 68-14	2.431130e+03	606.223529	4256.0357305	0.01022	*
## 69-14	2.107963e+03	527.547920	3688.3780058	0.01013	*
## 71-14	1.207696e+03	-617.209805	3032.6023972	0.18903	
## 74-14	1.992806e+03	412.390513	3573.2205984	0.01467	*
## 75-14	-2.021185e+02	-2027.024619	1622.7875823	0.82431	

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## 76-14 2.731030e+03 906.123529 4555.9357305 0.00426 **
## 77-14 1.217380e+03 -363.035413 2797.7946725 0.12765
## 78-14 1.359859e+03 -130.170333 2849.8888511 0.07260 .
## 80-14 5.000000e-01 -1824.406101 1825.4061009 0.99956
## 84-14 1.794248e+03 213.833105 3374.6631910 0.02702 *
## 86-14 5.411130e+02 -1039.302080 2121.5280058 0.49360
## 89-14 6.708815e+02 -1154.024619 2495.7875823 0.46249
## 93-14 -9.247037e+01 -1917.376471 1732.4357305 0.91908
## 16-15 5.900426e+02 -990.372450 2170.4576355 0.45560
## 18-15 6.254611e+02 -954.953932 2205.8761540 0.42919
## 19-15 -1.056743e+03 -2637.157635 523.6724503 0.18457
## 20-15 -9.978581e+02 -2077.487157 81.7708608 0.06917 .
## 21-15 -6.389694e+02 -1756.491638 478.5527495 0.25524
## 22-15 -2.989414e+02 -1476.913181 879.0304648 0.61142
## 23-15 -7.914426e+02 -2371.857635 788.9724503 0.31818
## 24-15 -6.413611e+01 -1181.658305 1053.3860828 0.90840
## 25-15 -1.047843e+03 -2628.257635 532.5724503 0.18822
## 26-15 -1.396071e+03 -2449.681016 -342.4609591 0.01060 *
## 27-15 -4.083352e+02 -1586.307008 769.6366377 0.48827
## 28-15 -2.110009e+03 -3690.424302 -529.5942164 0.01007 *
## 29-15 -8.830426e+02 -2463.457635 697.3724503 0.26607
## 30-15 7.107907e+02 -869.624302 2291.2057836 0.36946
## 31-15 -1.247724e+03 -2538.127553 42.6794049 0.05772 .
## 32-15 -2.461759e+03 -3752.162738 -1171.3557803 0.00039 ***
## 33-15 -2.674426e+02 -1847.857635 1312.9724503 0.73456
## 34-15 -7.994426e+02 -2379.857635 780.9724503 0.31337
## 35-15 -1.010964e+03 -2188.935403 167.0082426 0.09066 .
## 36-15 8.116111e+01 -1499.253932 1661.5761540 0.91800
## 39-15 6.329611e+02 -947.453932 2213.3761540 0.42371
## 41-15 1.945364e+02 -983.435403 1372.5082426 0.74072
## 42-15 9.157611e+02 -664.653932 2496.1761540 0.24902
## 43-15 1.015907e+02 -1478.824302 1682.0057836 0.89746
## 44-15 -7.864426e+02 -2366.857635 793.9724503 0.32121
## 45-15 2.754426e+02 -1304.972450 1855.8576355 0.72695
## 46-15 -7.945426e+02 -2374.957635 785.8724503 0.31631
## 47-15 5.099167e+02 -780.486812 1800.3201456 0.42988
## 48-15 -7.828741e+02 -2073.277553 507.5294049 0.22780
## 49-15 6.723759e+02 -618.027553 1962.7794049 0.29921
## 50-15 -1.623536e+03 -2801.508243 -445.5645969 0.00804 **
## 51-15 -3.072500e+02 -1597.653479 983.1534789 0.63353
## 53-15 -4.515889e+02 -1741.992368 838.8145901 0.48414
## 55-15 -1.270657e+03 -2851.072450 309.7576355 0.11224
## 58-15 -7.960426e+02 -2376.457635 784.3724503 0.31541
## 59-15 1.513667e+02 -1139.036812 1441.7701456 0.81412
## 62-15 -1.896098e+03 -3186.501627 -605.6946692 0.00494 **
## 63-15 -5.410241e+02 -1658.546268 576.4981198 0.33436
## 65-15 -5.488389e+02 -2129.253932 1031.5761540 0.48748
## 67-15 -1.480376e+03 -2770.779405 -189.9724470 0.02554 *
## 68-15 4.250907e+02 -1155.324302 2005.5057836 0.59032
## 69-15 1.019241e+02 -1188.479405 1392.3275530 0.87419
## 71-15 -7.983426e+02 -2378.757635 782.0724503 0.31403
## 74-15 -1.323333e+01 -1303.636812 1277.1701456 0.98360
## 75-15 -2.208157e+03 -3788.572450 -627.7423645 0.00728 **
## 76-15 7.249907e+02 -855.424302 2305.4057836 0.36006

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## 77-15 -7.886593e+02 -2079.062738 501.7442197 0.22444
## 78-15 -6.461796e+02 -1824.151452 531.7921932 0.27476
## 80-15 -2.005539e+03 -3585.953932 -425.1238460 0.01409 *
## 84-15 -2.117907e+02 -1502.194220 1078.6127382 0.74226
## 86-15 -1.464926e+03 -2755.329405 -174.5224470 0.02702 *
## 89-15 -1.335157e+03 -2915.572450 245.2576355 0.09565 .
## 93-15 -2.098509e+03 -3678.924302 -518.0942164 0.01045 *
## 18-16 3.541852e+01 -1789.487582 1860.3246194 0.96896
## 19-16 -1.646785e+03 -3471.691286 178.1209157 0.07575 .
## 20-16 -1.587901e+03 -3001.466928 -174.3345533 0.02858 *
## 21-16 -1.229012e+03 -2671.726986 213.7029116 0.09300 .
## 22-16 -8.889840e+02 -2379.013542 601.0456413 0.23548
## 23-16 -1.381485e+03 -3206.391286 443.4209157 0.13417
## 24-16 -6.541787e+02 -2096.893652 788.5362450 0.36558
## 25-16 -1.637885e+03 -3462.791286 187.0209157 0.07729 .
## 26-16 -1.986114e+03 -3379.908637 -592.3185230 0.00628 **
## 27-16 -9.983778e+02 -2488.407370 491.6518141 0.18368
## 28-16 -2.700052e+03 -4524.957953 -875.1457510 0.00468 **
## 29-16 -1.473085e+03 -3297.991286 351.8209157 0.11085
## 30-16 1.207481e+02 -1704.157953 1945.6542490 0.89447
## 31-16 -1.837767e+03 -3418.181710 -257.3516238 0.02371 *
## 32-16 -3.051802e+03 -4632.216895 -1471.3868090 0.00034 ***
## 33-16 -8.574852e+02 -2682.391286 967.4209157 0.34863
## 34-16 -1.389485e+03 -3214.391286 435.4209157 0.13198
## 35-16 -1.601006e+03 -3091.035765 -110.9765810 0.03583 *
## 36-16 -5.088815e+02 -2333.787582 1316.0246194 0.57679
## 39-16 4.291852e+01 -1781.987582 1867.8246194 0.96239
## 41-16 -3.955062e+02 -1885.535765 1094.5234190 0.59520
## 42-16 3.257185e+02 -1499.187582 2150.6246194 0.72065
## 43-16 -4.884519e+02 -2313.357953 1336.4542490 0.59213
## 44-16 -1.376485e+03 -3201.391286 448.4209157 0.13554
## 45-16 -3.146000e+02 -2139.506101 1510.3061009 0.72979
## 46-16 -1.384585e+03 -3209.491286 440.3209157 0.13332
## 47-16 -8.012593e+01 -1660.540969 1500.2891169 0.91904
## 48-16 -1.372917e+03 -2953.331710 207.4983762 0.08692 .
## 49-16 8.233333e+01 -1498.081710 1662.7483762 0.91682
## 50-16 -2.213579e+03 -3703.608604 -723.5494205 0.00453 **
## 51-16 -8.972926e+02 -2477.707635 683.1224503 0.25855
## 53-16 -1.041631e+03 -2622.046524 538.7835614 0.19080
## 55-16 -1.860700e+03 -3685.606101 -35.7938991 0.04586 *
## 58-16 -1.386085e+03 -3210.991286 438.8209157 0.13291
## 59-16 -4.386759e+02 -2019.090969 1141.7391169 0.57854
## 62-16 -2.486141e+03 -4066.555784 -905.7256979 0.00279 **
## 63-16 -1.131067e+03 -2573.781615 311.6482820 0.12119
## 65-16 -1.138881e+03 -2963.787582 686.0246194 0.21498
## 67-16 -2.070419e+03 -3650.833561 -490.0034757 0.01145 *
## 68-16 -1.649519e+02 -1989.857953 1659.9542490 0.85621
## 69-16 -4.881185e+02 -2068.533561 1092.2965243 0.53666
## 71-16 -1.388385e+03 -3213.291286 436.5209157 0.13228
## 74-16 -6.032759e+02 -2183.690969 977.1391169 0.44562
## 75-16 -2.798200e+03 -4623.106101 -973.2938991 0.00348 **
## 76-16 1.349481e+02 -1689.957953 1959.8542490 0.88215
## 77-16 -1.378702e+03 -2959.116895 201.7131910 0.08564 .
## 78-16 -1.236222e+03 -2726.251814 253.8073696 0.10155

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## 80-16 -2.595581e+03 -4420.487582 -770.6753806 0.00637 **
## 84-16 -8.018333e+02 -2382.248376 778.5817095 0.31194
## 86-16 -2.054969e+03 -3635.383561 -474.5534757 0.01203 *
## 89-16 -1.925200e+03 -3750.106101 -100.2938991 0.03915 *
## 93-16 -2.688552e+03 -4513.457953 -863.6457510 0.00484 **
## 19-18 -1.682204e+03 -3507.109805 142.7023972 0.06988 .
## 20-18 -1.623319e+03 -3036.885447 -209.7530719 0.02540 *
## 21-18 -1.264431e+03 -2707.145504 178.2843931 0.08424 .
## 22-18 -9.244025e+02 -2414.432061 565.6271227 0.21765
## 23-18 -1.416904e+03 -3241.809805 408.0023972 0.12472
## 24-18 -6.895972e+02 -2132.312171 753.1177264 0.34046
## 25-18 -1.673304e+03 -3498.209805 151.6023972 0.07132 .
## 26-18 -2.021532e+03 -3415.327156 -627.7370415 0.00548 **
## 27-18 -1.033796e+03 -2523.825888 456.2332956 0.16893
## 28-18 -2.735470e+03 -4560.376471 -910.5642695 0.00421 **
## 29-18 -1.508504e+03 -3333.409805 316.4023972 0.10278
## 30-18 8.532963e+01 -1739.576471 1910.2357305 0.92531
## 31-18 -1.873185e+03 -3453.600228 -292.7701423 0.02129 *
## 32-18 -3.087220e+03 -4667.635413 -1506.8053275 0.00030 ***
## 33-18 -8.929037e+02 -2717.809805 932.0023972 0.32929
## 34-18 -1.424904e+03 -3249.809805 400.0023972 0.12267
## 35-18 -1.636425e+03 -3126.454283 -146.3950995 0.03212 *
## 36-18 -5.443000e+02 -2369.206101 1280.6061009 0.55066
## 39-18 7.500000e+00 -1817.406101 1832.4061009 0.99343
## 41-18 -4.309247e+02 -1920.954283 1059.1049005 0.56278
## 42-18 2.903000e+02 -1534.606101 2115.2061009 0.74991
## 43-18 -5.238704e+02 -2348.776471 1301.0357305 0.56566
## 44-18 -1.411904e+03 -3236.809805 413.0023972 0.12602
## 45-18 -3.500185e+02 -2174.924619 1474.8875823 0.70081
## 46-18 -1.420004e+03 -3244.909805 404.9023972 0.12392
## 47-18 -1.155444e+02 -1695.959487 1464.8705984 0.88347
## 48-18 -1.408335e+03 -2988.750228 172.0798577 0.07934 .
## 49-18 4.691481e+01 -1533.500228 1627.3298577 0.95254
## 50-18 -2.248998e+03 -3739.027123 -758.9679390 0.00397 **
## 51-18 -9.327111e+02 -2513.126154 647.7039318 0.24050
## 53-18 -1.077050e+03 -2657.465043 503.3650429 0.17645
## 55-18 -1.896119e+03 -3721.024619 -71.2124177 0.04206 *
## 58-18 -1.421504e+03 -3246.409805 403.4023972 0.12354
## 59-18 -4.740944e+02 -2054.509487 1106.3205984 0.54838
## 62-18 -2.521559e+03 -4101.974302 -941.1442164 0.00246 **
## 63-18 -1.166485e+03 -2609.200134 276.2297635 0.11029
## 65-18 -1.174300e+03 -2999.206101 650.6061009 0.20131
## 67-18 -2.105837e+03 -3686.252080 -525.4219942 0.01021 *
## 68-18 -2.003704e+02 -2025.276471 1624.5357305 0.82581
## 69-18 -5.235370e+02 -2103.952080 1056.8780058 0.50767
## 71-18 -1.423804e+03 -3248.709805 401.1023972 0.12295
## 74-18 -6.386944e+02 -2219.109487 941.7205984 0.41956
## 75-18 -2.833619e+03 -4658.524619 -1008.7124177 0.00313 **
## 76-18 9.952963e+01 -1725.376471 1924.4357305 0.91293
## 77-18 -1.414120e+03 -2994.535413 166.2946725 0.07816 .
## 78-18 -1.271641e+03 -2761.670333 218.3888511 0.09242 .
## 80-18 -2.631000e+03 -4455.906101 -806.0938991 0.00574 **
## 84-18 -8.372519e+02 -2417.666895 743.1631910 0.29131
## 86-18 -2.090387e+03 -3670.802080 -509.9719942 0.01073 *

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## 89-18 -1.960619e+03 -3785.524619 -135.7124177 0.03585 *
## 93-18 -2.723970e+03 -4548.876471 -899.0642695 0.00436 **
## 20-19 5.888444e+01 -1354.681743 1472.4506319 0.93344
## 21-19 4.177731e+02 -1024.941801 1860.4880968 0.56228
## 22-19 7.578012e+02 -732.228357 2247.8308264 0.31079
## 23-19 2.653000e+02 -1559.606101 2090.2061009 0.77079
## 24-19 9.926065e+02 -450.108467 2435.3214301 0.17244
## 25-19 8.900000e+00 -1816.006101 1833.8061009 0.99220
## 26-19 -3.393284e+02 -1733.123452 1054.4666622 0.62594
## 27-19 6.484074e+02 -841.622184 2138.4369993 0.38504
## 28-19 -1.053267e+03 -2878.172768 771.6394342 0.25086
## 29-19 1.737000e+02 -1651.206101 1998.6061009 0.84868
## 30-19 1.767533e+03 -57.372768 3592.4394342 0.05731 .
## 31-19 -1.909815e+02 -1771.396524 1389.4335614 0.80862
## 32-19 -1.405017e+03 -2985.431710 175.3983762 0.08003 .
## 33-19 7.893000e+02 -1035.606101 2614.2061009 0.38792
## 34-19 2.573000e+02 -1567.606101 2082.2061009 0.77751
## 35-19 4.577901e+01 -1444.250580 1535.8086042 0.95088
## 36-19 1.137904e+03 -687.002397 2962.8098046 0.21536
## 39-19 1.689704e+03 -135.202397 3514.6098046 0.06869 .
## 41-19 1.251279e+03 -238.750580 2741.3086042 0.09758 .
## 42-19 1.972504e+03 147.597603 3797.4098046 0.03479 *
## 43-19 1.158333e+03 -666.572768 2983.2394342 0.20738
## 44-19 2.703000e+02 -1554.606101 2095.2061009 0.76660
## 45-19 1.332185e+03 -492.720916 3157.0912860 0.14825
## 46-19 2.622000e+02 -1562.706101 2087.1061009 0.77340
## 47-19 1.566659e+03 -13.755784 3147.0743021 0.05194 .
## 48-19 2.738685e+02 -1306.546524 1854.2835614 0.72844
## 49-19 1.729119e+03 148.703476 3309.5335614 0.03274 *
## 50-19 -5.667938e+02 -2056.823419 923.2357647 0.44720
## 51-19 7.494926e+02 -830.922450 2329.9076355 0.34422
## 53-19 6.051537e+02 -975.261339 2185.5687466 0.44422
## 55-19 -2.139148e+02 -2038.820916 1610.9912860 0.81425
## 58-19 2.607000e+02 -1564.206101 2085.6061009 0.77466
## 59-19 1.208109e+03 -372.305784 2788.5243021 0.13050
## 62-19 -8.393556e+02 -2419.770598 741.0594873 0.29012
## 63-19 5.157185e+02 -926.996430 1958.4334672 0.47488
## 65-19 5.079037e+02 -1317.002397 2332.8098046 0.57752
## 67-19 -4.236333e+02 -2004.048376 1156.7817095 0.59159
## 68-19 1.481833e+03 -343.072768 3306.7394342 0.10881
## 69-19 1.158667e+03 -421.748376 2739.0817095 0.14656
## 71-19 2.584000e+02 -1566.506101 2083.3061009 0.77659
## 74-19 1.043509e+03 -536.905784 2623.9243021 0.19002
## 75-19 -1.151415e+03 -2976.320916 673.4912860 0.21006
## 76-19 1.781733e+03 -43.172768 3606.6394342 0.05542 .
## 77-19 2.680833e+02 -1312.331710 1848.4983762 0.73395
## 78-19 4.105630e+02 -1079.466629 1900.5925548 0.58131
## 80-19 -9.487963e+02 -2773.702397 876.1098046 0.30026
## 84-19 8.449519e+02 -735.463191 2425.3668947 0.28695
## 86-19 -4.081833e+02 -1988.598376 1172.2317095 0.60513
## 89-19 -2.784148e+02 -2103.320916 1546.4912860 0.75982
## 93-19 -1.041767e+03 -2866.672768 783.1394342 0.25599
## 21-20 3.588887e+02 -506.740265 1224.5176729 0.40771
## 22-20 6.989168e+02 -243.460668 1641.2942484 0.14204

```

##	23-20	2.064156e+02	-1207.150632	1619.9817430	0.76980	
##	24-20	9.337220e+02	68.093068	1799.3510062	0.03515	*
##	25-20	-4.998444e+01	-1463.550632	1363.5817430	0.94348	
##	26-20	-3.982128e+02	-1179.590949	383.1652705	0.30981	
##	27-20	5.895230e+02	-352.854495	1531.9004212	0.21390	
##	28-20	-1.112151e+03	-2525.717299	301.4150763	0.11991	
##	29-20	1.148156e+02	-1298.750632	1528.3817430	0.87065	
##	30-20	1.708649e+03	295.082701	3122.2150763	0.01899	*
##	31-20	-2.498659e+02	-1329.494935	829.7630830	0.64304	
##	32-20	-1.463901e+03	-2543.530120	-384.2721022	0.00904	**
##	33-20	7.304156e+02	-683.150632	2143.9817430	0.30321	
##	34-20	1.984156e+02	-1215.150632	1611.9817430	0.77848	
##	35-20	-1.310543e+01	-955.482890	929.2720262	0.97776	
##	36-20	1.079019e+03	-334.546928	2492.5854467	0.13103	
##	39-20	1.630819e+03	217.253072	3044.3854467	0.02476	*
##	41-20	1.192395e+03	250.017110	2134.7720262	0.01436	*
##	42-20	1.913619e+03	500.053072	3327.1854467	0.00914	**
##	43-20	1.099449e+03	-314.117299	2513.0150763	0.12408	
##	44-20	2.114156e+02	-1202.150632	1624.9817430	0.76440	
##	45-20	1.273301e+03	-140.265447	2686.8669281	0.07626	.
##	46-20	2.033156e+02	-1210.250632	1616.8817430	0.77316	
##	47-20	1.507775e+03	428.145806	2587.4038238	0.00730	**
##	48-20	2.149841e+02	-864.644935	1294.6130830	0.68998	
##	49-20	1.670234e+03	590.605065	2749.8630830	0.00323	**
##	50-20	-6.256783e+02	-1568.055730	316.6991867	0.18762	
##	51-20	6.906081e+02	-389.020861	1770.2371571	0.20394	
##	53-20	5.462693e+02	-533.359750	1625.8982682	0.31324	
##	55-20	-2.727993e+02	-1686.365447	1140.7669281	0.69905	
##	58-20	2.018156e+02	-1211.750632	1615.3817430	0.77479	
##	59-20	1.149225e+03	69.595806	2228.8538238	0.03750	*
##	62-20	-8.982400e+02	-1977.869009	181.3890089	0.10063	
##	63-20	4.568341e+02	-408.794895	1322.4630433	0.29313	
##	65-20	4.490193e+02	-964.546928	1862.5854467	0.52518	
##	67-20	-4.825178e+02	-1562.146787	597.1112312	0.37244	
##	68-20	1.422949e+03	9.382701	2836.5150763	0.04856	*
##	69-20	1.099782e+03	20.153213	2179.4112312	0.04605	*
##	71-20	1.995156e+02	-1214.050632	1613.0817430	0.77728	
##	74-20	9.846248e+02	-95.004194	2064.2538238	0.07279	.
##	75-20	-1.210299e+03	-2623.865447	203.2669281	0.09140	.
##	76-20	1.722849e+03	309.282701	3136.4150763	0.01808	*
##	77-20	2.091989e+02	-870.430120	1288.8278978	0.69789	
##	78-20	3.516785e+02	-590.698940	1294.0559768	0.45579	
##	80-20	-1.007681e+03	-2421.246928	405.8854467	0.15778	
##	84-20	7.860674e+02	-293.561602	1865.6964163	0.14929	
##	86-20	-4.670678e+02	-1546.696787	612.5612312	0.38780	
##	89-20	-3.372993e+02	-1750.865447	1076.2669281	0.63280	
##	93-20	-1.100651e+03	-2514.217299	312.9150763	0.12368	
##	22-21	3.400281e+02	-645.533850	1325.5900230	0.49031	
##	23-21	-1.524731e+02	-1595.188097	1290.2418005	0.83223	
##	24-21	5.748333e+02	-337.619717	1487.2863838	0.21074	
##	25-21	-4.088731e+02	-1851.588097	1033.8418005	0.57061	
##	26-21	-7.571015e+02	-1590.053407	75.8503208	0.07372	.
##	27-21	2.306343e+02	-754.927677	1216.1961958	0.63936	
##	28-21	-1.471040e+03	-2913.754763	-28.3248661	0.04586	*

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## 29-21 -2.440731e+02 -1686.788097 1198.6418005 0.73463
## 30-21 1.349760e+03 -92.954763 2792.4751339 0.06596 .
## 31-21 -6.087546e+02 -1726.276824 508.7675643 0.27807
## 32-21 -1.822790e+03 -2940.312009 -705.2676209 0.00201 **
## 33-21 3.715269e+02 -1071.188097 1814.2418005 0.60619
## 34-21 -1.604731e+02 -1603.188097 1282.2418005 0.82357
## 35-21 -3.719941e+02 -1357.556072 613.5678007 0.45070
## 36-21 7.201306e+02 -722.584393 2162.8455042 0.31974
## 39-21 1.271931e+03 -170.784393 2714.6455042 0.08248 .
## 41-21 8.335059e+02 -152.056072 1819.0678007 0.09531 .
## 42-21 1.554731e+03 112.015607 2997.4455042 0.03531 *
## 43-21 7.405602e+02 -702.154763 2183.2751339 0.30637
## 44-21 -1.474731e+02 -1590.188097 1295.2418005 0.83765
## 45-21 9.144120e+02 -528.302912 2357.1269857 0.20803
## 46-21 -1.555731e+02 -1598.288097 1287.1418005 0.82887
## 47-21 1.148886e+03 31.363917 2266.4083050 0.04417 *
## 48-21 -1.439046e+02 -1261.426824 973.6175643 0.79634
## 49-21 1.311345e+03 193.823176 2428.8675643 0.02253 *
## 50-21 -9.845670e+02 -1970.128912 0.9949612 0.05022 .
## 51-21 3.317194e+02 -785.802749 1449.2416383 0.55256
## 53-21 1.873806e+02 -930.141638 1304.9027495 0.73690
## 55-21 -6.316880e+02 -2074.402912 811.0269857 0.38215
## 58-21 -1.570731e+02 -1599.788097 1285.6418005 0.82725
## 59-21 7.903361e+02 -327.186083 1907.8583050 0.16102
## 62-21 -1.257129e+03 -2374.650898 -139.6065098 0.02837 *
## 63-21 9.794537e+01 -814.507680 1010.3984208 0.82964
## 65-21 9.013056e+01 -1352.584393 1532.8455042 0.90033
## 67-21 -8.414065e+02 -1958.928675 276.1157124 0.13623
## 68-21 1.064060e+03 -378.654763 2506.7751339 0.14421
## 69-21 7.408935e+02 -376.628675 1858.4157124 0.18825
## 71-21 -1.593731e+02 -1602.088097 1283.3418005 0.82476
## 74-21 6.257361e+02 -491.786083 1743.2583050 0.26507
## 75-21 -1.569188e+03 -3011.902912 -126.4730143 0.03373 *
## 76-21 1.363960e+03 -78.754763 2806.6751339 0.06327 .
## 77-21 -1.496898e+02 -1267.212009 967.8323791 0.78835
## 78-21 -7.210185e+00 -992.772122 978.3517514 0.98830
## 80-21 -1.366569e+03 -2809.284393 76.1455042 0.06278 .
## 84-21 4.271787e+02 -690.343490 1544.7008976 0.44499
## 86-21 -8.259565e+02 -1943.478675 291.5657124 0.14338
## 89-21 -6.961880e+02 -2138.902912 746.5269857 0.33592
## 93-21 -1.459540e+03 -2902.254763 -16.8248661 0.04750 *
## 23-22 -4.925012e+02 -1982.530826 997.5283573 0.50860
## 24-22 2.348052e+02 -750.756690 1220.3671835 0.63333
## 25-22 -7.489012e+02 -2238.930826 741.1283573 0.31644
## 26-22 -1.097130e+03 -2009.582680 -184.6765792 0.01959 *
## 27-22 -1.093938e+02 -1163.003856 944.2162014 0.83513
## 28-22 -1.811068e+03 -3301.097493 -321.0383094 0.01838 *
## 29-22 -5.841012e+02 -2074.130826 905.9283573 0.43354
## 30-22 1.009732e+03 -480.297493 2499.7616906 0.17885
## 31-22 -9.487827e+02 -2126.754539 229.1891068 0.11162
## 32-22 -2.162818e+03 -3340.789724 -984.8460784 0.00060 ***
## 33-22 3.149877e+01 -1458.530826 1521.5283573 0.96619
## 34-22 -5.005012e+02 -1990.530826 989.5283573 0.50178
## 35-22 -7.120222e+02 -1765.632251 341.5878064 0.18002

```

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## 36-22 3.801025e+02 -1109.927123 1870.1320610 0.60957
## 39-22 9.319025e+02 -558.127123 2421.9320610 0.21400
## 41-22 4.934778e+02 -560.132251 1547.0878064 0.35016
## 42-22 1.214702e+03 -275.327123 2704.7320610 0.10746
## 43-22 4.005321e+02 -1089.497493 1890.5616906 0.59055
## 44-22 -4.875012e+02 -1977.530826 1002.5283573 0.51289
## 45-22 5.743840e+02 -915.645641 2064.4135425 0.44118
## 46-22 -4.956012e+02 -1985.630826 994.4283573 0.50595
## 47-22 8.088580e+02 -369.113798 1986.8298475 0.17327
## 48-22 -4.839327e+02 -1661.904539 694.0391068 0.41197
## 49-22 9.713173e+02 -206.654539 2149.2891068 0.10361
## 50-22 -1.324595e+03 -2378.205090 -270.9850332 0.01495 *
## 51-22 -8.308642e+00 -1186.280465 1169.6631809 0.98872
## 53-22 -1.526475e+02 -1330.619354 1025.3242920 0.79508
## 55-22 -9.717160e+02 -2461.745641 518.3135425 0.19542
## 58-22 -4.971012e+02 -1987.130826 992.9283573 0.50467
## 59-22 4.503080e+02 -727.663798 1628.2798475 0.44496
## 62-22 -1.597157e+03 -2775.128613 -419.1849673 0.00904 **
## 63-22 -2.420827e+02 -1227.644653 743.4792205 0.62287
## 65-22 -2.498975e+02 -1739.927123 1240.1320610 0.73684
## 67-22 -1.181435e+03 -2359.406391 -3.4627451 0.04936 *
## 68-22 7.240321e+02 -765.997493 2214.0616906 0.33259
## 69-22 4.008654e+02 -777.106391 1578.8372549 0.49622
## 71-22 -4.994012e+02 -1989.430826 990.6283573 0.50271
## 74-22 2.857080e+02 -892.263798 1463.6798475 0.62723
## 75-22 -1.909216e+03 -3399.245641 -419.1864575 0.01325 *
## 76-22 1.023932e+03 -466.097493 2513.9616906 0.17294
## 77-22 -4.897179e+02 -1667.689724 688.2539216 0.40644
## 78-22 -3.472383e+02 -1400.848300 706.3717570 0.50983
## 80-22 -1.706598e+03 -3196.627123 -216.5679390 0.02576 *
## 84-22 8.715062e+01 -1090.821206 1265.1224401 0.88209
## 86-22 -1.165985e+03 -2343.956391 11.9872549 0.05227 .
## 89-22 -1.036216e+03 -2526.245641 453.8135425 0.16795
## 93-22 -1.799568e+03 -3289.597493 -309.5383094 0.01909 *
## 24-23 7.273065e+02 -715.408467 2170.0214301 0.31500
## 25-23 -2.564000e+02 -2081.306101 1568.5061009 0.77827
## 26-23 -6.046284e+02 -1998.423452 789.1666622 0.38652
## 27-23 3.831074e+02 -1106.922184 1873.1369993 0.60675
## 28-23 -1.318567e+03 -3143.472768 506.3394342 0.15234
## 29-23 -9.160000e+01 -1916.506101 1733.3061009 0.91984
## 30-23 1.502233e+03 -322.672768 3327.1394342 0.10417
## 31-23 -4.562815e+02 -2036.696524 1124.1335614 0.56345
## 32-23 -1.670317e+03 -3250.731710 -89.9016238 0.03881 *
## 33-23 5.240000e+02 -1300.906101 2348.9061009 0.56556
## 34-23 -8.000000e+00 -1832.906101 1816.9061009 0.99299
## 35-23 -2.195210e+02 -1709.550580 1270.5086042 0.76781
## 36-23 8.726037e+02 -952.302397 2697.5098046 0.34028
## 39-23 1.424404e+03 -400.502397 3249.3098046 0.12279
## 41-23 9.859790e+02 -504.050580 2476.0086042 0.18907
## 42-23 1.707204e+03 -117.702397 3532.1098046 0.06598 .
## 43-23 8.930333e+02 -931.872768 2717.9394342 0.32922
## 44-23 5.000000e+00 -1819.906101 1829.9061009 0.99562
## 45-23 1.066885e+03 -758.020916 2891.7912860 0.24488
## 46-23 -3.100000e+00 -1828.006101 1821.8061009 0.99728

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## 47-23	1.301359e+03	-279.055784	2881.7743021	0.10407	
## 48-23	8.568519e+00	-1571.846524	1588.9835614	0.99133	
## 49-23	1.463819e+03	-116.596524	3044.2335614	0.06860	.
## 50-23	-8.320938e+02	-2322.123419	657.9357647	0.26633	
## 51-23	4.841926e+02	-1096.222450	2064.6076355	0.53993	
## 53-23	3.398537e+02	-1240.561339	1920.2687466	0.66670	
## 55-23	-4.792148e+02	-2304.120916	1345.6912860	0.59913	
## 58-23	-4.600000e+00	-1829.506101	1820.3061009	0.99597	
## 59-23	9.428093e+02	-637.605784	2523.2243021	0.23553	
## 62-23	-1.104656e+03	-2685.070598	475.7594873	0.16585	
## 63-23	2.504185e+02	-1192.296430	1693.1334672	0.72801	
## 65-23	2.426037e+02	-1582.302397	2067.5098046	0.78990	
## 67-23	-6.889333e+02	-2269.348376	891.4817095	0.38423	
## 68-23	1.216533e+03	-608.372768	3041.4394342	0.18587	
## 69-23	8.933667e+02	-687.048376	2473.7817095	0.26060	
## 71-23	-6.900000e+00	-1831.806101	1818.0061009	0.99395	
## 74-23	7.782093e+02	-802.205784	2358.6243021	0.32625	
## 75-23	-1.416715e+03	-3241.620916	408.1912860	0.12477	
## 76-23	1.516433e+03	-308.472768	3341.3394342	0.10103	
## 77-23	2.783333e+00	-1577.631710	1583.1983762	0.99718	
## 78-23	1.452630e+02	-1344.766629	1635.2925548	0.84506	
## 80-23	-1.214096e+03	-3039.002397	610.8098046	0.18674	
## 84-23	5.796519e+02	-1000.763191	2160.0668947	0.46352	
## 86-23	-6.734833e+02	-2253.898376	906.9317095	0.39489	
## 89-23	-5.437148e+02	-2368.620916	1281.1912860	0.55109	
## 93-23	-1.307067e+03	-3131.972768	517.8394342	0.15587	
## 25-24	-9.837065e+02	-2426.421430	459.0084672	0.17623	
## 26-24	-1.331935e+03	-2164.886741	-498.9830126	0.00241	**
## 27-24	-3.441991e+02	-1329.761011	641.3628625	0.48504	
## 28-24	-2.045873e+03	-3488.588097	-603.1581995	0.00652	**
## 29-24	-8.189065e+02	-2261.621430	623.8084672	0.25866	
## 30-24	7.749269e+02	-667.788097	2217.6418005	0.28474	
## 31-24	-1.183588e+03	-2301.110157	-66.0657691	0.03842	*
## 32-24	-2.397623e+03	-3515.145342	-1280.1009542	8.9e-05	***
## 33-24	-2.033065e+02	-1646.021430	1239.4084672	0.77763	
## 34-24	-7.353065e+02	-2178.021430	707.4084672	0.30977	
## 35-24	-9.468275e+02	-1932.389406	38.7344674	0.05928	.
## 36-24	1.452972e+02	-1297.417726	1588.0121709	0.84001	
## 39-24	6.970972e+02	-745.617726	2139.8121709	0.33529	
## 41-24	2.586725e+02	-726.889406	1244.2344674	0.59932	
## 42-24	9.798972e+02	-462.817726	2422.6121709	0.17788	
## 43-24	1.657269e+02	-1276.988097	1608.4418005	0.81790	
## 44-24	-7.223065e+02	-2165.021430	720.4084672	0.31830	
## 45-24	3.395787e+02	-1103.136245	1782.2936524	0.63742	
## 46-24	-7.304065e+02	-2173.121430	712.3084672	0.31297	
## 47-24	5.740528e+02	-543.469416	1691.5749717	0.30602	
## 48-24	-7.187380e+02	-1836.260157	398.7842309	0.20153	
## 49-24	7.365120e+02	-381.010157	1854.0342309	0.19082	
## 50-24	-1.559400e+03	-2544.962245	-573.8383721	0.00265	**
## 51-24	-2.431139e+02	-1360.636083	874.4083050	0.66306	
## 53-24	-3.874528e+02	-1504.974972	730.0694161	0.48819	
## 55-24	-1.206521e+03	-2649.236245	236.1936524	0.09894	.
## 58-24	-7.319065e+02	-2174.621430	710.8084672	0.31199	
## 59-24	2.155028e+02	-902.019416	1333.0249717	0.69927	

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## 62-24 -1.831962e+03 -2949.484231 -714.4398431 0.00192 **
## 63-24 -4.768880e+02 -1389.341013 435.5650875 0.29776
## 65-24 -4.847028e+02 -1927.417726 958.0121709 0.50169
## 67-24 -1.416240e+03 -2533.762009 -298.7176209 0.01421 *
## 68-24 4.892269e+02 -953.488097 1931.9418005 0.49773
## 69-24 1.660602e+02 -951.462009 1283.5823791 0.76587
## 71-24 -7.342065e+02 -2176.921430 708.5084672 0.31049
## 74-24 5.090278e+01 -1066.619416 1168.4249717 0.92724
## 75-24 -2.144021e+03 -3586.736245 -701.3063476 0.00451 **
## 76-24 7.891269e+02 -653.588097 2231.8418005 0.27613
## 77-24 -7.245231e+02 -1842.045342 392.9990458 0.19800
## 78-24 -5.820435e+02 -1567.605455 403.5184180 0.24019
## 80-24 -1.941403e+03 -3384.117726 -498.6878291 0.00953 **
## 84-24 -1.476546e+02 -1265.176824 969.8675643 0.79116
## 86-24 -1.400790e+03 -2518.312009 -283.2676209 0.01523 *
## 89-24 -1.271021e+03 -2713.736245 171.6936524 0.08269 .
## 93-24 -2.034373e+03 -3477.088097 -591.6581995 0.00680 **
## 26-25 -3.482284e+02 -1742.023452 1045.5666622 0.61694
## 27-25 6.395074e+02 -850.522184 2129.5369993 0.39154
## 28-25 -1.062167e+03 -2887.072768 762.7394342 0.24694
## 29-25 1.648000e+02 -1660.106101 1989.7061009 0.85634
## 30-25 1.758633e+03 -66.272768 3583.5394342 0.05853 .
## 31-25 -1.998815e+02 -1780.296524 1380.5335614 0.79989
## 32-25 -1.413917e+03 -2994.331710 166.4983762 0.07820 .
## 33-25 7.804000e+02 -1044.506101 2605.3061009 0.39324
## 34-25 2.484000e+02 -1576.506101 2073.3061009 0.78501
## 35-25 3.687901e+01 -1453.150580 1526.9086042 0.96042
## 36-25 1.129004e+03 -695.902397 2953.9098046 0.21891
## 39-25 1.680804e+03 -144.102397 3505.7098046 0.07010 .
## 41-25 1.242379e+03 -247.650580 2732.4086042 0.09991 .
## 42-25 1.963604e+03 138.697603 3788.5098046 0.03558 *
## 43-25 1.149433e+03 -675.472768 2974.3394342 0.21083
## 44-25 2.614000e+02 -1563.506101 2086.3061009 0.77407
## 45-25 1.323285e+03 -501.620916 3148.1912860 0.15092
## 46-25 2.533000e+02 -1571.606101 2078.2061009 0.78088
## 47-25 1.557759e+03 -22.655784 3138.1743021 0.05323 .
## 48-25 2.649685e+02 -1315.446524 1845.3835614 0.73692
## 49-25 1.720219e+03 139.803476 3300.6335614 0.03360 *
## 50-25 -5.756938e+02 -2065.723419 914.3357647 0.44014
## 51-25 7.405926e+02 -839.822450 2321.0076355 0.34992
## 53-25 5.962537e+02 -984.161339 2176.6687466 0.45090
## 55-25 -2.228148e+02 -2047.720916 1602.0912860 0.80667
## 58-25 2.518000e+02 -1573.106101 2076.7061009 0.78214
## 59-25 1.199209e+03 -381.205784 2779.6243021 0.13328
## 62-25 -8.482556e+02 -2428.670598 732.1594873 0.28510
## 63-25 5.068185e+02 -935.896430 1949.5334672 0.48249
## 65-25 4.990037e+02 -1325.902397 2323.9098046 0.58418
## 67-25 -4.325333e+02 -2012.948376 1147.8817095 0.58385
## 68-25 1.472933e+03 -351.972768 3297.8394342 0.11089
## 69-25 1.149767e+03 -430.648376 2730.1817095 0.14961
## 71-25 2.495000e+02 -1575.406101 2074.4061009 0.78408
## 74-25 1.034609e+03 -545.805784 2615.0243021 0.19375
## 75-25 -1.160315e+03 -2985.220916 664.5912860 0.20662
## 76-25 1.772833e+03 -52.072768 3597.7394342 0.05660 .

```

##	77-25	2.591833e+02	-1321.231710	1839.5983762	0.74245	
##	78-25	4.016630e+02	-1088.366629	1891.6925548	0.58950	
##	80-25	-9.576963e+02	-2782.602397	867.2098046	0.29581	
##	84-25	8.360519e+02	-744.363191	2416.4668947	0.29199	
##	86-25	-4.170833e+02	-1997.498376	1163.3317095	0.59731	
##	89-25	-2.873148e+02	-2112.220916	1537.5912860	0.75239	
##	93-25	-1.050667e+03	-2875.572768	774.2394342	0.25201	
##	27-26	9.877358e+02	75.282752	1900.1888529	0.03454	*
##	28-26	-7.139383e+02	-2107.733329	679.8567856	0.30738	
##	29-26	5.130284e+02	-880.766662	1906.8234523	0.46194	
##	30-26	2.106862e+03	713.066671	3500.6567856	0.00393	**
##	31-26	1.483469e+02	-905.263115	1201.9569422	0.77781	
##	32-26	-1.065688e+03	-2119.298300	-12.0782430	0.04754	*
##	33-26	1.128628e+03	-265.166662	2522.4234523	0.10977	
##	34-26	5.966284e+02	-797.166662	1990.4234523	0.39278	
##	35-26	3.851074e+02	-527.345643	1297.5604578	0.39940	
##	36-26	1.477232e+03	83.437042	2871.0271560	0.03829	*
##	39-26	2.029032e+03	635.237042	3422.8271560	0.00532	**
##	41-26	1.590607e+03	678.154357	2503.0604578	0.00105	**
##	42-26	2.311832e+03	918.037042	3705.6271560	0.00171	**
##	43-26	1.497662e+03	103.866671	2891.4567856	0.03582	*
##	44-26	6.096284e+02	-784.166662	2003.4234523	0.38264	
##	45-26	1.671514e+03	277.718523	3065.3086375	0.01989	*
##	46-26	6.015284e+02	-792.266662	1995.3234523	0.38894	
##	47-26	1.905988e+03	852.377626	2959.5976829	0.00071	***
##	48-26	6.131969e+02	-440.413115	1666.8069422	0.24697	
##	49-26	2.068447e+03	1014.836885	3122.0569422	0.00028	***
##	50-26	-2.274654e+02	-1139.918483	684.9876183	0.61771	
##	51-26	1.088821e+03	35.210959	2142.4310162	0.04313	*
##	53-26	9.444821e+02	-109.127930	1998.0921273	0.07763	.
##	55-26	1.254136e+02	-1268.381477	1519.2086375	0.85686	
##	58-26	6.000284e+02	-793.766662	1993.8234523	0.39011	
##	59-26	1.547438e+03	493.827626	2601.0476829	0.00496	**
##	62-26	-5.000272e+02	-1553.637189	553.5828681	0.34387	
##	63-26	8.550469e+02	22.095050	1687.9987776	0.04447	*
##	65-26	8.472321e+02	-546.562958	2241.0271560	0.22692	
##	67-26	-8.430494e+01	-1137.914967	969.3050903	0.87256	
##	68-26	1.821162e+03	427.366671	3214.9567856	0.01165	*
##	69-26	1.497995e+03	444.385033	2551.6050903	0.00639	**
##	71-26	5.977284e+02	-796.066662	1991.5234523	0.39192	
##	74-26	1.382838e+03	329.227626	2436.4476829	0.01131	*
##	75-26	-8.120864e+02	-2205.881477	581.7086375	0.24645	
##	76-26	2.121062e+03	727.266671	3514.8567856	0.00371	**
##	77-26	6.074117e+02	-446.198300	1661.0217570	0.25139	
##	78-26	7.498914e+02	-162.561692	1662.3444085	0.10472	
##	80-26	-6.094679e+02	-2003.262958	784.3271560	0.38276	
##	84-26	1.184280e+03	130.670218	2237.8902755	0.02849	*
##	86-26	-6.885494e+01	-1122.464967	984.7550903	0.89576	
##	89-26	6.091358e+01	-1332.881477	1454.7086375	0.93018	
##	93-26	-7.024383e+02	-2096.233329	691.3567856	0.31514	
##	28-27	-1.701674e+03	-3191.703666	-211.6444822	0.02617	*
##	29-27	-4.747074e+02	-1964.736999	1015.3221845	0.52396	
##	30-27	1.119126e+03	-370.903666	2609.1555178	0.13717	
##	31-27	-8.393889e+02	-2017.360712	338.5829339	0.15794	

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## 32-27 -2.053424e+03 -3231.395897 -875.4522512 0.00105 **
## 33-27 1.408926e+02 -1349.136999 1630.9221845 0.84966
## 34-27 -3.911074e+02 -1881.136999 1098.9221845 0.59929
## 35-27 -6.026284e+02 -1656.238424 450.9816335 0.25509
## 36-27 4.894963e+02 -1000.533296 1979.5258882 0.51118
## 39-27 1.041296e+03 -448.733296 2531.3258882 0.16592
## 41-27 6.028716e+02 -450.738424 1656.4816335 0.25490
## 42-27 1.324096e+03 -165.933296 2814.1258882 0.08015 .
## 43-27 5.099259e+02 -980.103666 1999.9555178 0.49380
## 44-27 -3.781074e+02 -1868.136999 1111.9221845 0.61144
## 45-27 6.837778e+02 -806.251814 2173.8073696 0.35989
## 46-27 -3.862074e+02 -1876.236999 1103.8221845 0.60386
## 47-27 9.182519e+02 -259.719971 2096.2236747 0.12327
## 48-27 -3.745389e+02 -1552.510712 803.4329339 0.52479
## 49-27 1.080711e+03 -97.260712 2258.6829339 0.07117 .
## 50-27 -1.215201e+03 -2268.811263 -161.5912060 0.02480 *
## 51-27 1.010852e+02 -1076.886638 1279.0570080 0.86342
## 53-27 -4.325370e+01 -1221.225527 1134.7181191 0.94131
## 55-27 -8.623222e+02 -2352.351814 627.7073696 0.24959
## 58-27 -3.877074e+02 -1877.736999 1102.3221845 0.60246
## 59-27 5.597019e+02 -618.269971 1737.6736747 0.34331
## 62-27 -1.487763e+03 -2665.734786 -309.7911401 0.01452 *
## 63-27 -1.326889e+02 -1118.250825 852.8730477 0.78730
## 65-27 -1.405037e+02 -1630.533296 1349.5258882 0.85007
## 67-27 -1.072041e+03 -2250.012564 105.9310821 0.07338 .
## 68-27 8.334259e+02 -656.603666 2323.4555178 0.26557
## 69-27 5.102593e+02 -667.712564 1688.2310821 0.38721
## 71-27 -3.900074e+02 -1880.036999 1100.0221845 0.60031
## 74-27 3.951019e+02 -782.869971 1573.0736747 0.50240
## 75-27 -1.799822e+03 -3289.851814 -309.7926304 0.01907 *
## 76-27 1.133326e+03 -356.703666 2623.3555178 0.13238
## 77-27 -3.803241e+02 -1558.295897 797.6477488 0.51844
## 78-27 -2.378444e+02 -1291.454473 815.7655841 0.65122
## 80-27 -1.597204e+03 -3087.233296 -107.1741118 0.03625 *
## 84-27 1.965444e+02 -981.427378 1374.5162673 0.73814
## 86-27 -1.056591e+03 -2234.562564 121.3810821 0.07746 .
## 89-27 -9.268222e+02 -2416.851814 563.2073696 0.21647
## 93-27 -1.690174e+03 -3180.203666 -200.1444822 0.02714 *
## 29-28 1.226967e+03 -597.939434 3051.8727675 0.18221
## 30-28 2.820800e+03 995.893899 4645.7061009 0.00325 **
## 31-28 8.622852e+02 -718.129858 2442.7002281 0.27731
## 32-28 -3.517500e+02 -1932.165043 1228.6650429 0.65579
## 33-28 1.842567e+03 17.660566 3667.4727675 0.04792 *
## 34-28 1.310567e+03 -514.339434 3135.4727675 0.15479
## 35-28 1.099046e+03 -390.983913 2589.0752709 0.14418
## 36-28 2.191170e+03 366.264270 4016.0764712 0.01975 *
## 39-28 2.742970e+03 918.064270 4567.8764712 0.00411 **
## 41-28 2.304546e+03 814.516087 3794.5752709 0.00323 **
## 42-28 3.025770e+03 1200.864270 4850.6764712 0.00172 **
## 43-28 2.211600e+03 386.693899 4036.5061009 0.01870 *
## 44-28 1.323567e+03 -501.339434 3148.4727675 0.15083
## 45-28 2.385452e+03 560.545751 4210.3579527 0.01162 *
## 46-28 1.315467e+03 -509.439434 3140.3727675 0.15329
## 47-28 2.619926e+03 1039.510883 4200.3409688 0.00172 **

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##	48-28	1.327135e+03	-253.279858	2907.5502281	0.09759	.
##	49-28	2.782385e+03	1201.970142	4362.8002281	0.00095	***
##	50-28	4.864728e+02	-1003.556752	1976.5024314	0.51378	
##	51-28	1.802759e+03	222.344216	3383.1743021	0.02634	*
##	53-28	1.658420e+03	78.005328	3238.8354132	0.04015	*
##	55-28	8.393519e+02	-985.554249	2664.2579527	0.35881	
##	58-28	1.313967e+03	-510.939434	3138.8727675	0.15374	
##	59-28	2.261376e+03	680.960883	3841.7909688	0.00609	**
##	62-28	2.139111e+02	-1366.503932	1794.3261540	0.78619	
##	63-28	1.568985e+03	126.270237	3011.7001339	0.03375	*
##	65-28	1.561170e+03	-263.735730	3386.0764712	0.09167	.
##	67-28	6.296333e+02	-950.781710	2210.0483762	0.42614	
##	68-28	2.535100e+03	710.193899	4360.0061009	0.00759	**
##	69-28	2.211933e+03	631.518290	3792.3483762	0.00719	**
##	71-28	1.311667e+03	-513.239434	3136.5727675	0.15445	
##	74-28	2.096776e+03	516.360883	3677.1909688	0.01051	*
##	75-28	-9.814815e+01	-1923.054249	1726.7579527	0.91413	
##	76-28	2.835000e+03	1010.093899	4659.9061009	0.00311	**
##	77-28	1.321350e+03	-259.065043	2901.7650429	0.09902	.
##	78-28	1.463830e+03	-26.199962	2953.8592215	0.05398	.
##	80-28	1.044704e+02	-1720.435730	1929.3764712	0.90863	
##	84-28	1.898219e+03	317.803476	3478.6335614	0.01971	*
##	86-28	6.450833e+02	-935.331710	2225.4983762	0.41496	
##	89-28	7.748519e+02	-1050.054249	2599.7579527	0.39659	
##	93-28	1.150000e+01	-1813.406101	1836.4061009	0.98992	
##	30-29	1.593833e+03	-231.072768	3418.7394342	0.08529	.
##	31-29	-3.646815e+02	-1945.096524	1215.7335614	0.64403	
##	32-29	-1.578717e+03	-3159.131710	1.6983762	0.05024	.
##	33-29	6.156000e+02	-1209.306101	2440.5061009	0.49996	
##	34-29	8.360000e+01	-1741.306101	1908.5061009	0.92682	
##	35-29	-1.279210e+02	-1617.950580	1362.1086042	0.86336	
##	36-29	9.642037e+02	-860.702397	2789.1098046	0.29258	
##	39-29	1.516004e+03	-308.902397	3340.9098046	0.10113	
##	41-29	1.077579e+03	-412.450580	2567.6086042	0.15198	
##	42-29	1.798804e+03	-26.102397	3623.7098046	0.05322	.
##	43-29	9.846333e+02	-840.272768	2809.5394342	0.28261	
##	44-29	9.660000e+01	-1728.306101	1921.5061009	0.91548	
##	45-29	1.158485e+03	-666.420916	2983.3912860	0.20733	
##	46-29	8.850000e+01	-1736.406101	1913.4061009	0.92254	
##	47-29	1.392959e+03	-187.455784	2973.3743021	0.08256	.
##	48-29	1.001685e+02	-1480.246524	1680.5835614	0.89889	
##	49-29	1.555419e+03	-24.996524	3135.8335614	0.05357	.
##	50-29	-7.404938e+02	-2230.523419	749.5357647	0.32184	
##	51-29	5.757926e+02	-1004.622450	2156.2076355	0.46649	
##	53-29	4.314537e+02	-1148.961339	2011.8687466	0.58479	
##	55-29	-3.876148e+02	-2212.520916	1437.2912860	0.67053	
##	58-29	8.700000e+01	-1737.906101	1911.9061009	0.92385	
##	59-29	1.034409e+03	-546.005784	2614.8243021	0.19383	
##	62-29	-1.013056e+03	-2593.470598	567.3594873	0.20301	
##	63-29	3.420185e+02	-1100.696430	1784.7334672	0.63501	
##	65-29	3.342037e+02	-1490.702397	2159.1098046	0.71370	
##	67-29	-5.973333e+02	-2177.748376	983.0817095	0.45008	
##	68-29	1.308133e+03	-516.772768	3133.0394342	0.15554	
##	69-29	9.849667e+02	-595.448376	2565.3817095	0.21559	

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## 71-29 8.470000e+01 -1740.206101 1909.6061009 0.92586
## 74-29 8.698093e+02 -710.605784 2450.2243021 0.27320
## 75-29 -1.325115e+03 -3150.020916 499.7912860 0.15036
## 76-29 1.608033e+03 -216.872768 3432.9394342 0.08264 .
## 77-29 9.438333e+01 -1486.031710 1674.7983762 0.90470
## 78-29 2.368630e+02 -1253.166629 1726.8925548 0.75008
## 80-29 -1.122496e+03 -2947.402397 702.4098046 0.22153
## 84-29 6.712519e+02 -909.163191 2251.6668947 0.39644
## 86-29 -5.818833e+02 -2162.298376 998.5317095 0.46181
## 89-29 -4.521148e+02 -2277.020916 1372.7912860 0.61988
## 93-29 -1.215467e+03 -3040.372768 609.4394342 0.18625
## 31-30 -1.958515e+03 -3538.929858 -378.0997719 0.01635 *
## 32-30 -3.172550e+03 -4752.965043 -1592.1349571 0.00021 ***
## 33-30 -9.782333e+02 -2803.139434 846.6727675 0.28571
## 34-30 -1.510233e+03 -3335.139434 314.6727675 0.10239
## 35-30 -1.721754e+03 -3211.783913 -231.7247291 0.02455 *
## 36-30 -6.296296e+02 -2454.535730 1195.2764712 0.49030
## 39-30 -7.782963e+01 -1902.735730 1747.0764712 0.93186
## 41-30 -5.162543e+02 -2006.283913 973.7752709 0.48848
## 42-30 2.049704e+02 -1619.935730 2029.8764712 0.82188
## 43-30 -6.092000e+02 -2434.106101 1215.7061009 0.50441
## 44-30 -1.497233e+03 -3322.139434 327.6727675 0.10529
## 45-30 -4.353481e+02 -2260.254249 1389.5579527 0.63288
## 46-30 -1.505333e+03 -3330.239434 319.5727675 0.10348
## 47-30 -2.008741e+02 -1781.289117 1379.5409688 0.79892
## 48-30 -1.493665e+03 -3074.079858 86.7502281 0.06335 .
## 49-30 -3.841481e+01 -1618.829858 1542.0002281 0.96113
## 50-30 -2.334327e+03 -3824.356752 -844.2975686 0.00289 **
## 51-30 -1.018041e+03 -2598.455784 562.3743021 0.20084
## 53-30 -1.162380e+03 -2742.794672 418.0354132 0.14530
## 55-30 -1.981448e+03 -3806.354249 -156.5420473 0.03402 *
## 58-30 -1.506833e+03 -3331.739434 318.0727675 0.10315
## 59-30 -5.594241e+02 -2139.839117 1020.9909688 0.47917
## 62-30 -2.606889e+03 -4187.303932 -1026.4738460 0.00181 **
## 63-30 -1.251815e+03 -2694.529763 190.9001339 0.08728 .
## 65-30 -1.259630e+03 -3084.535730 565.2764712 0.17108
## 67-30 -2.191167e+03 -3771.581710 -610.7516238 0.00770 **
## 68-30 -2.857000e+02 -2110.606101 1539.2061009 0.75374
## 69-30 -6.088667e+02 -2189.281710 971.5483762 0.44144
## 71-30 -1.509133e+03 -3334.039434 315.7727675 0.10264
## 74-30 -7.240241e+02 -2304.439117 856.3909688 0.36070
## 75-30 -2.918948e+03 -4743.854249 -1094.0420473 0.00240 **
## 76-30 1.420000e+01 -1810.706101 1839.1061009 0.98755
## 77-30 -1.499450e+03 -3079.865043 80.9650429 0.06237 .
## 78-30 -1.356970e+03 -2846.999962 133.0592215 0.07319 .
## 80-30 -2.716330e+03 -4541.235730 -891.4235288 0.00446 **
## 84-30 -9.225815e+02 -2502.996524 657.8335614 0.24557
## 86-30 -2.175717e+03 -3756.131710 -595.3016238 0.00811 **
## 89-30 -2.045948e+03 -3870.854249 -221.0420473 0.02888 *
## 93-30 -2.809300e+03 -4634.206101 -984.3938991 0.00337 **
## 32-31 -1.214035e+03 -2504.438664 76.3682938 0.06451 .
## 33-31 9.802815e+02 -600.133561 2560.6965243 0.21774
## 34-31 4.482815e+02 -1132.133561 2028.6965243 0.57028
## 35-31 2.367605e+02 -941.211329 1414.7323167 0.68724

```

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## 36-31 1.328885e+03 -251.529858 2909.3002281 0.09717 .
## 39-31 1.880685e+03 300.270142 3461.1002281 0.02080 *
## 41-31 1.442260e+03 264.288671 2620.2323167 0.01759 *
## 42-31 2.163485e+03 583.070142 3743.9002281 0.00844 **
## 43-31 1.349315e+03 -231.100228 2929.7298577 0.09229 .
## 44-31 4.612815e+02 -1119.133561 2041.6965243 0.55920
## 45-31 1.523167e+03 -57.248376 3103.5817095 0.05850 .
## 46-31 4.531815e+02 -1127.233561 2033.5965243 0.56609
## 47-31 1.757641e+03 467.237262 3048.0442197 0.00875 **
## 48-31 4.648500e+02 -825.553479 1755.2534789 0.47148
## 49-31 1.920100e+03 629.696521 3210.5034789 0.00447 **
## 50-31 -3.758123e+02 -1553.784169 802.1594772 0.52339
## 51-31 9.404741e+02 -349.929405 2230.8775530 0.14889
## 53-31 7.961352e+02 -494.268294 2086.5386641 0.22015
## 55-31 -2.293333e+01 -1603.348376 1557.4817095 0.97679
## 58-31 4.516815e+02 -1128.733561 2032.0965243 0.56737
## 59-31 1.399091e+03 108.687262 2689.4942197 0.03426 *
## 62-31 -6.483741e+02 -1938.777553 642.0294049 0.31658
## 63-31 7.067000e+02 -410.822194 1824.2221939 0.20904
## 65-31 6.988852e+02 -881.529858 2279.3002281 0.37746
## 67-31 -2.326519e+02 -1523.055331 1057.7516271 0.71794
## 68-31 1.672815e+03 92.399772 3253.2298577 0.03853 *
## 69-31 1.349648e+03 59.244669 2640.0516271 0.04078 *
## 71-31 4.493815e+02 -1131.033561 2029.7965243 0.56934
## 74-31 1.234491e+03 -55.912738 2524.8942197 0.06031 .
## 75-31 -9.604333e+02 -2540.848376 619.9817095 0.22703
## 76-31 1.972715e+03 392.299772 3553.1298577 0.01563 *
## 77-31 4.590648e+02 -831.338664 1749.4682938 0.47698
## 78-31 6.015444e+02 -576.427378 1779.5162673 0.30884
## 80-31 -7.578148e+02 -2338.229858 822.6002281 0.33895
## 84-31 1.035933e+03 -254.470146 2326.3368123 0.11276
## 86-31 -2.172019e+02 -1507.605331 1073.2016271 0.73592
## 89-31 -8.743333e+01 -1667.848376 1492.9817095 0.91168
## 93-31 -8.507852e+02 -2431.200228 729.6298577 0.28368
## 33-32 2.194317e+03 613.901624 3774.7317095 0.00762 **
## 34-32 1.662317e+03 81.901624 3242.7317095 0.03971 *
## 35-32 1.450796e+03 272.823856 2628.7675019 0.01698 *
## 36-32 2.542920e+03 962.505328 4123.3354132 0.00228 **
## 39-32 3.094720e+03 1514.305328 4675.1354132 0.00029 ***
## 41-32 2.656296e+03 1478.323856 3834.2675019 4.4e-05 ***
## 42-32 3.377520e+03 1797.105328 4957.9354132 9.3e-05 ***
## 43-32 2.563350e+03 982.934957 4143.7650429 0.00212 **
## 44-32 1.675317e+03 94.901624 3255.7317095 0.03826 *
## 45-32 2.737202e+03 1156.786809 4317.6168947 0.00112 **
## 46-32 1.667217e+03 86.801624 3247.6317095 0.03916 *
## 47-32 2.971676e+03 1681.272447 4262.0794049 3.2e-05 ***
## 48-32 1.678885e+03 388.481706 2969.2886641 0.01199 *
## 49-32 3.134135e+03 1843.731706 4424.5386641 1.4e-05 ***
## 50-32 8.382228e+02 -339.748983 2016.1946623 0.15851
## 51-32 2.154509e+03 864.105780 3444.9127382 0.00161 **
## 53-32 2.010170e+03 719.766891 3300.5738493 0.00304 **
## 55-32 1.191102e+03 -389.313191 2771.5168947 0.13585
## 58-32 1.665717e+03 85.301624 3246.1317095 0.03933 *
## 59-32 2.613126e+03 1322.722447 3903.5294049 0.00019 ***

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##	62-32	5.656611e+02	-724.742368	1856.0645901	0.38159	
##	63-32	1.920735e+03	803.212991	3038.2573791	0.00121	**
##	65-32	1.912920e+03	332.505328	3493.3354132	0.01884	*
##	67-32	9.813833e+02	-309.020146	2271.7868123	0.13242	
##	68-32	2.886850e+03	1306.434957	4467.2650429	0.00064	***
##	69-32	2.563683e+03	1273.279854	3854.0868123	0.00024	***
##	71-32	1.663417e+03	83.001624	3243.8317095	0.03958	*
##	74-32	2.448526e+03	1158.122447	3738.9294049	0.00042	***
##	75-32	2.536019e+02	-1326.813191	1834.0168947	0.74780	
##	76-32	3.186750e+03	1606.334957	4767.1650429	0.00020	***
##	77-32	1.673100e+03	382.696521	2963.5034789	0.01226	*
##	78-32	1.815580e+03	637.607807	2993.5514525	0.00333	**
##	80-32	4.562204e+02	-1124.194672	2036.6354132	0.56350	
##	84-32	2.249969e+03	959.565040	3540.3719975	0.00105	**
##	86-32	9.968333e+02	-293.570146	2287.2368123	0.12659	
##	89-32	1.126602e+03	-453.813191	2707.0168947	0.15778	
##	93-32	3.632500e+02	-1217.165043	1943.6650429	0.64533	
##	34-33	-5.320000e+02	-2356.906101	1292.9061009	0.55967	
##	35-33	-7.435210e+02	-2233.550580	746.5086042	0.31989	
##	36-33	3.486037e+02	-1476.302397	2173.5098046	0.70196	
##	39-33	9.004037e+02	-924.502397	2725.3098046	0.32529	
##	41-33	4.619790e+02	-1028.050580	1952.0086042	0.53510	
##	42-33	1.183204e+03	-641.702397	3008.1098046	0.19797	
##	43-33	3.690333e+02	-1455.872768	2193.9394342	0.68543	
##	44-33	-5.190000e+02	-2343.906101	1305.9061009	0.56926	
##	45-33	5.428852e+02	-1282.020916	2367.7912860	0.55170	
##	46-33	-5.271000e+02	-2352.006101	1297.8061009	0.56328	
##	47-33	7.773593e+02	-803.055784	2357.7743021	0.32677	
##	48-33	-5.154315e+02	-2095.846524	1064.9835614	0.51423	
##	49-33	9.398185e+02	-640.596524	2520.2335614	0.23699	
##	50-33	-1.356094e+03	-2846.123419	133.9357647	0.07337	.
##	51-33	-3.980741e+01	-1620.222450	1540.6076355	0.95972	
##	53-33	-1.841463e+02	-1764.561339	1396.2687466	0.81534	
##	55-33	-1.003215e+03	-2828.120916	821.6912860	0.27375	
##	58-33	-5.286000e+02	-2353.506101	1296.3061009	0.56217	
##	59-33	4.188093e+02	-1161.605784	1999.2243021	0.59580	
##	62-33	-1.628656e+03	-3209.070598	-48.2405127	0.04369	*
##	63-33	-2.735815e+02	-1716.296430	1169.1334672	0.70403	
##	65-33	-2.813963e+02	-2106.302397	1543.5098046	0.75733	
##	67-33	-1.212933e+03	-2793.348376	367.4817095	0.12901	
##	68-33	6.925333e+02	-1132.372768	2517.4394342	0.44826	
##	69-33	3.693667e+02	-1211.048376	1949.7817095	0.63979	
##	71-33	-5.309000e+02	-2355.806101	1294.0061009	0.56048	
##	74-33	2.542093e+02	-1326.205784	1834.6243021	0.74722	
##	75-33	-1.940715e+03	-3765.620916	-115.8087140	0.03767	*
##	76-33	9.924333e+02	-832.472768	2817.3394342	0.27886	
##	77-33	-5.212167e+02	-2101.631710	1059.1983762	0.50954	
##	78-33	-3.787370e+02	-1868.766629	1111.2925548	0.61085	
##	80-33	-1.738096e+03	-3563.002397	86.8098046	0.06141	.
##	84-33	5.565185e+01	-1524.763191	1636.0668947	0.94372	
##	86-33	-1.197483e+03	-2777.898376	382.9317095	0.13382	
##	89-33	-1.067715e+03	-2892.620916	757.1912860	0.24452	
##	93-33	-1.831067e+03	-3655.972768	-6.1605658	0.04927	*
##	35-34	-2.115210e+02	-1701.550580	1278.5086042	0.77603	



##	36-34	8.806037e+02	-944.302397	2705.5098046	0.33592	
##	39-34	1.432404e+03	-392.502397	3257.3098046	0.12076	
##	41-34	9.939790e+02	-496.050580	2484.0086042	0.18558	
##	42-34	1.715204e+03	-109.702397	3540.1098046	0.06477	.
##	43-34	9.010333e+02	-923.872768	2725.9394342	0.32495	
##	44-34	1.300000e+01	-1811.906101	1837.9061009	0.98860	
##	45-34	1.074885e+03	-750.020916	2899.7912860	0.24141	
##	46-34	4.900000e+00	-1820.006101	1829.8061009	0.99570	
##	47-34	1.309359e+03	-271.055784	2889.7743021	0.10202	
##	48-34	1.656852e+01	-1563.846524	1596.9835614	0.98323	
##	49-34	1.471819e+03	-108.596524	3052.2335614	0.06716	.
##	50-34	-8.240938e+02	-2314.123419	665.9357647	0.27088	
##	51-34	4.921926e+02	-1088.222450	2072.6076355	0.53328	
##	53-34	3.478537e+02	-1232.561339	1928.2687466	0.65936	
##	55-34	-4.712148e+02	-2296.120916	1353.6912860	0.60522	
##	58-34	3.400000e+00	-1821.506101	1828.3061009	0.99702	
##	59-34	9.508093e+02	-629.605784	2531.2243021	0.23164	
##	62-34	-1.096656e+03	-2677.070598	483.7594873	0.16887	
##	63-34	2.584185e+02	-1184.296430	1701.1334672	0.71970	
##	65-34	2.506037e+02	-1574.302397	2075.5098046	0.78315	
##	67-34	-6.809333e+02	-2261.348376	899.4817095	0.38972	
##	68-34	1.224533e+03	-600.372768	3049.4394342	0.18306	
##	69-34	9.013667e+02	-679.048376	2481.7817095	0.25642	
##	71-34	1.100000e+00	-1823.806101	1826.0061009	0.99904	
##	74-34	7.862093e+02	-794.205784	2366.6243021	0.32136	
##	75-34	-1.408715e+03	-3233.620916	416.1912860	0.12686	
##	76-34	1.524433e+03	-300.472768	3349.3394342	0.09930	.
##	77-34	1.078333e+01	-1569.631710	1591.1983762	0.98909	
##	78-34	1.532630e+02	-1336.766629	1643.2925548	0.83665	
##	80-34	-1.206096e+03	-3031.002397	618.8098046	0.18960	
##	84-34	5.876519e+02	-992.763191	2168.0668947	0.45741	
##	86-34	-6.654833e+02	-2245.898376	914.9317095	0.40048	
##	89-34	-5.357148e+02	-2360.620916	1289.1912860	0.55694	
##	93-34	-1.299067e+03	-3123.972768	525.8394342	0.15835	
##	36-35	1.092125e+03	-397.904901	2582.1542832	0.14666	
##	39-35	1.643925e+03	153.895099	3133.9542832	0.03138	*
##	41-35	1.205500e+03	151.889971	2259.1100286	0.02591	*
##	42-35	1.926725e+03	436.695099	3416.7542832	0.01248	*
##	43-35	1.112554e+03	-377.475271	2602.5839129	0.13943	
##	44-35	2.245210e+02	-1265.508604	1714.5505795	0.76269	
##	45-35	1.286406e+03	-203.623419	2776.4357647	0.08882	.
##	46-35	2.164210e+02	-1273.608604	1706.4505795	0.77099	
##	47-35	1.520880e+03	342.908424	2698.8520698	0.01261	*
##	48-35	2.280895e+02	-949.882317	1406.0613290	0.69810	
##	49-35	1.683340e+03	505.367683	2861.3113290	0.00615	**
##	50-35	-6.125728e+02	-1666.182868	441.0371891	0.24745	
##	51-35	7.037136e+02	-474.258243	1881.6854031	0.23488	
##	53-35	5.593747e+02	-618.597131	1737.3465142	0.34359	
##	55-35	-2.596938e+02	-1749.723419	1230.3357647	0.72694	
##	58-35	2.149210e+02	-1275.108604	1704.9505795	0.77254	
##	59-35	1.162330e+03	-15.641576	2340.3020698	0.05298	.
##	62-35	-8.851346e+02	-2063.106391	292.8372549	0.13700	
##	63-35	4.699395e+02	-515.622430	1455.5014427	0.34162	
##	65-35	4.621247e+02	-1027.904901	1952.1542832	0.53497	

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## 67-35 -4.694123e+02 -1647.384169 708.5594772 0.42603
## 68-35 1.436054e+03 -53.975271 2926.0839129 0.05850 .
## 69-35 1.112888e+03 -65.084169 2290.8594772 0.06345 .
## 71-35 2.126210e+02 -1277.408604 1702.6505795 0.77490
## 74-35 9.977302e+02 -180.241576 2175.7020698 0.09483 .
## 75-35 -1.197194e+03 -2687.223419 292.8357647 0.11247
## 76-35 1.735954e+03 245.924729 3225.9839129 0.02346 *
## 77-35 2.223043e+02 -955.667502 1400.2761438 0.70538
## 78-35 3.647840e+02 -688.826078 1418.3939792 0.48880
## 80-35 -9.945753e+02 -2484.604901 495.4542832 0.18532
## 84-35 7.991728e+02 -378.798983 1977.1446623 0.17836
## 86-35 -4.539623e+02 -1631.934169 724.0094772 0.44130
## 89-35 -3.241938e+02 -1814.223419 1165.8357647 0.66302
## 93-35 -1.087546e+03 -2577.575271 402.4839129 0.14832
## 39-36 5.518000e+02 -1273.106101 2376.7061009 0.54521
## 41-36 1.133753e+02 -1376.654283 1603.4049005 0.87876
## 42-36 8.346000e+02 -990.306101 2659.5061009 0.36151
## 43-36 2.042963e+01 -1804.476471 1845.3357305 0.98209
## 44-36 -8.676037e+02 -2692.509805 957.3023972 0.34303
## 45-36 1.942815e+02 -1630.624619 2019.1875823 0.83102
## 46-36 -8.757037e+02 -2700.609805 949.2023972 0.33859
## 47-36 4.287556e+02 -1151.659487 2009.1705984 0.58713
## 48-36 -8.640352e+02 -2444.450228 716.3798577 0.27635
## 49-36 5.912148e+02 -989.200228 2171.6298577 0.45471
## 50-36 -1.704698e+03 -3194.727123 -214.6679390 0.02592 *
## 51-36 -3.884111e+02 -1968.826154 1192.0039318 0.62268
## 53-36 -5.327500e+02 -2113.165043 1047.6650429 0.50026
## 55-36 -1.351819e+03 -3176.724619 473.0875823 0.14251
## 58-36 -8.772037e+02 -2702.109805 947.7023972 0.33777
## 59-36 7.020556e+01 -1510.209487 1650.6205984 0.92903
## 62-36 -1.977259e+03 -3557.674302 -396.8442164 0.01541 *
## 63-36 -6.221852e+02 -2064.900134 820.5297635 0.38928
## 65-36 -6.300000e+02 -2454.906101 1194.9061009 0.49004
## 67-36 -1.561537e+03 -3141.952080 18.8780058 0.05268 .
## 68-36 3.439296e+02 -1480.976471 2168.8357305 0.70576
## 69-36 2.076296e+01 -1559.652080 1601.1780058 0.97899
## 71-36 -8.795037e+02 -2704.409805 945.4023972 0.33652
## 74-36 -9.439444e+01 -1674.809487 1486.0205984 0.90469
## 75-36 -2.289319e+03 -4114.224619 -464.4124177 0.01515 *
## 76-36 6.438296e+02 -1181.076471 2468.7357305 0.48062
## 77-36 -8.698204e+02 -2450.235413 710.5946725 0.27320
## 78-36 -7.273407e+02 -2217.370333 762.6888511 0.33041
## 80-36 -2.086700e+03 -3911.606101 -261.7938991 0.02600 *
## 84-36 -2.929519e+02 -1873.366895 1287.4631910 0.71037
## 86-36 -1.546087e+03 -3126.502080 34.3280058 0.05496 .
## 89-36 -1.416319e+03 -3241.224619 408.5875823 0.12487
## 93-36 -2.179670e+03 -4004.576471 -354.7642695 0.02036 *
## 41-39 -4.384247e+02 -1928.454283 1051.6049005 0.55603
## 42-39 2.828000e+02 -1542.106101 2107.7061009 0.75616
## 43-39 -5.313704e+02 -2356.276471 1293.5357305 0.56013
## 44-39 -1.419404e+03 -3244.309805 405.5023972 0.12408
## 45-39 -3.575185e+02 -2182.424619 1467.3875823 0.69473
## 46-39 -1.427504e+03 -3252.409805 397.4023972 0.12200
## 47-39 -1.230444e+02 -1703.459487 1457.3705984 0.87597

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## 48-39 -1.415835e+03 -2996.250228 164.5798577 0.07781 .
## 49-39 3.941481e+01 -1541.000228 1619.8298577 0.96012
## 50-39 -2.256498e+03 -3746.527123 -766.4679390 0.00387 **
## 51-39 -9.402111e+02 -2520.626154 640.2039318 0.23680
## 53-39 -1.084550e+03 -2664.965043 495.8650429 0.17352
## 55-39 -1.903619e+03 -3728.524619 -78.7124177 0.04129 *
## 58-39 -1.429004e+03 -3253.909805 395.9023972 0.12162
## 59-39 -4.815944e+02 -2062.009487 1098.8205984 0.54210
## 62-39 -2.529059e+03 -4109.474302 -948.6442164 0.00239 **
## 63-39 -1.173985e+03 -2616.700134 268.7297635 0.10808
## 65-39 -1.181800e+03 -3006.706101 643.1061009 0.19850
## 67-39 -2.113337e+03 -3693.752080 -532.9219942 0.00996 **
## 68-39 -2.078704e+02 -2032.776471 1617.0357305 0.81940
## 69-39 -5.310370e+02 -2111.452080 1049.3780058 0.50164
## 71-39 -1.431304e+03 -3256.209805 393.6023972 0.12104
## 74-39 -6.461944e+02 -2226.609487 934.2205984 0.41416
## 75-39 -2.841119e+03 -4666.024619 -1016.2124177 0.00305 **
## 76-39 9.202963e+01 -1732.876471 1916.9357305 0.91947
## 77-39 -1.421620e+03 -3002.035413 158.7946725 0.07665 .
## 78-39 -1.279141e+03 -2769.170333 210.8888511 0.09058 .
## 80-39 -2.638500e+03 -4463.406101 -813.5938991 0.00562 **
## 84-39 -8.447519e+02 -2425.166895 735.6631910 0.28707
## 86-39 -2.097887e+03 -3678.302080 -517.4719942 0.01047 *
## 89-39 -1.968119e+03 -3793.024619 -143.2124177 0.03518 *
## 93-39 -2.731470e+03 -4556.376471 -906.5642695 0.00426 **
## 42-41 7.212247e+02 -768.804901 2211.2542832 0.33445
## 43-41 -9.294568e+01 -1582.975271 1397.0839129 0.90048
## 44-41 -9.809790e+02 -2471.008604 509.0505795 0.19128
## 45-41 8.090617e+01 -1409.123419 1570.9357647 0.91331
## 46-41 -9.890790e+02 -2479.108604 500.9505795 0.18771
## 47-41 3.153802e+02 -862.591576 1493.3520698 0.59203
## 48-41 -9.774105e+02 -2155.382317 200.5613290 0.10152
## 49-41 4.778395e+02 -700.132317 1655.8113290 0.41783
## 50-41 -1.818073e+03 -2871.682868 -764.4628109 0.00116 **
## 51-41 -5.017864e+02 -1679.758243 676.1854031 0.39507
## 53-41 -6.461253e+02 -1824.097131 531.8465142 0.27480
## 55-41 -1.465194e+03 -2955.223419 24.8357647 0.05377 .
## 58-41 -9.905790e+02 -2480.608604 499.4505795 0.18706
## 59-41 -4.316975e+01 -1221.141576 1134.8020698 0.94143
## 62-41 -2.090635e+03 -3268.606391 -912.6627451 0.00087 ***
## 63-41 -7.355605e+02 -1721.122430 250.0014427 0.13960
## 65-41 -7.433753e+02 -2233.404901 746.6542832 0.31998
## 67-41 -1.674912e+03 -2852.884169 -496.9405228 0.00639 **
## 68-41 2.305543e+02 -1259.475271 1720.5839129 0.75651
## 69-41 -9.261235e+01 -1270.584169 1085.3594772 0.87476
## 71-41 -9.928790e+02 -2482.908604 497.1505795 0.18605
## 74-41 -2.077698e+02 -1385.741576 970.2020698 0.72380
## 75-41 -2.402694e+03 -3892.723419 -912.6642353 0.00223 **
## 76-41 5.304543e+02 -959.575271 2020.4839129 0.47667
## 77-41 -9.831957e+02 -2161.167502 194.7761438 0.09958 .
## 78-41 -8.407160e+02 -1894.326078 212.8939792 0.11489
## 80-41 -2.200075e+03 -3690.104901 -710.0457168 0.00476 **
## 84-41 -4.063272e+02 -1584.298983 771.6446623 0.49040
## 86-41 -1.659462e+03 -2837.434169 -481.4905228 0.00685 **

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## 89-41 -1.529694e+03 -3019.723419 -39.6642353 0.04446 *
## 93-41 -2.293046e+03 -3783.075271 -803.0160871 0.00338 **
## 43-42 -8.141704e+02 -2639.076471 1010.7357305 0.37327
## 44-42 -1.702204e+03 -3527.109805 122.7023972 0.06674 .
## 45-42 -6.403185e+02 -2465.224619 1184.5875823 0.48300
## 46-42 -1.710304e+03 -3535.209805 114.6023972 0.06550 .
## 47-42 -4.058444e+02 -1986.259487 1174.5705984 0.60720
## 48-42 -1.698635e+03 -3279.050228 -118.2201423 0.03578 *
## 49-42 -2.433852e+02 -1823.800228 1337.0298577 0.75763
## 50-42 -2.539298e+03 -4029.327123 -1049.2679390 0.00132 **
## 51-42 -1.223011e+03 -2803.426154 357.4039318 0.12594
## 53-42 -1.367350e+03 -2947.765043 213.0650429 0.08816 .
## 55-42 -2.186419e+03 -4011.324619 -361.5124177 0.02000 *
## 58-42 -1.711804e+03 -3536.709805 113.1023972 0.06528 .
## 59-42 -7.643944e+02 -2344.809487 816.0205984 0.33481
## 62-42 -2.811859e+03 -4392.274302 -1231.4442164 0.00085 ***
## 63-42 -1.456785e+03 -2899.500134 -14.0702365 0.04790 *
## 65-42 -1.464600e+03 -3289.506101 360.3061009 0.11286
## 67-42 -2.396137e+03 -3976.552080 -815.7219942 0.00383 **
## 68-42 -4.906704e+02 -2315.576471 1334.2357305 0.59045
## 69-42 -8.138370e+02 -2394.252080 766.5780058 0.30484
## 71-42 -1.714104e+03 -3539.009805 110.8023972 0.06493 .
## 74-42 -9.289944e+02 -2509.409487 651.4205984 0.24235
## 75-42 -3.123919e+03 -4948.824619 -1299.0124177 0.00126 **
## 76-42 -1.907704e+02 -2015.676471 1634.1357305 0.83402
## 77-42 -1.704420e+03 -3284.835413 -124.0053275 0.03518 *
## 78-42 -1.561941e+03 -3051.970333 -71.9111489 0.04035 *
## 80-42 -2.921300e+03 -4746.206101 -1096.3938991 0.00239 **
## 84-42 -1.127552e+03 -2707.966895 452.8631910 0.15744
## 86-42 -2.380687e+03 -3961.102080 -800.2719942 0.00404 **
## 89-42 -2.250919e+03 -4075.824619 -426.0124177 0.01682 *
## 93-42 -3.014270e+03 -4839.176471 -1189.3642695 0.00178 **
## 44-43 -8.880333e+02 -2712.939434 936.8727675 0.33190
## 45-43 1.738519e+02 -1651.054249 1998.7579527 0.84855
## 46-43 -8.961333e+02 -2721.039434 928.7727675 0.32756
## 47-43 4.083259e+02 -1172.089117 1988.7409688 0.60501
## 48-43 -8.844648e+02 -2464.879858 695.9502281 0.26531
## 49-43 5.707852e+02 -1009.629858 2151.2002281 0.47035
## 50-43 -1.725127e+03 -3215.156752 -235.0975686 0.02429 *
## 51-43 -4.088407e+02 -1989.255784 1171.5743021 0.60455
## 53-43 -5.531796e+02 -2133.594672 1027.2354132 0.48407
## 55-43 -1.372248e+03 -3197.154249 452.6579527 0.13672
## 58-43 -8.976333e+02 -2722.539434 927.2727675 0.32676
## 59-43 4.977593e+01 -1530.639117 1630.1909688 0.94965
## 62-43 -1.997689e+03 -3578.103932 -417.2738460 0.01445 *
## 63-43 -6.426148e+02 -2085.329763 800.1001339 0.37404
## 65-43 -6.504296e+02 -2475.335730 1174.4764712 0.47616
## 67-43 -1.581967e+03 -3162.381710 -1.5516238 0.04979 *
## 68-43 3.235000e+02 -1501.406101 2148.4061009 0.72247
## 69-43 3.333333e-01 -1580.081710 1580.7483762 0.99966
## 71-43 -8.999333e+02 -2724.839434 924.9727675 0.32554
## 74-43 -1.148241e+02 -1695.239117 1465.5909688 0.88419
## 75-43 -2.309748e+03 -4134.654249 -484.8420473 0.01433 *
## 76-43 6.234000e+02 -1201.506101 2448.3061009 0.49458

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## 77-43 -8.902500e+02 -2470.665043 690.1650429 0.26225
## 78-43 -7.477704e+02 -2237.799962 742.2592215 0.31716
## 80-43 -2.107130e+03 -3932.035730 -282.2235288 0.02465 *
## 84-43 -3.133815e+02 -1893.796524 1267.0335614 0.69122
## 86-43 -1.566517e+03 -3146.931710 13.8983762 0.05196 .
## 89-43 -1.436748e+03 -3261.654249 388.1579527 0.11967
## 93-43 -2.200100e+03 -4025.006101 -375.1938991 0.01929 *
## 45-44 1.061885e+03 -763.020916 2886.7912860 0.24706
## 46-44 -8.100000e+00 -1833.006101 1816.8061009 0.99290
## 47-44 1.296359e+03 -284.055784 2876.7743021 0.10537
## 48-44 3.568519e+00 -1576.846524 1583.9835614 0.99639
## 49-44 1.458819e+03 -121.596524 3039.2335614 0.06951 .
## 50-44 -8.370938e+02 -2327.123419 652.9357647 0.26350
## 51-44 4.791926e+02 -1101.222450 2059.6076355 0.54410
## 53-44 3.348537e+02 -1245.561339 1915.2687466 0.67130
## 55-44 -4.842148e+02 -2309.120916 1340.6912860 0.59534
## 58-44 -9.600000e+00 -1834.506101 1815.3061009 0.99158
## 59-44 9.378093e+02 -642.605784 2518.2243021 0.23798
## 62-44 -1.109656e+03 -2690.070598 470.7594873 0.16398
## 63-44 2.454185e+02 -1197.296430 1688.1334672 0.73323
## 65-44 2.376037e+02 -1587.302397 2062.5098046 0.79413
## 67-44 -6.939333e+02 -2274.348376 886.4817095 0.38081
## 68-44 1.211533e+03 -613.372768 3036.4394342 0.18765
## 69-44 8.883667e+02 -692.048376 2468.7817095 0.26324
## 71-44 -1.190000e+01 -1836.806101 1813.0061009 0.98957
## 74-44 7.732093e+02 -807.205784 2353.6243021 0.32933
## 75-44 -1.421715e+03 -3246.620916 403.1912860 0.12348
## 76-44 1.511433e+03 -313.472768 3336.3394342 0.10213
## 77-44 -2.216667e+00 -1582.631710 1578.1983762 0.99776
## 78-44 1.402630e+02 -1349.766629 1630.2925548 0.85033
## 80-44 -1.219096e+03 -3044.002397 605.8098046 0.18497
## 84-44 5.746519e+02 -1005.763191 2155.0668947 0.46736
## 86-44 -6.784833e+02 -2258.898376 901.9317095 0.39142
## 89-44 -5.487148e+02 -2373.620916 1276.1912860 0.54745
## 93-44 -1.312067e+03 -3136.972768 512.8394342 0.15433
## 46-45 -1.069985e+03 -2894.891286 754.9209157 0.24353
## 47-45 2.344741e+02 -1345.940969 1814.8891169 0.76623
## 48-45 -1.058317e+03 -2638.731710 522.0983762 0.18393
## 49-45 3.969333e+02 -1183.481710 1977.3483762 0.61509
## 50-45 -1.898979e+03 -3389.008604 -408.9494205 0.01371 *
## 51-45 -5.826926e+02 -2163.107635 997.7224503 0.46119
## 53-45 -7.270315e+02 -2307.446524 853.3835614 0.35873
## 55-45 -1.546100e+03 -3371.006101 278.8061009 0.09474 .
## 58-45 -1.071485e+03 -2896.391286 753.4209157 0.24288
## 59-45 -1.240759e+02 -1704.490969 1456.3391169 0.87494
## 62-45 -2.171541e+03 -3751.955784 -591.1256979 0.00822 **
## 63-45 -8.164667e+02 -2259.181615 626.2482820 0.26006
## 65-45 -8.242815e+02 -2649.187582 1000.6246194 0.36742
## 67-45 -1.755819e+03 -3336.233561 -175.4034757 0.03028 *
## 68-45 1.496481e+02 -1675.257953 1974.5542490 0.86942
## 69-45 -1.735185e+02 -1753.933561 1406.8965243 0.82581
## 71-45 -1.073785e+03 -2898.691286 751.1209157 0.24189
## 74-45 -2.886759e+02 -1869.090969 1291.7391169 0.71441
## 75-45 -2.483600e+03 -4308.506101 -658.6938991 0.00880 **

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## 76-45 4.495481e+02 -1375.357953 2274.4542490 0.62187
## 77-45 -1.064102e+03 -2644.516895 516.3131910 0.18159
## 78-45 -9.216222e+02 -2411.651814 568.4073696 0.21901
## 80-45 -2.280981e+03 -4105.887582 -456.0753806 0.01550 *
## 84-45 -4.872333e+02 -2067.648376 1093.1817095 0.53740
## 86-45 -1.740369e+03 -3320.783561 -159.9534757 0.03168 *
## 89-45 -1.610600e+03 -3435.506101 214.3061009 0.08217 .
## 93-45 -2.373952e+03 -4198.857953 -549.0457510 0.01200 *
## 47-46 1.304459e+03 -275.955784 2884.8743021 0.10327
## 48-46 1.166852e+01 -1568.746524 1592.0835614 0.98819
## 49-46 1.466919e+03 -113.496524 3047.3335614 0.06804 .
## 50-46 -8.289938e+02 -2319.023419 661.0357647 0.26809
## 51-46 4.872926e+02 -1093.122450 2067.7076355 0.53735
## 53-46 3.429537e+02 -1237.461339 1923.3687466 0.66385
## 55-46 -4.761148e+02 -2301.020916 1348.7912860 0.60149
## 58-46 -1.500000e+00 -1826.406101 1823.4061009 0.99869
## 59-46 9.459093e+02 -634.505784 2526.3243021 0.23402
## 62-46 -1.101556e+03 -2681.970598 478.8594873 0.16701
## 63-46 2.535185e+02 -1189.196430 1696.2334672 0.72479
## 65-46 2.457037e+02 -1579.202397 2070.6098046 0.78729
## 67-46 -6.858333e+02 -2266.248376 894.5817095 0.38635
## 68-46 1.219633e+03 -605.272768 3044.5394342 0.18478
## 69-46 8.964667e+02 -683.948376 2476.8817095 0.25898
## 71-46 -3.800000e+00 -1828.706101 1821.1061009 0.99667
## 74-46 7.813093e+02 -799.105784 2361.7243021 0.32435
## 75-46 -1.413615e+03 -3238.520916 411.2912860 0.12558
## 76-46 1.519533e+03 -305.372768 3344.4394342 0.10036
## 77-46 5.883333e+00 -1574.531710 1586.2983762 0.99404
## 78-46 1.483630e+02 -1341.666629 1638.3925548 0.84180
## 80-46 -1.210996e+03 -3035.902397 613.9098046 0.18784
## 84-46 5.827519e+02 -997.663191 2163.1668947 0.46115
## 86-46 -6.703833e+02 -2250.798376 910.0317095 0.39705
## 89-46 -5.406148e+02 -2365.520916 1284.2912860 0.55335
## 93-46 -1.303967e+03 -3128.872768 520.9394342 0.15683
## 48-47 -1.292791e+03 -2583.194220 -2.3872618 0.04960 *
## 49-47 1.624593e+02 -1127.944220 1452.8627382 0.80078
## 50-47 -2.133453e+03 -3311.424909 -955.4812636 0.00070 ***
## 51-47 -8.171667e+02 -2107.570146 473.2368123 0.20842
## 53-47 -9.615056e+02 -2251.909035 328.8979234 0.14023
## 55-47 -1.780574e+03 -3360.989117 -200.1590312 0.02814 *
## 58-47 -1.305959e+03 -2886.374302 274.4557836 0.10289
## 59-47 -3.585500e+02 -1648.953479 931.8534789 0.57814
## 62-47 -2.406015e+03 -3696.418294 -1115.6113359 0.00051 ***
## 63-47 -1.050941e+03 -2168.462935 66.5814532 0.06462 .
## 65-47 -1.058756e+03 -2639.170598 521.6594873 0.18375
## 67-47 -1.990293e+03 -3280.696072 -699.8891136 0.00331 **
## 68-47 -8.482593e+01 -1665.240969 1495.5891169 0.91431
## 69-47 -4.079926e+02 -1698.396072 882.4108864 0.52710
## 71-47 -1.308259e+03 -2888.674302 272.1557836 0.10230
## 74-47 -5.231500e+02 -1813.553479 767.2534789 0.41809
## 75-47 -2.718074e+03 -4298.489117 -1137.6590312 0.00120 **
## 76-47 2.150741e+02 -1365.340969 1795.4891169 0.78506
## 77-47 -1.298576e+03 -2588.979405 -8.1724470 0.04863 *
## 78-47 -1.156096e+03 -2334.068119 21.8755265 0.05421 .

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## 80-47 -2.515456e+03 -4095.870598 -935.0405127 0.00251 **
## 84-47 -7.217074e+02 -2012.110886 568.6960715 0.26561
## 86-47 -1.974843e+03 -3265.246072 -684.4391136 0.00354 **
## 89-47 -1.845074e+03 -3425.489117 -264.6590312 0.02319 *
## 93-47 -2.608426e+03 -4188.840969 -1028.0108831 0.00180 **
## 49-48 1.455250e+03 164.846521 2745.6534789 0.02799 *
## 50-48 -8.406623e+02 -2018.634169 337.3094772 0.15733
## 51-48 4.756241e+02 -814.779405 1766.0275530 0.46133
## 53-48 3.312852e+02 -959.118294 1621.6886641 0.60729
## 55-48 -4.877833e+02 -2068.198376 1092.6317095 0.53694
## 58-48 -1.316852e+01 -1593.583561 1567.2465243 0.98667
## 59-48 9.342407e+02 -356.162738 2224.6442197 0.15154
## 62-48 -1.113224e+03 -2403.627553 177.1794049 0.08905 .
## 63-48 2.418500e+02 -875.672194 1359.3721939 0.66470
## 65-48 2.340352e+02 -1346.379858 1814.4502281 0.76665
## 67-48 -6.975019e+02 -1987.905331 592.9016271 0.28175
## 68-48 1.207965e+03 -372.450228 2788.3798577 0.13054
## 69-48 8.847981e+02 -405.605331 2175.2016271 0.17387
## 71-48 -1.546852e+01 -1595.883561 1564.9465243 0.98434
## 74-48 7.696407e+02 -520.762738 2060.0442197 0.23563
## 75-48 -1.425283e+03 -3005.698376 155.1317095 0.07592 .
## 76-48 1.507865e+03 -72.550228 3088.2798577 0.06097 .
## 77-48 -5.785185e+00 -1296.188664 1284.6182938 0.99283
## 78-48 1.366944e+02 -1041.277378 1314.6662673 0.81608
## 80-48 -1.222665e+03 -2803.079858 357.7502281 0.12605
## 84-48 5.710833e+02 -719.320146 1861.4868123 0.37709
## 86-48 -6.820519e+02 -1972.455331 608.3516271 0.29240
## 89-48 -5.522833e+02 -2132.698376 1028.1317095 0.48477
## 93-48 -1.315635e+03 -2896.050228 264.7798577 0.10044
## 50-49 -2.295912e+03 -3473.884169 -1117.9405228 0.00030 ***
## 51-49 -9.796259e+02 -2270.029405 310.7775530 0.13309
## 53-49 -1.123965e+03 -2414.368294 166.4386641 0.08611 .
## 55-49 -1.943033e+03 -3523.448376 -362.6182905 0.01716 *
## 58-49 -1.468419e+03 -3048.833561 111.9965243 0.06777 .
## 59-49 -5.210093e+02 -1811.412738 769.3942197 0.41999
## 62-49 -2.568474e+03 -3858.877553 -1278.0705951 0.00023 ***
## 63-49 -1.213400e+03 -2330.922194 -95.8778061 0.03402 *
## 65-49 -1.221215e+03 -2801.629858 359.2002281 0.12648
## 67-49 -2.152752e+03 -3443.155331 -862.3483729 0.00162 **
## 68-49 -2.472852e+02 -1827.700228 1333.1298577 0.75387
## 69-49 -5.704519e+02 -1860.855331 719.9516271 0.37761
## 71-49 -1.470719e+03 -3051.133561 109.6965243 0.06735 .
## 74-49 -6.856093e+02 -1976.012738 604.7942197 0.28992
## 75-49 -2.880533e+03 -4460.948376 -1300.1182905 0.00065 ***
## 76-49 5.261481e+01 -1527.800228 1633.0298577 0.94678
## 77-49 -1.461035e+03 -2751.438664 -170.6317062 0.02741 *
## 78-49 -1.318556e+03 -2496.527378 -140.5837327 0.02912 *
## 80-49 -2.677915e+03 -4258.329858 -1097.4997719 0.00139 **
## 84-49 -8.841667e+02 -2174.570146 406.2368123 0.17417
## 86-49 -2.137302e+03 -3427.705331 -846.8983729 0.00174 **
## 89-49 -2.007533e+03 -3587.948376 -427.1182905 0.01400 *
## 93-49 -2.770885e+03 -4351.300228 -1190.4701423 0.00099 ***
## 51-50 1.316286e+03 138.314597 2494.2582426 0.02938 *
## 53-50 1.171948e+03 -6.024292 2349.9193537 0.05113 .

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##	55-50	3.528790e+02	-1137.150580	1842.9086042	0.63535	
##	58-50	8.274938e+02	-662.535765	2317.5234190	0.26894	
##	59-50	1.774903e+03	596.931264	2952.8749093	0.00403	**
##	62-50	-2.725617e+02	-1450.533551	905.4100944	0.64312	
##	63-50	1.082512e+03	96.950409	2068.0742822	0.03210	*
##	65-50	1.074698e+03	-415.332061	2564.7271227	0.15305	
##	67-50	1.431605e+02	-1034.811329	1321.1323167	0.80755	
##	68-50	2.048627e+03	558.597569	3538.6567524	0.00819	**
##	69-50	1.725460e+03	547.488671	2903.4323167	0.00507	**
##	71-50	8.251938e+02	-664.835765	2315.2234190	0.27025	
##	74-50	1.610303e+03	432.331264	2788.2749093	0.00853	**
##	75-50	-5.846210e+02	-2074.650580	905.4086042	0.43314	
##	76-50	2.348527e+03	858.497569	3838.5567524	0.00274	**
##	77-50	8.348772e+02	-343.094662	2012.8489833	0.16014	
##	78-50	9.773568e+02	-76.253238	2030.9668187	0.06820	.
##	80-50	-3.820025e+02	-1872.032061	1108.0271227	0.60779	
##	84-50	1.411746e+03	233.773856	2589.7175019	0.01997	*
##	86-50	1.586105e+02	-1019.361329	1336.5823167	0.78727	
##	89-50	2.883790e+02	-1201.650580	1778.4086042	0.69824	
##	93-50	-4.749728e+02	-1965.002431	1015.0567524	0.52373	
##	53-51	-1.443389e+02	-1434.742368	1146.0645901	0.82260	
##	55-51	-9.634074e+02	-2543.822450	617.0076355	0.22562	
##	58-51	-4.887926e+02	-2069.207635	1091.6224503	0.53610	
##	59-51	4.586167e+02	-831.786812	1749.0201456	0.47741	
##	62-51	-1.588848e+03	-2879.251627	-298.4446692	0.01700	*
##	63-51	-2.337741e+02	-1351.296268	883.7481198	0.67522	
##	65-51	-2.415889e+02	-1822.003932	1338.8261540	0.75936	
##	67-51	-1.173126e+03	-2463.529405	117.2775530	0.07367	.
##	68-51	7.323407e+02	-848.074302	2312.7557836	0.35526	
##	69-51	4.091741e+02	-881.229405	1699.5775530	0.52591	
##	71-51	-4.910926e+02	-2071.507635	1089.3224503	0.53420	
##	74-51	2.940167e+02	-996.386812	1584.4201456	0.64819	
##	75-51	-1.900907e+03	-3481.322450	-320.4923645	0.01955	*
##	76-51	1.032241e+03	-548.174302	2612.6557836	0.19475	
##	77-51	-4.814093e+02	-1771.812738	808.9942197	0.45593	
##	78-51	-3.389296e+02	-1516.901452	839.0421932	0.56478	
##	80-51	-1.698289e+03	-3278.703932	-117.8738460	0.03581	*
##	84-51	9.545926e+01	-1194.944220	1385.8627382	0.88210	
##	86-51	-1.157676e+03	-2448.079405	132.7275530	0.07740	.
##	89-51	-1.027907e+03	-2608.322450	552.5076355	0.19659	
##	93-51	-1.791259e+03	-3371.674302	-210.8442164	0.02726	*
##	55-53	-8.190685e+02	-2399.483561	761.3465243	0.30178	
##	58-53	-3.444537e+02	-1924.868747	1235.9613392	0.66247	
##	59-53	6.029556e+02	-687.447923	1893.3590345	0.35129	
##	62-53	-1.444509e+03	-2734.912738	-154.1057803	0.02911	*
##	63-53	-8.943519e+01	-1206.957379	1028.0870087	0.87254	
##	65-53	-9.725000e+01	-1677.665043	1483.1650429	0.90182	
##	67-53	-1.028787e+03	-2319.190516	261.6164419	0.11519	
##	68-53	8.766796e+02	-703.735413	2457.0946725	0.26948	
##	69-53	5.535130e+02	-736.890516	1843.9164419	0.39181	
##	71-53	-3.467537e+02	-1927.168747	1233.6613392	0.66036	
##	74-53	4.383556e+02	-852.047923	1728.7590345	0.49697	
##	75-53	-1.756569e+03	-3336.983561	-176.1534757	0.03021	*
##	76-53	1.176580e+03	-403.835413	2756.9946725	0.14057	



```

## 77-53 -3.370704e+02 -1627.473849 953.3331086 0.60105
## 78-53 -1.945907e+02 -1372.562564 983.3810821 0.74065
## 80-53 -1.553950e+03 -3134.365043 26.4650429 0.05379 .
## 84-53 2.397981e+02 -1050.605331 1530.2016271 0.70968
## 86-53 -1.013337e+03 -2303.740516 277.0664419 0.12059
## 89-53 -8.835685e+02 -2463.983561 696.8465243 0.26579
## 93-53 -1.646920e+03 -3227.335413 -66.5053275 0.04149 *
## 58-55 4.746148e+02 -1350.291286 2299.5209157 0.60263
## 59-55 1.422024e+03 -158.390969 3002.4391169 0.07657 .
## 62-55 -6.254407e+02 -2205.855784 954.9743021 0.42920
## 63-55 7.296333e+02 -713.081615 2172.3482820 0.31347
## 65-55 7.218185e+02 -1103.087582 2546.7246194 0.42944
## 67-55 -2.097185e+02 -1790.133561 1370.6965243 0.79028
## 68-55 1.695748e+03 -129.157953 3520.6542490 0.06774 .
## 69-55 1.372581e+03 -207.833561 2952.9965243 0.08699 .
## 71-55 4.723148e+02 -1352.591286 2297.2209157 0.60438
## 74-55 1.257424e+03 -322.990969 2837.8391169 0.11592
## 75-55 -9.375000e+02 -2762.406101 887.4061009 0.30598
## 76-55 1.995648e+03 170.742047 3820.5542490 0.03282 *
## 77-55 4.819981e+02 -1098.416895 2062.4131910 0.54176
## 78-55 6.244778e+02 -865.551814 2114.5073696 0.40268
## 80-55 -7.348815e+02 -2559.787582 1090.0246194 0.42120
## 84-55 1.058867e+03 -521.548376 2639.2817095 0.18371
## 86-55 -1.942685e+02 -1774.683561 1386.1465243 0.80539
## 89-55 -6.450000e+01 -1889.406101 1760.4061009 0.94351
## 93-55 -8.278519e+02 -2652.757953 997.0542490 0.36537
## 59-58 9.474093e+02 -633.005784 2527.8243021 0.23329
## 62-58 -1.100056e+03 -2680.470598 480.3594873 0.16758
## 63-58 2.550185e+02 -1187.696430 1697.7334672 0.72323
## 65-58 2.472037e+02 -1577.702397 2072.1098046 0.78602
## 67-58 -6.843333e+02 -2264.748376 896.0817095 0.38738
## 68-58 1.221133e+03 -603.772768 3046.0394342 0.18425
## 69-58 8.979667e+02 -682.448376 2478.3817095 0.25819
## 71-58 -2.300000e+00 -1827.206101 1822.6061009 0.99798
## 74-58 7.828093e+02 -797.605784 2363.2243021 0.32343
## 75-58 -1.412115e+03 -3237.020916 412.7912860 0.12597
## 76-58 1.521033e+03 -303.872768 3345.9394342 0.10004
## 77-58 7.383333e+00 -1573.031710 1587.7983762 0.99253
## 78-58 1.498630e+02 -1340.166629 1639.8925548 0.84022
## 80-58 -1.209496e+03 -3034.402397 615.4098046 0.18838
## 84-58 5.842519e+02 -996.163191 2164.6668947 0.46000
## 86-58 -6.688833e+02 -2249.298376 911.5317095 0.39810
## 89-58 -5.391148e+02 -2364.020916 1285.7912860 0.55445
## 93-58 -1.302467e+03 -3127.372768 522.4394342 0.15729
## 62-59 -2.047465e+03 -3337.868294 -757.0613359 0.00258 **
## 63-59 -6.923907e+02 -1809.912935 425.1314532 0.21824
## 65-59 -7.002056e+02 -2280.620598 880.2094873 0.37656
## 67-59 -1.631743e+03 -2922.146072 -341.3391136 0.01441 *
## 68-59 2.737241e+02 -1306.690969 1854.1391169 0.72858
## 69-59 -4.944259e+01 -1339.846072 1240.9608864 0.93877
## 71-59 -9.497093e+02 -2530.124302 630.7057836 0.23218
## 74-59 -1.646000e+02 -1455.003479 1125.8034789 0.79822
## 75-59 -2.359524e+03 -3939.939117 -779.1090312 0.00435 **
## 76-59 5.736241e+02 -1006.790969 2154.0391169 0.46816

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## 77-59 -9.400259e+02 -2230.429405 350.3775530 0.14908
## 78-59 -7.975463e+02 -1975.518119 380.4255265 0.17923
## 80-59 -2.156906e+03 -3737.320598 -576.4905127 0.00863 **
## 84-59 -3.631574e+02 -1653.560886 927.2460715 0.57329
## 86-59 -1.616293e+03 -2906.696072 -325.8891136 0.01530 *
## 89-59 -1.486524e+03 -3066.939117 93.8909688 0.06457 .
## 93-59 -2.249876e+03 -3830.290969 -669.4608831 0.00633 **
## 63-62 1.355074e+03 237.551880 2472.5962680 0.01864 *
## 65-62 1.347259e+03 -233.155784 2927.6743021 0.09277 .
## 67-62 4.157222e+02 -874.681257 1706.1257012 0.51934
## 68-62 2.321189e+03 740.773846 3901.6039318 0.00496 **
## 69-62 1.998022e+03 707.618743 3288.4257012 0.00320 **
## 71-62 1.097756e+03 -482.659487 2678.1705984 0.16845
## 74-62 1.882865e+03 592.461336 3173.2682938 0.00523 **
## 75-62 -3.120593e+02 -1892.474302 1268.3557836 0.69245
## 76-62 2.621089e+03 1040.673846 4201.5039318 0.00172 **
## 77-62 1.107439e+03 -182.964590 2397.8423678 0.09067 .
## 78-62 1.249919e+03 71.946696 2427.8903414 0.03808 *
## 80-62 -1.094407e+02 -1689.855784 1470.9743021 0.88959
## 84-62 1.684307e+03 393.903928 2974.7108864 0.01173 *
## 86-62 4.311722e+02 -859.231257 1721.5757012 0.50401
## 89-62 5.609407e+02 -1019.474302 2141.3557836 0.47799
## 93-62 -2.024111e+02 -1782.826154 1378.0039318 0.79742
## 65-63 -7.814815e+00 -1450.529763 1434.9001339 0.99133
## 67-63 -9.393519e+02 -2056.874046 178.1703420 0.09728 .
## 68-63 9.661148e+02 -476.600134 2408.8297635 0.18393
## 69-63 6.429481e+02 -474.574046 1760.4703420 0.25234
## 71-63 -2.573185e+02 -1700.033467 1185.3964301 0.72084
## 74-63 5.277907e+02 -589.731453 1645.3129346 0.34619
## 75-63 -1.667133e+03 -3109.848282 -224.4183847 0.02455 *
## 76-63 1.266015e+03 -176.700134 2708.7297635 0.08387 .
## 77-63 -2.476352e+02 -1365.157379 869.8870087 0.65720
## 78-63 -1.051556e+02 -1090.717492 880.4063810 0.83065
## 80-63 -1.464515e+03 -2907.229763 -21.7998661 0.04678 *
## 84-63 3.292333e+02 -788.288861 1446.7555272 0.55553
## 86-63 -9.239019e+02 -2041.424046 193.6203420 0.10273
## 89-63 -7.941333e+02 -2236.848282 648.5816153 0.27314
## 93-63 -1.557485e+03 -3000.200134 -114.7702365 0.03501 *
## 67-65 -9.315370e+02 -2511.952080 648.8780058 0.24109
## 68-65 9.739296e+02 -850.976471 2798.8357305 0.28780
## 69-65 6.507630e+02 -929.652080 2231.1780058 0.41090
## 71-65 -2.495037e+02 -2074.409805 1575.4023972 0.78408
## 74-65 5.356056e+02 -1044.809487 2116.0205984 0.49798
## 75-65 -1.659319e+03 -3484.224619 165.5875823 0.07363 .
## 76-65 1.273830e+03 -551.076471 3098.7357305 0.16641
## 77-65 -2.398204e+02 -1820.235413 1340.5946725 0.76106
## 78-65 -9.734074e+01 -1587.370333 1392.6888511 0.89580
## 80-65 -1.456700e+03 -3281.606101 368.2061009 0.11476
## 84-65 3.370481e+02 -1243.366895 1917.4631910 0.66928
## 86-65 -9.160870e+02 -2496.502080 664.3280058 0.24885
## 89-65 -7.863185e+02 -2611.224619 1038.5875823 0.38970
## 93-65 -1.549670e+03 -3374.576471 275.2357305 0.09400 .
## 68-67 1.905467e+03 325.051624 3485.8817095 0.01928 *
## 69-67 1.582300e+03 291.896521 2872.7034789 0.01743 *

```

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## 71-67 6.820333e+02 -898.381710 2262.4483762 0.38896
## 74-67 1.467143e+03 176.739114 2757.5460715 0.02681 *
## 75-67 -7.277815e+02 -2308.196524 852.6335614 0.35824
## 76-67 2.205367e+03 624.951624 3785.7817095 0.00735 **
## 77-67 6.917167e+02 -598.686812 1982.1201456 0.28570
## 78-67 8.341963e+02 -343.775527 2012.1681191 0.16047
## 80-67 -5.251630e+02 -2105.578006 1055.2520799 0.50635
## 84-67 1.268585e+03 -21.818294 2558.9886641 0.05383 .
## 86-67 1.545000e+01 -1274.953479 1305.8534789 0.98085
## 89-67 1.452185e+02 -1435.196524 1725.6335614 0.85386
## 93-67 -6.181333e+02 -2198.548376 962.2817095 0.43457
## 69-68 -3.231667e+02 -1903.581710 1257.2483762 0.68211
## 71-68 -1.223433e+03 -3048.339434 601.4727675 0.18344
## 74-68 -4.383241e+02 -2018.739117 1142.0909688 0.57884
## 75-68 -2.633248e+03 -4458.154249 -808.3420473 0.00570 **
## 76-68 2.999000e+02 -1525.006101 2124.8061009 0.74194
## 77-68 -1.213750e+03 -2794.165043 366.6650429 0.12876
## 78-68 -1.071270e+03 -2561.299962 418.7592215 0.15434
## 80-68 -2.430630e+03 -4255.535730 -605.7235288 0.01023 *
## 84-68 -6.368815e+02 -2217.296524 943.5335614 0.42087
## 86-68 -1.890017e+03 -3470.431710 -309.6016238 0.02022 *
## 89-68 -1.760248e+03 -3585.154249 64.6579527 0.05830 .
## 93-68 -2.523600e+03 -4348.506101 -698.6938991 0.00785 **
## 71-69 -9.002667e+02 -2480.681710 680.1483762 0.25699
## 74-69 -1.151574e+02 -1405.560886 1175.2460715 0.85802
## 75-69 -2.310081e+03 -3890.496524 -729.6664386 0.00516 **
## 76-69 6.230667e+02 -957.348376 2203.4817095 0.43094
## 77-69 -8.905833e+02 -2180.986812 399.8201456 0.17113
## 78-69 -7.481037e+02 -1926.075527 429.8681191 0.20714
## 80-69 -2.107463e+03 -3687.878006 -527.0479201 0.01015 *
## 84-69 -3.137148e+02 -1604.118294 976.6886641 0.62642
## 86-69 -1.566850e+03 -2857.253479 -276.4465211 0.01849 *
## 89-69 -1.437081e+03 -3017.496524 143.3335614 0.07361 .
## 93-69 -2.200433e+03 -3780.848376 -620.0182905 0.00747 **
## 74-71 7.851093e+02 -795.305784 2365.5243021 0.32203
## 75-71 -1.409815e+03 -3234.720916 415.0912860 0.12657
## 76-71 1.523333e+03 -301.572768 3348.2394342 0.09954 .
## 77-71 9.683333e+00 -1570.731710 1590.0983762 0.99020
## 78-71 1.521630e+02 -1337.866629 1642.1925548 0.83780
## 80-71 -1.207196e+03 -3032.102397 617.7098046 0.18921
## 84-71 5.865519e+02 -993.863191 2166.9668947 0.45825
## 86-71 -6.665833e+02 -2246.998376 913.8317095 0.39971
## 89-71 -5.368148e+02 -2361.720916 1288.0912860 0.55613
## 93-71 -1.300167e+03 -3125.072768 524.7394342 0.15801
## 75-74 -2.194924e+03 -3775.339117 -614.5090312 0.00761 **
## 76-74 7.382241e+02 -842.190969 2318.6391169 0.35145
## 77-74 -7.754259e+02 -2065.829405 514.9775530 0.23218
## 78-74 -6.329463e+02 -1810.918119 545.0255265 0.28458
## 80-74 -1.992306e+03 -3572.720598 -411.8905127 0.01470 *
## 84-74 -1.985574e+02 -1488.960886 1091.8460715 0.75782
## 86-74 -1.451693e+03 -2742.096072 -161.2891136 0.02836 *
## 89-74 -1.321924e+03 -2902.339117 258.4909688 0.09888 .
## 93-74 -2.085276e+03 -3665.690969 -504.8608831 0.01091 *
## 76-75 2.933148e+03 1108.242047 4758.0542490 0.00230 **

```

```

## 77-75 1.419498e+03 -160.916895 2999.9131910 0.07707 .
## 78-75 1.561978e+03 71.948186 3052.0073696 0.04035 *
## 80-75 2.026185e+02 -1622.287582 2027.5246194 0.82389
## 84-75 1.996367e+03 415.951624 3576.7817095 0.01451 *
## 86-75 7.432315e+02 -837.183561 2323.6465243 0.34822
## 89-75 8.730000e+02 -951.906101 2697.9061009 0.34007
## 93-75 1.096481e+02 -1715.257953 1934.5542490 0.90412
## 77-76 -1.513650e+03 -3094.065043 66.7650429 0.06003 .
## 78-76 -1.371170e+03 -2861.199962 118.8592215 0.07034 .
## 80-76 -2.730530e+03 -4555.435730 -905.6235288 0.00427 **
## 84-76 -9.367815e+02 -2517.196524 643.6335614 0.23849
## 86-76 -2.189917e+03 -3770.331710 -609.5016238 0.00774 **
## 89-76 -2.060148e+03 -3885.054249 -235.2420473 0.02784 *
## 93-76 -2.823500e+03 -4648.406101 -998.5938991 0.00322 **
## 78-77 1.424796e+02 -1035.492193 1320.4514525 0.80845
## 80-77 -1.216880e+03 -2797.294672 363.5354132 0.12780
## 84-77 5.768685e+02 -713.534960 1867.2719975 0.37232
## 86-77 -6.762667e+02 -1966.670146 614.1368123 0.29646
## 89-77 -5.464981e+02 -2126.913191 1033.9168947 0.48933
## 93-77 -1.309850e+03 -2890.265043 270.5650429 0.10190
## 80-78 -1.359359e+03 -2849.388851 130.6703326 0.07270 .
## 84-78 4.343889e+02 -743.582934 1612.3607117 0.46112
## 86-78 -8.187463e+02 -1996.718119 359.2255265 0.16818
## 89-78 -6.889778e+02 -2179.007370 801.0518141 0.35628
## 93-78 -1.452330e+03 -2942.359221 37.6999622 0.05582 .
## 84-80 1.793748e+03 213.333105 3374.1631910 0.02706 *
## 86-80 5.406130e+02 -1039.802080 2121.0280058 0.49399
## 89-80 6.703815e+02 -1154.524619 2495.2875823 0.46282
## 93-80 -9.297037e+01 -1917.876471 1731.9357305 0.91865
## 86-84 -1.253135e+03 -2543.538664 37.2682938 0.05668 .
## 89-84 -1.123367e+03 -2703.781710 457.0483762 0.15895
## 93-84 -1.886719e+03 -3467.133561 -306.3034757 0.02042 *
## 89-86 1.297685e+02 -1450.646524 1710.1835614 0.86925
## 93-86 -6.335833e+02 -2213.998376 946.8317095 0.42326
## 93-89 -7.633519e+02 -2588.257953 1061.5542490 0.40358
##
## $gender
##      diff      lwr.ci      upr.ci      pval
## M-F -777.5626 -1026.585 -528.5402 1.4e-07 ***
##
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

#### TukeyHSD(model2)

```

## Tukey multiple comparisons of means
## 95% family-wise confidence level
##
## Fit: aov(formula = response ~ treatments + age + gender)
##
## $treatments
##      diff      lwr      upr p adj
## 60-30 2160.915 1695.517 2626.312 0
## 90-30 4346.967 3881.569 4812.364 0
## 120-30 5912.796 5447.399 6378.194 0

```

```

## 90-60 2186.052 1720.654 2651.449    0
## 120-60 3751.881 3286.484 4217.279    0
## 120-90 1565.830 1100.432 2031.227    0
##
## $age
##          diff          lwr          upr          p adj
## 4-2      6.951000e+02 -3293.88569 4684.08569 1.0000000
## 5-2      9.132148e+02 -3075.77088 4902.20051 1.0000000
## 8-2      2.393400e+03 -1595.58569 6382.38569 0.8981711
## 10-2     1.004415e+03 -2984.57088 4993.40051 1.0000000
## 13-2     5.720000e+02 -2882.56295 4026.56295 1.0000000
## 14-2    -2.070815e+02 -4196.06717 3781.90421 1.0000000
## 15-2     1.798957e+03 -1655.60554 5253.52035 0.9827778
## 16-2     2.389000e+03 -1599.98569 6377.98569 0.9000913
## 18-2     2.424419e+03 -1564.56717 6413.40421 0.8839915
## 19-2     7.422148e+02 -3246.77088 4731.20051 1.0000000
## 20-2     8.010993e+02 -2288.75577 3890.95429 1.0000000
## 21-2     1.159988e+03 -1993.58212 4313.55805 0.9999878
## 22-2     1.500016e+03 -1756.97713 4757.00923 0.9978496
## 23-2     1.007515e+03 -2981.47088 4996.50051 1.0000000
## 24-2     1.734821e+03 -1418.74879 4888.39138 0.9630034
## 25-2     7.511148e+02 -3237.87088 4740.10051 1.0000000
## 26-2     4.028864e+02 -2643.75173 3449.52457 1.0000000
## 27-2     1.390622e+03 -1866.37096 4647.61540 0.9995408
## 28-2    -3.110519e+02 -4300.03754 3677.93384 1.0000000
## 29-2     9.159148e+02 -3073.07088 4904.90051 1.0000000
## 30-2     2.509748e+03 -1479.23754 6498.73384 0.8392954
## 31-2     5.512333e+02 -2903.32961 4005.79628 1.0000000
## 32-2    -6.628019e+02 -4117.36480 2791.76109 1.0000000
## 33-2     1.531515e+03 -2457.47088 5520.50051 0.9999626
## 34-2     9.995148e+02 -2989.47088 4988.50051 1.0000000
## 35-2     7.879938e+02 -2468.99935 4044.98701 1.0000000
## 36-2     1.880119e+03 -2108.86717 5869.10421 0.9966896
## 39-2     2.431919e+03 -1557.06717 6420.90421 0.8803947
## 41-2     1.993494e+03 -1263.49935 5250.48701 0.8756944
## 42-2     2.714719e+03 -1274.26717 6703.70421 0.7029228
## 43-2     1.900548e+03 -2088.43754 5889.53384 0.9959758
## 44-2     1.012515e+03 -2976.47088 5001.50051 1.0000000
## 45-2     2.074400e+03 -1914.58569 6063.38569 0.9831267
## 46-2     1.004415e+03 -2984.57088 4993.40051 1.0000000
## 47-2     2.308874e+03 -1145.68887 5763.43702 0.7382926
## 48-2     1.016083e+03 -2438.47961 4470.64628 1.0000000
## 49-2     2.471333e+03 -983.22961 5925.89628 0.5962722
## 50-2     1.754210e+02 -3081.57219 3432.41417 1.0000000
## 51-2     1.491707e+03 -1962.85554 4946.27035 0.9994146
## 53-2     1.347369e+03 -2107.19443 4801.93146 0.9999443
## 55-2     5.283000e+02 -3460.68569 4517.28569 1.0000000
## 58-2     1.002915e+03 -2986.07088 4991.90051 1.0000000
## 59-2     1.950324e+03 -1504.23887 5404.88702 0.9486776
## 62-2    -9.714074e+01 -3551.70369 3357.42220 1.0000000
## 63-2     1.257933e+03 -1895.63675 4411.50342 0.9999034
## 65-2     1.250119e+03 -2738.86717 5239.10421 0.9999999
## 67-2     3.185815e+02 -3135.98146 3773.14443 1.0000000
## 68-2     2.224048e+03 -1764.93754 6213.03384 0.9560546

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## 69-2  1.900881e+03 -1553.68146 5355.44443 0.9628814
## 71-2  1.000615e+03 -2988.37088 4989.60051 1.0000000
## 74-2  1.785724e+03 -1668.83887 5240.28702 0.9845799
## 75-2 -4.092000e+02 -4398.18569 3579.78569 1.0000000
## 76-2  2.523948e+03 -1465.03754 6512.93384 0.8310795
## 77-2  1.010298e+03 -2444.26480 4464.86109 1.0000000
## 78-2  1.152778e+03 -2104.21540 4409.77096 0.9999958
## 80-2 -2.065815e+02 -4195.56717 3782.40421 1.0000000
## 84-2  1.587167e+03 -1867.39628 5041.72961 0.9979466
## 86-2  3.340315e+02 -3120.53146 3788.59443 1.0000000
## 89-2  4.638000e+02 -3525.18569 4452.78569 1.0000000
## 93-2 -2.995519e+02 -4288.53754 3689.43384 1.0000000
## 5-4   2.181148e+02 -3770.87088 4207.10051 1.0000000
## 8-4   1.698300e+03 -2290.68569 5687.28569 0.9995684
## 10-4  3.093148e+02 -3679.67088 4298.30051 1.0000000
## 13-4 -1.231000e+02 -3577.66295 3331.46295 1.0000000
## 14-4 -9.021815e+02 -4891.16717 3086.80421 1.0000000
## 15-4  1.103857e+03 -2350.70554 4558.42035 0.9999998
## 16-4  1.693900e+03 -2295.08569 5682.88569 0.9995922
## 18-4  1.729319e+03 -2259.66717 5718.30421 0.9993631
## 19-4  4.711481e+01 -3941.87088 4036.10051 1.0000000
## 20-4  1.059993e+02 -2983.85577 3195.85429 1.0000000
## 21-4  4.648880e+02 -2688.68212 3618.45805 1.0000000
## 22-4  8.049160e+02 -2452.07713 4061.90923 1.0000000
## 23-4  3.124148e+02 -3676.57088 4301.40051 1.0000000
## 24-4  1.039721e+03 -2113.84879 4193.29138 0.9999995
## 25-4  5.601481e+01 -3932.97088 4045.00051 1.0000000
## 26-4 -2.922136e+02 -3338.85173 2754.42457 1.0000000
## 27-4  6.955222e+02 -2561.47096 3952.51540 1.0000000
## 28-4 -1.006152e+03 -4995.13754 2982.83384 1.0000000
## 29-4  2.208148e+02 -3768.17088 4209.80051 1.0000000
## 30-4  1.814648e+03 -2174.33754 5803.63384 0.9983040
## 31-4 -1.438667e+02 -3598.42961 3310.69628 1.0000000
## 32-4 -1.357902e+03 -4812.46480 2096.66109 0.9999325
## 33-4  8.364148e+02 -3152.57088 4825.40051 1.0000000
## 34-4  3.044148e+02 -3684.57088 4293.40051 1.0000000
## 35-4  9.289383e+01 -3164.09935 3349.88701 1.0000000
## 36-4  1.185019e+03 -2803.96717 5174.00421 1.0000000
## 39-4  1.736819e+03 -2252.16717 5725.80421 0.9993022
## 41-4  1.298394e+03 -1958.59935 4555.38701 0.9999048
## 42-4  2.019619e+03 -1969.36717 6008.60421 0.9888089
## 43-4  1.205448e+03 -2783.53754 5194.43384 1.0000000
## 44-4  3.174148e+02 -3671.57088 4306.40051 1.0000000
## 45-4  1.379300e+03 -2609.68569 5368.28569 0.9999979
## 46-4  3.093148e+02 -3679.67088 4298.30051 1.0000000
## 47-4  1.613774e+03 -1840.78887 5068.33702 0.9971907
## 48-4  3.209833e+02 -3133.57961 3775.54628 1.0000000
## 49-4  1.776233e+03 -1678.32961 5230.79628 0.9857785
## 50-4 -5.196790e+02 -3776.67219 2737.31417 1.0000000
## 51-4  7.966074e+02 -2657.95554 4251.17035 1.0000000
## 53-4  6.522685e+02 -2802.29443 4106.83146 1.0000000
## 55-4 -1.668000e+02 -4155.78569 3822.18569 1.0000000
## 58-4  3.078148e+02 -3681.17088 4296.80051 1.0000000
## 59-4  1.255224e+03 -2199.33887 4709.78702 0.9999913

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## 62-4 -7.922407e+02 -4246.80369 2662.32220 1.0000000
## 63-4 5.628333e+02 -2590.73675 3716.40342 1.0000000
## 65-4 5.550185e+02 -3433.96717 4544.00421 1.0000000
## 67-4 -3.765185e+02 -3831.08146 3078.04443 1.0000000
## 68-4 1.528948e+03 -2460.03754 5517.93384 0.9999641
## 69-4 1.205781e+03 -2248.78146 4660.34443 0.9999972
## 71-4 3.055148e+02 -3683.47088 4294.50051 1.0000000
## 74-4 1.090624e+03 -2363.93887 4545.18702 0.9999999
## 75-4 -1.104300e+03 -5093.28569 2884.68569 1.0000000
## 76-4 1.828848e+03 -2160.13754 5817.83384 0.9980279
## 77-4 3.151981e+02 -3139.36480 3769.76109 1.0000000
## 78-4 4.576778e+02 -2799.31540 3714.67096 1.0000000
## 80-4 -9.016815e+02 -4890.66717 3087.30421 1.0000000
## 84-4 8.920667e+02 -2562.49628 4346.62961 1.0000000
## 86-4 -3.610685e+02 -3815.63146 3093.49443 1.0000000
## 89-4 -2.313000e+02 -4220.28569 3757.68569 1.0000000
## 93-4 -9.946519e+02 -4983.63754 2994.33384 1.0000000
## 8-5 1.480185e+03 -2508.80051 5469.17088 0.9999846
## 10-5 9.120000e+01 -3897.78569 4080.18569 1.0000000
## 13-5 -3.412148e+02 -3795.77776 3113.34813 1.0000000
## 14-5 -1.120296e+03 -5109.28199 2868.68940 1.0000000
## 15-5 8.857426e+02 -2568.82035 4340.30554 1.0000000
## 16-5 1.475785e+03 -2513.20051 5464.77088 0.9999858
## 18-5 1.511204e+03 -2477.78199 5500.18940 0.9999734
## 19-5 -1.710000e+02 -4159.98569 3817.98569 1.0000000
## 20-5 -1.121156e+02 -3201.97059 2977.73948 1.0000000
## 21-5 2.467731e+02 -2906.79694 3400.34323 1.0000000
## 22-5 5.868012e+02 -2670.19194 3843.79441 1.0000000
## 23-5 9.430000e+01 -3894.68569 4083.28569 1.0000000
## 24-5 8.216065e+02 -2331.96360 3975.17657 1.0000000
## 25-5 -1.621000e+02 -4151.08569 3826.88569 1.0000000
## 26-5 -5.103284e+02 -3556.96654 2536.30975 1.0000000
## 27-5 4.774074e+02 -2779.58577 3734.40059 1.0000000
## 28-5 -1.224267e+03 -5213.25236 2764.71903 0.9999999
## 29-5 2.700000e+00 -3986.28569 3991.68569 1.0000000
## 30-5 1.596533e+03 -2392.45236 5585.51903 0.9998953
## 31-5 -3.619815e+02 -3816.54443 3092.58146 1.0000000
## 32-5 -1.576017e+03 -5030.57961 1878.54628 0.9982074
## 33-5 6.183000e+02 -3370.68569 4607.28569 1.0000000
## 34-5 8.630000e+01 -3902.68569 4075.28569 1.0000000
## 35-5 -1.252210e+02 -3382.21417 3131.77219 1.0000000
## 36-5 9.669037e+02 -3022.08199 4955.88940 1.0000000
## 39-5 1.518704e+03 -2470.28199 5507.68940 0.9999698
## 41-5 1.080279e+03 -2176.71417 4337.27219 0.9999994
## 42-5 1.801504e+03 -2187.48199 5790.48940 0.9985294
## 43-5 9.873333e+02 -3001.65236 4976.31903 1.0000000
## 44-5 9.930000e+01 -3889.68569 4088.28569 1.0000000
## 45-5 1.161185e+03 -2827.80051 5150.17088 1.0000000
## 46-5 9.120000e+01 -3897.78569 4080.18569 1.0000000
## 47-5 1.395659e+03 -2058.90369 4850.22220 0.9998690
## 48-5 1.028685e+02 -3351.69443 3557.43146 1.0000000
## 49-5 1.558119e+03 -1896.44443 5012.68146 0.9985668
## 50-5 -7.377938e+02 -3994.78701 2519.19935 1.0000000
## 51-5 5.784926e+02 -2876.07035 4033.05554 1.0000000

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## 53-5  4.341537e+02 -3020.40924 3888.71665 1.0000000
## 55-5  -3.849148e+02 -4373.90051 3604.07088 1.0000000
## 58-5  8.970000e+01 -3899.28569 4078.68569 1.0000000
## 59-5  1.037109e+03 -2417.45369 4491.67220 1.0000000
## 62-5  -1.010356e+03 -4464.91850 2444.20739 1.0000000
## 63-5  3.447185e+02 -2808.85157 3498.28860 1.0000000
## 65-5  3.369037e+02 -3652.08199 4325.88940 1.0000000
## 67-5  -5.946333e+02 -4049.19628 2859.92961 1.0000000
## 68-5  1.310833e+03 -2678.15236 5299.81903 0.9999995
## 69-5  9.876667e+02 -2466.89628 4442.22961 1.0000000
## 71-5  8.740000e+01 -3901.58569 4076.38569 1.0000000
## 74-5  8.725093e+02 -2582.05369 4327.07220 1.0000000
## 75-5  -1.322415e+03 -5311.40051 2666.57088 0.9999994
## 76-5  1.610733e+03 -2378.25236 5599.71903 0.9998706
## 77-5  9.708333e+01 -3357.47961 3551.64628 1.0000000
## 78-5  2.395630e+02 -3017.43022 3496.55614 1.0000000
## 80-5  -1.119796e+03 -5108.78199 2869.18940 1.0000000
## 84-5  6.739519e+02 -2780.61109 4128.51480 1.0000000
## 86-5  -5.791833e+02 -4033.74628 2875.37961 1.0000000
## 89-5  -4.494148e+02 -4438.40051 3539.57088 1.0000000
## 93-5  -1.212767e+03 -5201.75236 2776.21903 1.0000000
## 10-8  -1.388985e+03 -5377.97088 2600.00051 0.9999974
## 13-8  -1.821400e+03 -5275.96295 1633.16295 0.9793503
## 14-8  -2.600481e+03 -6589.46717 1388.50421 0.7833189
## 15-8  -5.944426e+02 -4049.00554 2860.12035 1.0000000
## 16-8  -4.400000e+00 -3993.38569 3984.58569 1.0000000
## 18-8  3.101852e+01 -3957.96717 4020.00421 1.0000000
## 19-8  -1.651185e+03 -5640.17088 2337.80051 0.9997697
## 20-8  -1.592301e+03 -4682.15577 1497.55429 0.9852810
## 21-8  -1.233412e+03 -4386.98212 1920.15805 0.9999403
## 22-8  -8.933840e+02 -4150.37713 2363.60923 1.0000000
## 23-8  -1.385885e+03 -5374.87088 2603.10051 0.9999975
## 24-8  -6.585787e+02 -3812.14879 2494.99138 1.0000000
## 25-8  -1.642285e+03 -5631.27088 2346.70051 0.9997965
## 26-8  -1.990514e+03 -5037.15173 1056.12457 0.7795351
## 27-8  -1.002778e+03 -4259.77096 2254.21540 0.9999999
## 28-8  -2.704452e+03 -6693.43754 1284.53384 0.7105033
## 29-8  -1.477485e+03 -5466.47088 2511.50051 0.9999853
## 30-8  1.163481e+02 -3872.63754 4105.33384 1.0000000
## 31-8  -1.842167e+03 -5296.72961 1612.39628 0.9757310
## 32-8  -3.056202e+03 -6510.76480 398.36109 0.1674791
## 33-8  -8.618852e+02 -4850.87088 3127.10051 1.0000000
## 34-8  -1.393885e+03 -5382.87088 2595.10051 0.9999971
## 35-8  -1.605406e+03 -4862.39935 1651.58701 0.9927598
## 36-8  -5.132815e+02 -4502.26717 3475.70421 1.0000000
## 39-8  3.851852e+01 -3950.46717 4027.50421 1.0000000
## 41-8  -3.999062e+02 -3656.89935 2857.08701 1.0000000
## 42-8  3.213185e+02 -3667.66717 4310.30421 1.0000000
## 43-8  -4.928519e+02 -4481.83754 3496.13384 1.0000000
## 44-8  -1.380885e+03 -5369.87088 2608.10051 0.9999978
## 45-8  -3.190000e+02 -4307.98569 3669.98569 1.0000000
## 46-8  -1.388985e+03 -5377.97088 2600.00051 0.9999974
## 47-8  -8.452593e+01 -3539.08887 3370.03702 1.0000000
## 48-8  -1.377317e+03 -4831.87961 2077.24628 0.9999046

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## 49-8 7.793333e+01 -3376.62961 3532.49628 1.0000000
## 50-8 -2.217979e+03 -5474.97219 1039.01417 0.7016325
## 51-8 -9.016926e+02 -4356.25554 2552.87035 1.0000000
## 53-8 -1.046031e+03 -4500.59443 2408.53146 1.0000000
## 55-8 -1.865100e+03 -5854.08569 2123.88569 0.9971436
## 58-8 -1.390485e+03 -5379.47088 2598.50051 0.9999973
## 59-8 -4.430759e+02 -3897.63887 3011.48702 1.0000000
## 62-8 -2.490541e+03 -5945.10369 964.02220 0.5788854
## 63-8 -1.135467e+03 -4289.03675 2018.10342 0.9999932
## 65-8 -1.143281e+03 -5132.26717 2845.70421 1.0000000
## 67-8 -2.074819e+03 -5529.38146 1379.74443 0.8971168
## 68-8 -1.693519e+02 -4158.33754 3819.63384 1.0000000
## 69-8 -4.925185e+02 -3947.08146 2962.04443 1.0000000
## 71-8 -1.392785e+03 -5381.77088 2596.20051 0.9999972
## 74-8 -6.076759e+02 -4062.23887 2846.88702 1.0000000
## 75-8 -2.802600e+03 -6791.58569 1186.38569 0.6360963
## 76-8 1.305481e+02 -3858.43754 4119.53384 1.0000000
## 77-8 -1.383102e+03 -4837.66480 2071.46109 0.9998944
## 78-8 -1.240622e+03 -4497.61540 2016.37096 0.9999694
## 80-8 -2.599981e+03 -6588.96717 1389.00421 0.7836487
## 84-8 -8.062333e+02 -4260.79628 2648.32961 1.0000000
## 86-8 -2.059369e+03 -5513.93146 1395.19443 0.9048119
## 89-8 -1.929600e+03 -5918.58569 2059.38569 0.9947431
## 93-8 -2.692952e+03 -6681.93754 1296.03384 0.7189230
## 13-10 -4.324148e+02 -3886.97776 3022.14813 1.0000000
## 14-10 -1.211496e+03 -5200.48199 2777.48940 1.0000000
## 15-10 7.945426e+02 -2660.02035 4249.10554 1.0000000
## 16-10 1.384585e+03 -2604.40051 5373.57088 0.9999976
## 18-10 1.420004e+03 -2568.98199 5408.98940 0.9999951
## 19-10 -2.622000e+02 -4251.18569 3726.78569 1.0000000
## 20-10 -2.033156e+02 -3293.17059 2886.53948 1.0000000
## 21-10 1.555731e+02 -2997.99694 3309.14323 1.0000000
## 22-10 4.956012e+02 -2761.39194 3752.59441 1.0000000
## 23-10 3.100000e+00 -3985.88569 3992.08569 1.0000000
## 24-10 7.304065e+02 -2423.16360 3883.97657 1.0000000
## 25-10 -2.533000e+02 -4242.28569 3735.68569 1.0000000
## 26-10 -6.015284e+02 -3648.16654 2445.10975 1.0000000
## 27-10 3.862074e+02 -2870.78577 3643.20059 1.0000000
## 28-10 -1.315467e+03 -5304.45236 2673.51903 0.9999995
## 29-10 -8.850000e+01 -4077.48569 3900.48569 1.0000000
## 30-10 1.505333e+03 -2483.65236 5494.31903 0.9999760
## 31-10 -4.531815e+02 -3907.74443 3001.38146 1.0000000
## 32-10 -1.667217e+03 -5121.77961 1787.34628 0.9949507
## 33-10 5.271000e+02 -3461.88569 4516.08569 1.0000000
## 34-10 -4.900000e+00 -3993.88569 3984.08569 1.0000000
## 35-10 -2.164210e+02 -3473.41417 3040.57219 1.0000000
## 36-10 8.757037e+02 -3113.28199 4864.68940 1.0000000
## 39-10 1.427504e+03 -2561.48199 5416.48940 0.9999943
## 41-10 9.890790e+02 -2267.91417 4246.07219 1.0000000
## 42-10 1.710304e+03 -2278.68199 5699.28940 0.9994972
## 43-10 8.961333e+02 -3092.85236 4885.11903 1.0000000
## 44-10 8.100000e+00 -3980.88569 3997.08569 1.0000000
## 45-10 1.069985e+03 -2919.00051 5058.97088 1.0000000
## 46-10 9.094947e-13 -3988.98569 3988.98569 1.0000000

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## 47-10 1.304459e+03 -2150.10369 4759.02220 0.9999756
## 48-10 1.166852e+01 -3442.89443 3466.23146 1.0000000
## 49-10 1.466919e+03 -1987.64443 4921.48146 0.9995925
## 50-10 -8.289938e+02 -4085.98701 2427.99935 1.0000000
## 51-10 4.872926e+02 -2967.27035 3941.85554 1.0000000
## 53-10 3.429537e+02 -3111.60924 3797.51665 1.0000000
## 55-10 -4.761148e+02 -4465.10051 3512.87088 1.0000000
## 58-10 -1.500000e+00 -3990.48569 3987.48569 1.0000000
## 59-10 9.459093e+02 -2508.65369 4400.47220 1.0000000
## 62-10 -1.101556e+03 -4556.11850 2353.00739 0.9999998
## 63-10 2.535185e+02 -2900.05157 3407.08860 1.0000000
## 65-10 2.457037e+02 -3743.28199 4234.68940 1.0000000
## 67-10 -6.858333e+02 -4140.39628 2768.72961 1.0000000
## 68-10 1.219633e+03 -2769.35236 5208.61903 1.0000000
## 69-10 8.964667e+02 -2558.09628 4351.02961 1.0000000
## 71-10 -3.800000e+00 -3992.78569 3985.18569 1.0000000
## 74-10 7.813093e+02 -2673.25369 4235.87220 1.0000000
## 75-10 -1.413615e+03 -5402.60051 2575.37088 0.9999957
## 76-10 1.519533e+03 -2469.45236 5508.51903 0.9999694
## 77-10 5.883333e+00 -3448.67961 3460.44628 1.0000000
## 78-10 1.483630e+02 -3108.63022 3405.35614 1.0000000
## 80-10 -1.210996e+03 -5199.98199 2777.98940 1.0000000
## 84-10 5.827519e+02 -2871.81109 4037.31480 1.0000000
## 86-10 -6.703833e+02 -4124.94628 2784.17961 1.0000000
## 89-10 -5.406148e+02 -4529.60051 3448.37088 1.0000000
## 93-10 -1.303967e+03 -5292.95236 2685.01903 0.9999996
## 14-13 -7.790815e+02 -4233.64443 2675.48146 1.0000000
## 15-13 1.226957e+03 -1593.68143 4047.59624 0.9993159
## 16-13 1.817000e+03 -1637.56295 5271.56295 0.9800606
## 18-13 1.852419e+03 -1602.14443 5306.98146 0.9737751
## 19-13 1.702148e+02 -3284.34813 3624.77776 1.0000000
## 20-13 2.290993e+02 -2130.81650 2589.01502 1.0000000
## 21-13 5.879880e+02 -1854.75692 3030.73285 1.0000000
## 22-13 9.280160e+02 -1646.86314 3502.89524 0.9999930
## 23-13 4.355148e+02 -3019.04813 3890.07776 1.0000000
## 24-13 1.162821e+03 -1279.92359 3605.56618 0.9960386
## 25-13 1.791148e+02 -3275.44813 3633.67776 1.0000000
## 26-13 -1.691136e+02 -2472.15554 2133.92838 1.0000000
## 27-13 8.186222e+02 -1756.25697 3393.50141 0.9999998
## 28-13 -8.830519e+02 -4337.61480 2571.51109 1.0000000
## 29-13 3.439148e+02 -3110.64813 3798.47776 1.0000000
## 30-13 1.937748e+03 -1516.81480 5392.31109 0.9526062
## 31-13 -2.076667e+01 -2841.40550 2799.87217 1.0000000
## 32-13 -1.234802e+03 -4055.44069 1585.83698 0.9992182
## 33-13 9.595148e+02 -2495.04813 4414.07776 1.0000000
## 34-13 4.275148e+02 -3027.04813 3882.07776 1.0000000
## 35-13 2.159938e+02 -2358.88537 2790.87302 1.0000000
## 36-13 1.308119e+03 -2146.44443 4762.68146 0.9999738
## 39-13 1.859919e+03 -1594.64443 5314.48146 0.9722703
## 41-13 1.421494e+03 -1153.38537 3996.37302 0.9612652
## 42-13 2.142719e+03 -1311.84443 5597.28146 0.8589098
## 43-13 1.328548e+03 -2126.01480 4783.11109 0.9999609
## 44-13 4.405148e+02 -3014.04813 3895.07776 1.0000000
## 45-13 1.502400e+03 -1952.16295 4956.96295 0.9993189

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## 46-13 4.324148e+02 -3022.14813 3886.97776 1.0000000
## 47-13 1.736874e+03 -1083.76476 4557.51291 0.8682481
## 48-13 4.440833e+02 -2376.55550 3264.72217 1.0000000
## 49-13 1.899333e+03 -921.30550 4719.97217 0.7239288
## 50-13 -3.965790e+02 -2971.45821 2178.30018 1.0000000
## 51-13 9.197074e+02 -1900.93143 3740.34624 0.9999996
## 53-13 7.753685e+02 -2045.27031 3596.00735 1.0000000
## 55-13 -4.370000e+01 -3498.26295 3410.86295 1.0000000
## 58-13 4.309148e+02 -3023.64813 3885.47776 1.0000000
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## 62-13 -6.691407e+02 -3489.77957 2151.49809 1.0000000
## 63-13 6.859333e+02 -1756.81155 3128.67822 1.0000000
## 65-13 6.781185e+02 -2776.44443 4132.68146 1.0000000
## 67-13 -2.534185e+02 -3074.05735 2567.22031 1.0000000
## 68-13 1.652048e+03 -1802.51480 5106.61109 0.9957006
## 69-13 1.328881e+03 -1491.75735 4149.52031 0.9967151
## 71-13 4.286148e+02 -3025.94813 3883.17776 1.0000000
## 74-13 1.213724e+03 -1606.91476 4034.36291 0.9994568
## 75-13 -9.812000e+02 -4435.76295 2473.36295 1.0000000
## 76-13 1.951948e+03 -1502.61480 5406.51109 0.9481540
## 77-13 4.382981e+02 -2382.34069 3258.93698 1.0000000
## 78-13 5.807778e+02 -1994.10141 3155.65697 1.0000000
## 80-13 -7.785815e+02 -4233.14443 2675.98146 1.0000000
## 84-13 1.015167e+03 -1805.47217 3835.80550 0.9999933
## 86-13 -2.379685e+02 -3058.60735 2582.67031 1.0000000
## 89-13 -1.082000e+02 -3562.76295 3346.36295 1.0000000
## 93-13 -8.715519e+02 -4326.11480 2583.01109 1.0000000
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## 16-14 2.596081e+03 -1392.90421 6585.06717 0.7862138
## 18-14 2.631500e+03 -1357.48569 6620.48569 0.7624427
## 19-14 9.492963e+02 -3039.68940 4938.28199 1.0000000
## 20-14 1.008181e+03 -2081.67429 4098.03577 0.9999996
## 21-14 1.367069e+03 -1786.50064 4520.63953 0.9993639
## 22-14 1.707098e+03 -1549.89565 4964.09071 0.9810523
## 23-14 1.214596e+03 -2774.38940 5203.58199 1.0000000
## 24-14 1.941903e+03 -1211.66731 5095.47286 0.8682361
## 25-14 9.581963e+02 -3030.78940 4947.18199 1.0000000
## 26-14 6.099679e+02 -2436.67025 3656.60605 1.0000000
## 27-14 1.597704e+03 -1659.28948 4854.69688 0.9933215
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## 29-14 1.122996e+03 -2865.98940 5111.98199 1.0000000
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## 31-14 7.583148e+02 -2696.24813 4212.87776 1.0000000
## 32-14 -4.557204e+02 -3910.28332 2998.84257 1.0000000
## 33-14 1.738596e+03 -2250.38940 5727.58199 0.9992870
## 34-14 1.206596e+03 -2782.38940 5195.58199 1.0000000
## 35-14 9.950753e+02 -2261.91787 4252.06849 1.0000000
## 36-14 2.087200e+03 -1901.78569 6076.18569 0.9815196
## 39-14 2.639000e+03 -1349.98569 6627.98569 0.7572776
## 41-14 2.200575e+03 -1056.41787 5457.56849 0.7173246
## 42-14 2.921800e+03 -1067.18569 6910.78569 0.5428824
## 43-14 2.107630e+03 -1881.35606 6096.61532 0.9787110
## 44-14 1.219596e+03 -2769.38940 5208.58199 1.0000000
## 45-14 2.281481e+03 -1707.50421 6270.46717 0.9400201

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## 46-14 1.211496e+03 -2777.48940 5200.48199 1.0000000
## 47-14 2.515956e+03 -938.60739 5970.51850 0.5558837
## 48-14 1.223165e+03 -2231.39813 4677.72776 0.9999958
## 49-14 2.678415e+03 -776.14813 6132.97776 0.4136537
## 50-14 3.825025e+02 -2874.49071 3639.49565 1.0000000
## 51-14 1.698789e+03 -1755.77406 5153.35183 0.9930396
## 53-14 1.554450e+03 -1900.11295 5009.01295 0.9986322
## 55-14 7.353815e+02 -3253.60421 4724.36717 1.0000000
## 58-14 1.209996e+03 -2778.98940 5198.98199 1.0000000
## 59-14 2.157406e+03 -1297.15739 5611.96850 0.8497255
## 62-14 1.099407e+02 -3344.62220 3564.50369 1.0000000
## 63-14 1.465015e+03 -1688.55527 4618.58490 0.9974671
## 65-14 1.457200e+03 -2531.78569 5446.18569 0.9999899
## 67-14 5.256630e+02 -2928.89998 3980.22591 1.0000000
## 68-14 2.431130e+03 -1557.85606 6420.11532 0.8807761
## 69-14 2.107963e+03 -1346.59998 5562.52591 0.8793528
## 71-14 1.207696e+03 -2781.28940 5196.68199 1.0000000
## 74-14 1.992806e+03 -1461.75739 5447.36850 0.9337239
## 75-14 -2.021185e+02 -4191.10421 3786.86717 1.0000000
## 76-14 2.731030e+03 -1257.95606 6720.01532 0.6907648
## 77-14 1.217380e+03 -2237.18332 4671.94257 0.9999963
## 78-14 1.359859e+03 -1897.13392 4616.85244 0.9997200
## 80-14 5.000000e-01 -3988.48569 3989.48569 1.0000000
## 84-14 1.794248e+03 -1660.31480 5248.81109 0.9834371
## 86-14 5.411130e+02 -2913.44998 3995.67591 1.0000000
## 89-14 6.708815e+02 -3318.10421 4659.86717 1.0000000
## 93-14 -9.247037e+01 -4081.45606 3896.51532 1.0000000
## 16-15 5.900426e+02 -2864.52035 4044.60554 1.0000000
## 18-15 6.254611e+02 -2829.10183 4080.02406 1.0000000
## 19-15 -1.056743e+03 -4511.30554 2397.82035 1.0000000
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## 22-15 -2.989414e+02 -2873.82055 2275.93783 1.0000000
## 23-15 -7.914426e+02 -4246.00554 2663.12035 1.0000000
## 24-15 -6.413611e+01 -2506.88100 2378.60877 1.0000000
## 25-15 -1.047843e+03 -4502.40554 2406.72035 1.0000000
## 26-15 -1.396071e+03 -3699.11295 906.97098 0.8869870
## 27-15 -4.083352e+02 -2983.21438 2166.54401 1.0000000
## 28-15 -2.110009e+03 -5564.57220 1344.55369 0.8782003
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## 32-15 -2.461759e+03 -5282.39809 358.87957 0.1872377
## 33-15 -2.674426e+02 -3722.00554 3187.12035 1.0000000
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## 35-15 -1.010964e+03 -3585.84277 1563.91561 0.9999344
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## 39-15 6.329611e+02 -2821.60183 4087.52406 1.0000000
## 41-15 1.945364e+02 -2380.34277 2769.41561 1.0000000
## 42-15 9.157611e+02 -2538.80183 4370.32406 1.0000000
## 43-15 1.015907e+02 -3352.97220 3556.15369 1.0000000
## 44-15 -7.864426e+02 -4241.00554 2668.12035 1.0000000
## 45-15 2.754426e+02 -3179.12035 3730.00554 1.0000000
## 46-15 -7.945426e+02 -4249.10554 2660.02035 1.0000000

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## 47-15 5.099167e+02 -2310.72217 3330.55550 1.0000000
## 48-15 -7.828741e+02 -3603.51291 2037.76476 1.0000000
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## 58-15 -7.960426e+02 -4250.60554 2658.52035 1.0000000
## 59-15 1.513667e+02 -2669.27217 2972.00550 1.0000000
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## 80-15 -2.005539e+03 -5460.10183 1449.02406 0.9287198
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## 89-15 -1.335157e+03 -4789.72035 2119.40554 0.9999557
## 93-15 -2.098509e+03 -5553.07220 1356.05369 0.8845935
## 18-16 3.541852e+01 -3953.56717 4024.40421 1.0000000
## 19-16 -1.646785e+03 -5635.77088 2342.20051 0.9997833
## 20-16 -1.587901e+03 -4677.75577 1501.95429 0.9858890
## 21-16 -1.229012e+03 -4382.58212 1924.55805 0.9999454
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## 23-16 -1.381485e+03 -5370.47088 2607.50051 0.9999978
## 24-16 -6.541787e+02 -3807.74879 2499.39138 1.0000000
## 25-16 -1.637885e+03 -5626.87088 2351.10051 0.9998087
## 26-16 -1.986114e+03 -5032.75173 1060.52457 0.7833508
## 27-16 -9.983778e+02 -4255.37096 2258.61540 0.9999999
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## 31-16 -1.837767e+03 -5292.32961 1616.79628 0.9765355
## 32-16 -3.051802e+03 -6506.36480 402.76109 0.1695100
## 33-16 -8.574852e+02 -4846.47088 3131.50051 1.0000000
## 34-16 -1.389485e+03 -5378.47088 2599.50051 0.9999973
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## 36-16 -5.088815e+02 -4497.86717 3480.10421 1.0000000
## 39-16 4.291852e+01 -3946.06717 4031.90421 1.0000000
## 41-16 -3.955062e+02 -3652.49935 2861.48701 1.0000000
## 42-16 3.257185e+02 -3663.26717 4314.70421 1.0000000
## 43-16 -4.884519e+02 -4477.43754 3500.53384 1.0000000
## 44-16 -1.376485e+03 -5365.47088 2612.50051 0.9999980
## 45-16 -3.146000e+02 -4303.58569 3674.38569 1.0000000
## 46-16 -1.384585e+03 -5373.57088 2604.40051 0.9999976
## 47-16 -8.012593e+01 -3534.68887 3374.43702 1.0000000
## 48-16 -1.372917e+03 -4827.47961 2081.64628 0.9999117

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## 49-16 8.233333e+01 -3372.22961 3536.89628 1.0000000
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## 53-16 -1.041631e+03 -4496.19443 2412.93146 1.0000000
## 55-16 -1.860700e+03 -5849.68569 2128.28569 0.9972662
## 58-16 -1.386085e+03 -5375.07088 2602.90051 0.9999975
## 59-16 -4.386759e+02 -3893.23887 3015.88702 1.0000000
## 62-16 -2.486141e+03 -5940.70369 968.42220 0.5828697
## 63-16 -1.131067e+03 -4284.63675 2022.50342 0.9999939
## 65-16 -1.138881e+03 -5127.86717 2850.10421 1.0000000
## 67-16 -2.070419e+03 -5524.98146 1384.14443 0.8993463
## 68-16 -1.649519e+02 -4153.93754 3824.03384 1.0000000
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## 75-16 -2.798200e+03 -6787.18569 1190.78569 0.6395055
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## 84-16 -8.018333e+02 -4256.39628 2652.72961 1.0000000
## 86-16 -2.054969e+03 -5509.53146 1399.59443 0.9069352
## 89-16 -1.925200e+03 -5914.18569 2063.78569 0.9949477
## 93-16 -2.688552e+03 -6677.53754 1300.43384 0.7221236
## 19-18 -1.682204e+03 -5671.18940 2306.78199 0.9996500
## 20-18 -1.623319e+03 -4713.17429 1466.53577 0.9803888
## 21-18 -1.264431e+03 -4418.00064 1889.13953 0.9998907
## 22-18 -9.244025e+02 -4181.39565 2332.59071 1.0000000
## 23-18 -1.416904e+03 -5405.88940 2572.08199 0.9999954
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## 25-18 -1.673304e+03 -5662.28940 2315.68199 0.9996890
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## 27-18 -1.033796e+03 -4290.78948 2223.19688 0.9999998
## 28-18 -2.735470e+03 -6724.45606 1253.51532 0.6874320
## 29-18 -1.508504e+03 -5497.48940 2480.48199 0.9999746
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## 31-18 -1.873185e+03 -5327.74813 1581.37776 0.9694505
## 32-18 -3.087220e+03 -6541.78332 367.34257 0.1536977
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## 43-18 -5.238704e+02 -4512.85606 3465.11532 1.0000000
## 44-18 -1.411904e+03 -5400.88940 2577.08199 0.9999958
## 45-18 -3.500185e+02 -4339.00421 3638.96717 1.0000000
## 46-18 -1.420004e+03 -5408.98940 2568.98199 0.9999951
## 47-18 -1.155444e+02 -3570.10739 3339.01850 1.0000000
## 48-18 -1.408335e+03 -4862.89813 2046.22776 0.9998380
## 49-18 4.691481e+01 -3407.64813 3501.47776 1.0000000
## 50-18 -2.248998e+03 -5505.99071 1007.99565 0.6730887
## 51-18 -9.327111e+02 -4387.27406 2521.85183 1.0000000

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## 53-18 -1.077050e+03 -4531.61295 2377.51295 0.9999999
## 55-18 -1.896119e+03 -5885.10421 2092.86717 0.9961406
## 58-18 -1.421504e+03 -5410.48940 2567.48199 0.9999949
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## 63-18 -1.166485e+03 -4320.05527 1987.08490 0.9999859
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## 67-18 -2.105837e+03 -5560.39998 1348.72591 0.8805434
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## 86-18 -2.090387e+03 -5544.94998 1364.17591 0.8889855
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## 20-19 5.884444e+01 -3030.97059 3148.73948 1.0000000
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## 22-19 7.578012e+02 -2499.19194 4014.79441 1.0000000
## 23-19 2.653000e+02 -3723.68569 4254.28569 1.0000000
## 24-19 9.926065e+02 -2160.96360 4146.17657 0.9999999
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## 26-19 -3.393284e+02 -3385.96654 2707.30975 1.0000000
## 27-19 6.484074e+02 -2608.58577 3905.40059 1.0000000
## 28-19 -1.053267e+03 -5042.25236 2935.71903 1.0000000
## 29-19 1.737000e+02 -3815.28569 4162.68569 1.0000000
## 30-19 1.767533e+03 -2221.45236 5756.51903 0.9989966
## 31-19 -1.909815e+02 -3645.54443 3263.58146 1.0000000
## 32-19 -1.405017e+03 -4859.57961 2049.54628 0.9998467
## 33-19 7.893000e+02 -3199.68569 4778.28569 1.0000000
## 34-19 2.573000e+02 -3731.68569 4246.28569 1.0000000
## 35-19 4.577901e+01 -3211.21417 3302.77219 1.0000000
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## 46-19 2.622000e+02 -3726.78569 4251.18569 1.0000000
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## 48-19 2.738685e+02 -3180.69443 3728.43146 1.0000000
## 49-19 1.729119e+03 -1725.44443 5183.68146 0.9906819
## 50-19 -5.667938e+02 -3823.78701 2690.19935 1.0000000
## 51-19 7.494926e+02 -2705.07035 4204.05554 1.0000000
## 53-19 6.051537e+02 -2849.40924 4059.71665 1.0000000
## 55-19 -2.139148e+02 -4202.90051 3775.07088 1.0000000
## 58-19 2.607000e+02 -3728.28569 4249.68569 1.0000000
## 59-19 1.208109e+03 -2246.45369 4662.67220 0.9999970

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## 62-19 -8.393556e+02 -4293.91850 2615.20739 1.0000000
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## 68-19 1.481833e+03 -2507.15236 5470.81903 0.9999841
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## 74-19 1.043509e+03 -2411.05369 4498.07220 1.0000000
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## 86-19 -4.081833e+02 -3862.74628 3046.37961 1.0000000
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## 93-19 -1.041767e+03 -5030.75236 2947.21903 1.0000000
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## 22-20 6.989168e+02 -1360.98656 2758.82014 0.9999988
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## 27-20 5.895230e+02 -1470.38039 2649.42632 1.0000000
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## 41-20 1.192395e+03 -867.50879 3252.29792 0.9310424
## 42-20 1.913619e+03 -1176.23577 5003.47429 0.8608849
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## 68-20 1.422949e+03 -1666.90614 4512.80392 0.9978522

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## 69-20 1.099782e+03 -1260.13354 3459.69798 0.9973131
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## 78-21 -7.210185e+00 -2161.50868 2147.08831 1.0000000
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## 47-22 8.088580e+02 -1766.02117 3383.73722 0.9999999
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## 33-24 -2.033065e+02 -3356.87657 2950.26360 1.0000000

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## 29-25 1.648000e+02 -3824.18569 4153.78569 1.0000000
## 30-25 1.758633e+03 -2230.35236 5747.61903 0.9990952
## 31-25 -1.998815e+02 -3654.44443 3254.68146 1.0000000
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## 33-25 7.804000e+02 -3208.58569 4769.38569 1.0000000
## 34-25 2.484000e+02 -3740.58569 4237.38569 1.0000000
## 35-25 3.687901e+01 -3220.11417 3293.87219 1.0000000
## 36-25 1.129004e+03 -2859.98199 5117.98940 1.0000000
## 39-25 1.680804e+03 -2308.18199 5669.78940 0.9996564
## 41-25 1.242379e+03 -2014.61417 4499.37219 0.9999683
## 42-25 1.963604e+03 -2025.38199 5952.58940 0.9929189
## 43-25 1.149433e+03 -2839.55236 5138.41903 1.0000000
## 44-25 2.614000e+02 -3727.58569 4250.38569 1.0000000
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## 46-25 2.533000e+02 -3735.68569 4242.28569 1.0000000

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## 47-25 1.557759e+03 -1896.80369 5012.32220 0.9985733
## 48-25 2.649685e+02 -3189.59443 3719.53146 1.0000000
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## 53-25 5.962537e+02 -2858.30924 4050.81665 1.0000000
## 55-25 -2.228148e+02 -4211.80051 3766.17088 1.0000000
## 58-25 2.518000e+02 -3737.18569 4240.78569 1.0000000
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## 62-25 -8.482556e+02 -4302.81850 2606.30739 1.0000000
## 63-25 5.068185e+02 -2646.75157 3660.38860 1.0000000
## 65-25 4.990037e+02 -3489.98199 4487.98940 1.0000000
## 67-25 -4.325333e+02 -3887.09628 3022.02961 1.0000000
## 68-25 1.472933e+03 -2516.05236 5461.91903 0.9999865
## 69-25 1.149767e+03 -2304.79628 4604.32961 0.9999993
## 71-25 2.495000e+02 -3739.48569 4238.48569 1.0000000
## 74-25 1.034609e+03 -2419.95369 4489.17220 1.0000000
## 75-25 -1.160315e+03 -5149.30051 2828.67088 1.0000000
## 76-25 1.772833e+03 -2216.15236 5761.81903 0.9989335
## 77-25 2.591833e+02 -3195.37961 3713.74628 1.0000000
## 78-25 4.016630e+02 -2855.33022 3658.65614 1.0000000
## 80-25 -9.576963e+02 -4946.68199 3031.28940 1.0000000
## 84-25 8.360519e+02 -2618.51109 4290.61480 1.0000000
## 86-25 -4.170833e+02 -3871.64628 3037.47961 1.0000000
## 89-25 -2.873148e+02 -4276.30051 3701.67088 1.0000000
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## 35-26 3.851074e+02 -1609.38544 2379.60025 1.0000000
## 36-26 1.477232e+03 -1569.40605 4523.87025 0.9945243
## 39-26 2.029032e+03 -1017.60605 5075.67025 0.7449704
## 41-26 1.590607e+03 -403.88544 3585.10025 0.3524356
## 42-26 2.311832e+03 -734.80605 5358.47025 0.4621139
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## 63-26 8.550469e+02 -965.66762 2675.76145 0.9969023

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## 65-26 8.472321e+02 -2199.40605 3893.87025 1.0000000
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## 35-27 -6.026284e+02 -2905.67036 1700.41357 1.0000000
## 36-27 4.894963e+02 -2767.49688 3746.48948 1.0000000
## 39-27 1.041296e+03 -2215.69688 4298.28948 0.9999998
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## 42-27 1.324096e+03 -1932.89688 4581.08948 0.9998482
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## 78-27 -2.378444e+02 -2540.88641 2065.19752 1.0000000
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## 32-28 -3.517500e+02 -3806.31295 3102.81295 1.0000000
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## 39-28 2.742970e+03 -1246.01532 6731.95606 0.6817824
## 41-28 2.304546e+03 -952.44750 5561.53886 0.6206381
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## 51-28 1.802759e+03 -1651.80369 5257.32220 0.9822308
## 53-28 1.658420e+03 -1796.14257 5112.98332 0.9953977
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## 75-28 -9.814815e+01 -4087.13384 3890.83754 1.0000000
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## 32-29 -1.578717e+03 -5033.27961 1875.84628 0.9981470
## 33-29 6.156000e+02 -3373.38569 4604.58569 1.0000000
## 34-29 8.360000e+01 -3905.38569 4072.58569 1.0000000
## 35-29 -1.279210e+02 -3384.91417 3129.07219 1.0000000
## 36-29 9.642037e+02 -3024.78199 4953.18940 1.0000000
## 39-29 1.516004e+03 -2472.98199 5504.98940 0.9999712
## 41-29 1.077579e+03 -2179.41417 4334.57219 0.9999994
## 42-29 1.798804e+03 -2190.18199 5787.78940 0.9985724

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## 43-29 9.846333e+02 -3004.35236 4973.61903 1.0000000
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## 53-30 -1.162380e+03 -4616.94257 2292.18332 0.9999990
## 55-30 -1.981448e+03 -5970.43384 2007.53754 0.9917717
## 58-30 -1.506833e+03 -5495.81903 2482.15236 0.9999754
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## 62-30 -2.606889e+03 -6061.45183 847.67406 0.4747308
## 63-30 -1.251815e+03 -4405.38490 1901.75527 0.9999142

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## 65-30 -1.259630e+03 -5248.61532 2729.35606 0.9999999
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## 78-31 6.015444e+02 -1973.33475 3176.42364 1.0000000
## 80-31 -7.578148e+02 -4212.37776 2696.74813 1.0000000
## 84-31 1.035933e+03 -1784.70550 3856.57217 0.9999883
## 86-31 -2.172019e+02 -3037.84069 2603.43698 1.0000000
## 89-31 -8.743333e+01 -3541.99628 3367.12961 1.0000000
## 93-31 -8.507852e+02 -4305.34813 2603.77776 1.0000000
## 33-32 2.194317e+03 -1260.24628 5648.87961 0.8252681

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## 34-32 1.662317e+03 -1792.24628 5116.87961 0.9952039
## 35-32 1.450796e+03 -1124.08351 4025.67487 0.9499125
## 36-32 2.542920e+03 -911.64257 5997.48332 0.5315648
## 39-32 3.094720e+03 -359.84257 6549.28332 0.1505042
## 41-32 2.656296e+03 81.41649 5231.17487 0.0346805
## 42-32 3.377520e+03 -77.04257 6832.08332 0.0642074
## 43-32 2.563350e+03 -891.21295 6017.91295 0.5132524
## 44-32 1.675317e+03 -1779.24628 5129.87961 0.9945077
## 45-32 2.737202e+03 -717.36109 6191.76480 0.3662245
## 46-32 1.667217e+03 -1787.34628 5121.77961 0.9949507
## 47-32 2.971676e+03 151.03709 5792.31476 0.0267196
## 48-32 1.678885e+03 -1141.75365 4499.52402 0.9063411
## 49-32 3.134135e+03 313.49635 5954.77402 0.0131486
## 50-32 8.382228e+02 -1736.65635 3413.10203 0.9999997
## 51-32 2.154509e+03 -666.12957 4975.14809 0.4471512
## 53-32 2.010170e+03 -810.46846 4830.80920 0.6047590
## 55-32 1.191102e+03 -2263.46109 4645.66480 0.9999980
## 58-32 1.665717e+03 -1788.84628 5120.27961 0.9950293
## 59-32 2.613126e+03 -207.51291 5433.76476 0.1109228
## 62-32 5.656611e+02 -2254.97772 3386.29994 1.0000000
## 63-32 1.920735e+03 -522.00970 4363.48007 0.3827385
## 65-32 1.912920e+03 -1541.64257 5367.48332 0.9597244
## 67-32 9.813833e+02 -1839.25550 3802.02217 0.9999974
## 68-32 2.886850e+03 -567.71295 6341.41295 0.2599276
## 69-32 2.563683e+03 -256.95550 5384.32217 0.1323898
## 71-32 1.663417e+03 -1791.14628 5117.97961 0.9951480
## 74-32 2.448526e+03 -372.11291 5269.16476 0.1954849
## 75-32 2.536019e+02 -3200.96109 3708.16480 1.0000000
## 76-32 3.186750e+03 -267.81295 6641.31295 0.1154947
## 77-32 1.673100e+03 -1147.53883 4493.73883 0.9097103
## 78-32 1.815580e+03 -759.29956 4390.45882 0.6282658
## 80-32 4.562204e+02 -2998.34257 3910.78332 1.0000000
## 84-32 2.249969e+03 -570.67031 5070.60735 0.3519573
## 86-32 9.968333e+02 -1823.80550 3817.47217 0.9999960
## 89-32 1.126602e+03 -2327.96109 4581.16480 0.9999996
## 93-32 3.632500e+02 -3091.31295 3817.81295 1.0000000
## 34-33 -5.320000e+02 -4520.98569 3456.98569 1.0000000
## 35-33 -7.435210e+02 -4000.51417 2513.47219 1.0000000
## 36-33 3.486037e+02 -3640.38199 4337.58940 1.0000000
## 39-33 9.004037e+02 -3088.58199 4889.38940 1.0000000
## 41-33 4.619790e+02 -2795.01417 3718.97219 1.0000000
## 42-33 1.183204e+03 -2805.78199 5172.18940 1.0000000
## 43-33 3.690333e+02 -3619.95236 4358.01903 1.0000000
## 44-33 -5.190000e+02 -4507.98569 3469.98569 1.0000000
## 45-33 5.428852e+02 -3446.10051 4531.87088 1.0000000
## 46-33 -5.271000e+02 -4516.08569 3461.88569 1.0000000
## 47-33 7.773593e+02 -2677.20369 4231.92220 1.0000000
## 48-33 -5.154315e+02 -3969.99443 2939.13146 1.0000000
## 49-33 9.398185e+02 -2514.74443 4394.38146 1.0000000
## 50-33 -1.356094e+03 -4613.08701 1900.89935 0.9997370
## 51-33 -3.980741e+01 -3494.37035 3414.75554 1.0000000
## 53-33 -1.841463e+02 -3638.70924 3270.41665 1.0000000
## 55-33 -1.003215e+03 -4992.20051 2985.77088 1.0000000
## 58-33 -5.286000e+02 -4517.58569 3460.38569 1.0000000

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## 59-33 4.188093e+02 -3035.75369 3873.37220 1.0000000
## 62-33 -1.628656e+03 -5083.21850 1825.90739 0.9966738
## 63-33 -2.735815e+02 -3427.15157 2879.98860 1.0000000
## 65-33 -2.813963e+02 -4270.38199 3707.58940 1.0000000
## 67-33 -1.212933e+03 -4667.49628 2241.62961 0.9999967
## 68-33 6.925333e+02 -3296.45236 4681.51903 1.0000000
## 69-33 3.693667e+02 -3085.19628 3823.92961 1.0000000
## 71-33 -5.309000e+02 -4519.88569 3458.08569 1.0000000
## 74-33 2.542093e+02 -3200.35369 3708.77220 1.0000000
## 75-33 -1.940715e+03 -5929.70051 2048.27088 0.9941954
## 76-33 9.924333e+02 -2996.55236 4981.41903 1.0000000
## 77-33 -5.212167e+02 -3975.77961 2933.34628 1.0000000
## 78-33 -3.787370e+02 -3635.73022 2878.25614 1.0000000
## 80-33 -1.738096e+03 -5727.08199 2250.88940 0.9992913
## 84-33 5.565185e+01 -3398.91109 3510.21480 1.0000000
## 86-33 -1.197483e+03 -4652.04628 2257.07961 0.9999977
## 89-33 -1.067715e+03 -5056.70051 2921.27088 1.0000000
## 93-33 -1.831067e+03 -5820.05236 2157.91903 0.9979814
## 35-34 -2.115210e+02 -3468.51417 3045.47219 1.0000000
## 36-34 8.806037e+02 -3108.38199 4869.58940 1.0000000
## 39-34 1.432404e+03 -2556.58199 5421.38940 0.9999937
## 41-34 9.939790e+02 -2263.01417 4250.97219 1.0000000
## 42-34 1.715204e+03 -2273.78199 5704.18940 0.9994653
## 43-34 9.010333e+02 -3087.95236 4890.01903 1.0000000
## 44-34 1.300000e+01 -3975.98569 4001.98569 1.0000000
## 45-34 1.074885e+03 -2914.10051 5063.87088 1.0000000
## 46-34 4.900000e+00 -3984.08569 3993.88569 1.0000000
## 47-34 1.309359e+03 -2145.20369 4763.92220 0.9999731
## 48-34 1.656852e+01 -3437.99443 3471.13146 1.0000000
## 49-34 1.471819e+03 -1982.74443 4926.38146 0.9995617
## 50-34 -8.240938e+02 -4081.08701 2432.89935 1.0000000
## 51-34 4.921926e+02 -2962.37035 3946.75554 1.0000000
## 53-34 3.478537e+02 -3106.70924 3802.41665 1.0000000
## 55-34 -4.712148e+02 -4460.20051 3517.77088 1.0000000
## 58-34 3.400000e+00 -3985.58569 3992.38569 1.0000000
## 59-34 9.508093e+02 -2503.75369 4405.37220 1.0000000
## 62-34 -1.096656e+03 -4551.21850 2357.90739 0.9999998
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## 71-34 1.100000e+00 -3987.88569 3990.08569 1.0000000
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## 75-34 -1.408715e+03 -5397.70051 2580.27088 0.9999961
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## 80-34 -1.206096e+03 -5195.08199 2782.88940 1.0000000
## 84-34 5.876519e+02 -2866.91109 4042.21480 1.0000000
## 86-34 -6.654833e+02 -4120.04628 2789.07961 1.0000000
## 89-34 -5.357148e+02 -4524.70051 3453.27088 1.0000000
## 93-34 -1.299067e+03 -5288.05236 2689.91903 0.9999996
## 36-35 1.092125e+03 -2164.86849 4349.11787 0.9999991

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## 39-35 1.643925e+03 -1613.06849 4900.91787 0.9893436
## 41-35 1.205500e+03 -1097.54196 3508.54196 0.9814170
## 42-35 1.926725e+03 -1330.26849 5183.71787 0.9122811
## 43-35 1.112554e+03 -2144.43886 4369.54750 0.9999985
## 44-35 2.245210e+02 -3032.47219 3481.51417 1.0000000
## 45-35 1.286406e+03 -1970.58701 4543.39935 0.9999240
## 46-35 2.164210e+02 -3040.57219 3473.41417 1.0000000
## 47-35 1.520880e+03 -1053.99895 4095.75944 0.9137153
## 48-35 2.280895e+02 -2346.78969 2802.96870 1.0000000
## 49-35 1.683340e+03 -891.53969 4258.21870 0.7784540
## 50-35 -6.125728e+02 -2915.61480 1690.46912 1.0000000
## 51-35 7.037136e+02 -1871.16561 3278.59277 1.0000000
## 53-35 5.593747e+02 -2015.50450 3134.25388 1.0000000
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## 58-35 2.149210e+02 -3042.07219 3471.91417 1.0000000
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## 62-35 -8.851346e+02 -3460.01376 1689.74462 0.9999982
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## 65-35 4.621247e+02 -2794.86849 3719.11787 1.0000000
## 67-35 -4.694123e+02 -3044.29154 2105.46685 1.0000000
## 68-35 1.436054e+03 -1820.93886 4693.04750 0.9990935
## 69-35 1.112888e+03 -1461.99154 3687.76685 0.9994029
## 71-35 2.126210e+02 -3044.37219 3469.61417 1.0000000
## 74-35 9.977302e+02 -1577.14895 3572.60944 0.9999527
## 75-35 -1.197194e+03 -4454.18701 2059.79935 0.9999881
## 76-35 1.735954e+03 -1521.03886 4992.94750 0.9758989
## 77-35 2.223043e+02 -2352.57487 2797.18351 1.0000000
## 78-35 3.647840e+02 -1938.25801 2667.82591 1.0000000
## 80-35 -9.945753e+02 -4251.56849 2262.41787 1.0000000
## 84-35 7.991728e+02 -1775.70635 3374.05203 0.9999999
## 86-35 -4.539623e+02 -3028.84154 2120.91685 1.0000000
## 89-35 -3.241938e+02 -3581.18701 2932.79935 1.0000000
## 93-35 -1.087546e+03 -4344.53886 2169.44750 0.9999992
## 39-36 5.518000e+02 -3437.18569 4540.78569 1.0000000
## 41-36 1.133753e+02 -3143.61787 3370.36849 1.0000000
## 42-36 8.346000e+02 -3154.38569 4823.58569 1.0000000
## 43-36 2.042963e+01 -3968.55606 4009.41532 1.0000000
## 44-36 -8.676037e+02 -4856.58940 3121.38199 1.0000000
## 45-36 1.942815e+02 -3794.70421 4183.26717 1.0000000
## 46-36 -8.757037e+02 -4864.68940 3113.28199 1.0000000
## 47-36 4.287556e+02 -3025.80739 3883.31850 1.0000000
## 48-36 -8.640352e+02 -4318.59813 2590.52776 1.0000000
## 49-36 5.912148e+02 -2863.34813 4045.77776 1.0000000
## 50-36 -1.704698e+03 -4961.69071 1552.29565 0.9814389
## 51-36 -3.884111e+02 -3842.97406 3066.15183 1.0000000
## 53-36 -5.327500e+02 -3987.31295 2921.81295 1.0000000
## 55-36 -1.351819e+03 -5340.80421 2637.16717 0.9999988
## 58-36 -8.772037e+02 -4866.18940 3111.78199 1.0000000
## 59-36 7.020556e+01 -3384.35739 3524.76850 1.0000000
## 62-36 -1.977259e+03 -5431.82220 1477.30369 0.9395035
## 63-36 -6.221852e+02 -3775.75527 2531.38490 1.0000000
## 65-36 -6.300000e+02 -4618.98569 3358.98569 1.0000000
## 67-36 -1.561537e+03 -5016.09998 1893.02591 0.9985034
## 68-36 3.439296e+02 -3645.05606 4332.91532 1.0000000

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## 69-36 2.076296e+01 -3433.79998 3475.32591 1.0000000
## 71-36 -8.795037e+02 -4868.48940 3109.48199 1.0000000
## 74-36 -9.439444e+01 -3548.95739 3360.16850 1.0000000
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## 77-36 -8.698204e+02 -4324.38332 2584.74257 1.0000000
## 78-36 -7.273407e+02 -3984.33392 2529.65244 1.0000000
## 80-36 -2.086700e+03 -6075.68569 1902.28569 0.9815845
## 84-36 -2.929519e+02 -3747.51480 3161.61109 1.0000000
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## 89-36 -1.416319e+03 -5405.30421 2572.66717 0.9999954
## 93-36 -2.179670e+03 -6168.65606 1809.31532 0.9661378
## 41-39 -4.384247e+02 -3695.41787 2818.56849 1.0000000
## 42-39 2.828000e+02 -3706.18569 4271.78569 1.0000000
## 43-39 -5.313704e+02 -4520.35606 3457.61532 1.0000000
## 44-39 -1.419404e+03 -5408.38940 2569.58199 0.9999951
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## 51-39 -9.402111e+02 -4394.77406 2514.35183 1.0000000
## 53-39 -1.084550e+03 -4539.11295 2370.01295 0.9999999
## 55-39 -1.903619e+03 -5892.60421 2085.36717 0.9958582
## 58-39 -1.429004e+03 -5417.98940 2559.98199 0.9999941
## 59-39 -4.815944e+02 -3936.15739 2972.96850 1.0000000
## 62-39 -2.529059e+03 -5983.62220 925.50369 0.5440493
## 63-39 -1.173985e+03 -4327.55527 1979.58490 0.9999832
## 65-39 -1.181800e+03 -5170.78569 2807.18569 1.0000000
## 67-39 -2.113337e+03 -5567.89998 1341.22591 0.8763122
## 68-39 -2.078704e+02 -4196.85606 3781.11532 1.0000000
## 69-39 -5.310370e+02 -3985.59998 2923.52591 1.0000000
## 71-39 -1.431304e+03 -5420.28940 2557.68199 0.9999938
## 74-39 -6.461944e+02 -4100.75739 2808.36850 1.0000000
## 75-39 -2.841119e+03 -6830.10421 1147.86717 0.6060824
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## 77-39 -1.421620e+03 -4876.18332 2032.94257 0.9997986
## 78-39 -1.279141e+03 -4536.13392 1977.85244 0.9999339
## 80-39 -2.638500e+03 -6627.48569 1350.48569 0.7576233
## 84-39 -8.447519e+02 -4299.31480 2609.81109 1.0000000
## 86-39 -2.097887e+03 -5552.44998 1356.67591 0.8849336
## 89-39 -1.968119e+03 -5957.10421 2020.86717 0.9926418
## 93-39 -2.731470e+03 -6720.45606 1257.51532 0.6904345
## 42-41 7.212247e+02 -2535.76849 3978.21787 1.0000000
## 43-41 -9.294568e+01 -3349.93886 3164.04750 1.0000000
## 44-41 -9.809790e+02 -4237.97219 2276.01417 1.0000000
## 45-41 8.090617e+01 -3176.08701 3337.89935 1.0000000
## 46-41 -9.890790e+02 -4246.07219 2267.91417 1.0000000
## 47-41 3.153802e+02 -2259.49895 2890.25944 1.0000000
## 48-41 -9.774105e+02 -3552.28969 1597.46870 0.9999720
## 49-41 4.778395e+02 -2097.03969 3052.71870 1.0000000
## 50-41 -1.818073e+03 -4121.11480 484.96912 0.3741630
## 51-41 -5.017864e+02 -3076.66561 2073.09277 1.0000000

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## 53-41 -6.461253e+02 -3221.00450 1928.75388 1.0000000
## 55-41 -1.465194e+03 -4722.18701 1791.79935 0.9986388
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## 63-41 -7.355605e+02 -2889.85899 1418.73800 0.9999985
## 65-41 -7.433753e+02 -4000.36849 2513.61787 1.0000000
## 67-41 -1.674912e+03 -4249.79154 899.96685 0.7870779
## 68-41 2.305543e+02 -3026.43886 3487.54750 1.0000000
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## 43-42 -8.141704e+02 -4803.15606 3174.81532 1.0000000
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## 49-42 -2.433852e+02 -3697.94813 3211.17776 1.0000000
## 50-42 -2.539298e+03 -5796.29071 717.69565 0.4013557
## 51-42 -1.223011e+03 -4677.57406 2231.55183 0.9999958
## 53-42 -1.367350e+03 -4821.91295 2087.21295 0.9999200
## 55-42 -2.186419e+03 -6175.40421 1802.56717 0.9647267
## 58-42 -1.711804e+03 -5700.78940 2277.18199 0.9994876
## 59-42 -7.643944e+02 -4218.95739 2690.16850 1.0000000
## 62-42 -2.811859e+03 -6266.42220 642.70369 0.3104146
## 63-42 -1.456785e+03 -4610.35527 1696.78490 0.9977223
## 65-42 -1.464600e+03 -5453.58569 2524.38569 0.9999884
## 67-42 -2.396137e+03 -5850.69998 1058.42591 0.6636579
## 68-42 -4.906704e+02 -4479.65606 3498.31532 1.0000000
## 69-42 -8.138370e+02 -4268.39998 2640.72591 1.0000000
## 71-42 -1.714104e+03 -5703.08940 2274.88199 0.9994726
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## 75-42 -3.123919e+03 -7112.90421 865.06717 0.3915387
## 76-42 -1.907704e+02 -4179.75606 3798.21532 1.0000000
## 77-42 -1.704420e+03 -5158.98332 1750.14257 0.9926433
## 78-42 -1.561941e+03 -4818.93392 1695.05244 0.9954817
## 80-42 -2.921300e+03 -6910.28569 1067.68569 0.5432729
## 84-42 -1.127552e+03 -4582.11480 2327.01109 0.9999996
## 86-42 -2.380687e+03 -5835.24998 1073.87591 0.6772370
## 89-42 -2.250919e+03 -6239.90421 1738.06717 0.9489890
## 93-42 -3.014270e+03 -7003.25606 974.71532 0.4716315
## 44-43 -8.880333e+02 -4877.01903 3100.95236 1.0000000
## 45-43 1.738519e+02 -3815.13384 4162.83754 1.0000000
## 46-43 -8.961333e+02 -4885.11903 3092.85236 1.0000000

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## 47-43 4.083259e+02 -3046.23702 3862.88887 1.0000000
## 48-43 -8.844648e+02 -4339.02776 2570.09813 1.0000000
## 49-43 5.707852e+02 -2883.77776 4025.34813 1.0000000
## 50-43 -1.725127e+03 -4982.12034 1531.86602 0.9779446
## 51-43 -4.088407e+02 -3863.40369 3045.72220 1.0000000
## 53-43 -5.531796e+02 -4007.74257 2901.38332 1.0000000
## 55-43 -1.372248e+03 -5361.23384 2616.73754 0.9999982
## 58-43 -8.976333e+02 -4886.61903 3091.35236 1.0000000
## 59-43 4.977593e+01 -3404.78702 3504.33887 1.0000000
## 62-43 -1.997689e+03 -5452.25183 1456.87406 0.9318338
## 63-43 -6.426148e+02 -3796.18490 2510.95527 1.0000000
## 65-43 -6.504296e+02 -4639.41532 3338.55606 1.0000000
## 67-43 -1.581967e+03 -5036.52961 1872.59628 0.9980720
## 68-43 3.235000e+02 -3665.48569 4312.48569 1.0000000
## 69-43 3.333333e-01 -3454.22961 3454.89628 1.0000000
## 71-43 -8.999333e+02 -4888.91903 3089.05236 1.0000000
## 74-43 -1.148241e+02 -3569.38702 3339.73887 1.0000000
## 75-43 -2.309748e+03 -6298.73384 1679.23754 0.9308081
## 76-43 6.234000e+02 -3365.58569 4612.38569 1.0000000
## 77-43 -8.902500e+02 -4344.81295 2564.31295 1.0000000
## 78-43 -7.477704e+02 -4004.76355 2509.22281 1.0000000
## 80-43 -2.107130e+03 -6096.11532 1881.85606 0.9787835
## 84-43 -3.133815e+02 -3767.94443 3141.18146 1.0000000
## 86-43 -1.566517e+03 -5021.07961 1888.04628 0.9984067
## 89-43 -1.436748e+03 -5425.73384 2552.23754 0.9999932
## 93-43 -2.200100e+03 -6189.08569 1788.88569 0.9617335
## 45-44 1.061885e+03 -2927.10051 5050.87088 1.0000000
## 46-44 -8.100000e+00 -3997.08569 3980.88569 1.0000000
## 47-44 1.296359e+03 -2158.20369 4750.92220 0.9999793
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## 49-44 1.458819e+03 -1995.74443 4913.38146 0.9996393
## 50-44 -8.370938e+02 -4094.08701 2419.89935 1.0000000
## 51-44 4.791926e+02 -2975.37035 3933.75554 1.0000000
## 53-44 3.348537e+02 -3119.70924 3789.41665 1.0000000
## 55-44 -4.842148e+02 -4473.20051 3504.77088 1.0000000
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## 59-44 9.378093e+02 -2516.75369 4392.37220 1.0000000
## 62-44 -1.109656e+03 -4564.21850 2344.90739 0.9999998
## 63-44 2.454185e+02 -2908.15157 3398.98860 1.0000000
## 65-44 2.376037e+02 -3751.38199 4226.58940 1.0000000
## 67-44 -6.939333e+02 -4148.49628 2760.62961 1.0000000
## 68-44 1.211533e+03 -2777.45236 5200.51903 1.0000000
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## 77-44 -2.216667e+00 -3456.77961 3452.34628 1.0000000
## 78-44 1.402630e+02 -3116.73022 3397.25614 1.0000000
## 80-44 -1.219096e+03 -5208.08199 2769.88940 1.0000000
## 84-44 5.746519e+02 -2879.91109 4029.21480 1.0000000
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## 93-44 -1.312067e+03 -5301.05236 2676.91903 0.9999995

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## 46-45 -1.069985e+03 -5058.97088 2919.00051 1.0000000
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## 48-45 -1.058317e+03 -4512.87961 2396.24628 1.0000000
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## 50-45 -1.898979e+03 -5155.97219 1358.01417 0.9251870
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## 71-45 -1.073785e+03 -5062.77088 2915.20051 1.0000000
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## 77-45 -1.064102e+03 -4518.66480 2390.46109 0.9999999
## 78-45 -9.216222e+02 -4178.61540 2335.37096 1.0000000
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## 84-45 -4.872333e+02 -3941.79628 2967.32961 1.0000000
## 86-45 -1.740369e+03 -5194.93146 1714.19443 0.9896582
## 89-45 -1.610600e+03 -5599.58569 2378.38569 0.9998709
## 93-45 -2.373952e+03 -6362.93754 1615.03384 0.9064870
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## 71-46 -3.800000e+00 -3992.78569 3985.18569 1.0000000
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## 93-46 -1.303967e+03 -5292.95236 2685.01903 0.9999996
## 48-47 -1.292791e+03 -4113.42957 1527.84809 0.9980396

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## 49-47 1.624593e+02 -2658.17957 2983.09809 1.0000000
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## 62-47 -2.406015e+03 -5226.65365 414.62402 0.2238153
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## 67-47 -1.990293e+03 -4810.93143 830.34624 0.6266985
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## 71-47 -1.308259e+03 -4762.82220 2146.30369 0.9999737
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## 93-47 -2.608426e+03 -6062.98887 846.13702 0.4733866
## 49-48 1.455250e+03 -1365.38883 4275.88883 0.9850199
## 50-48 -8.406623e+02 -3415.54154 1734.21685 0.9999996
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## 53-48 3.312852e+02 -2489.35365 3151.92402 1.0000000
## 55-48 -4.877833e+02 -3942.34628 2966.77961 1.0000000
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## 62-48 -1.113224e+03 -3933.86291 1707.41476 0.9999254
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## 65-48 2.340352e+02 -3220.52776 3688.59813 1.0000000
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## 51-49 -9.796259e+02 -3800.26476 1841.01291 0.9999976
## 53-49 -1.123965e+03 -3944.60365 1696.67402 0.9999058
## 55-49 -1.943033e+03 -5397.59628 1511.52961 0.9509821
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## 59-49 -5.210093e+02 -3341.64809 2299.62957 1.0000000

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## 62-49 -2.568474e+03 -5389.11291 252.16476 0.1301709
## 63-49 -1.213400e+03 -3656.14488 1229.34488 0.9917699
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## 67-51 -1.173126e+03 -3993.76476 1647.51291 0.9997434
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## 71-51 -4.910926e+02 -3945.65554 2963.47035 1.0000000
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## 77-51 -4.814093e+02 -3302.04809 2339.22957 1.0000000

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## 78-51 -3.389296e+02 -2913.80882 2235.94956 1.0000000
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## 76-55 1.995648e+03 -1993.33754 5984.63384 0.9907546
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## 78-55 6.244778e+02 -2632.51540 3881.47096 1.0000000
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## 89-55 -6.450000e+01 -4053.48569 3924.48569 1.0000000
## 93-55 -8.278519e+02 -4816.83754 3161.13384 1.0000000
## 59-58 9.474093e+02 -2507.15369 4401.97220 1.0000000
## 62-58 -1.100056e+03 -4554.61850 2354.50739 0.9999998
## 63-58 2.550185e+02 -2898.55157 3408.58860 1.0000000
## 65-58 2.472037e+02 -3741.78199 4236.18940 1.0000000
## 67-58 -6.843333e+02 -4138.89628 2770.22961 1.0000000
## 68-58 1.221133e+03 -2767.85236 5210.11903 1.0000000
## 69-58 8.979667e+02 -2556.59628 4352.52961 1.0000000
## 71-58 -2.300000e+00 -3991.28569 3986.68569 1.0000000
## 74-58 7.828093e+02 -2671.75369 4237.37220 1.0000000

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## 75-58 -1.412115e+03 -5401.10051 2576.87088 0.9999958
## 76-58 1.521033e+03 -2467.95236 5510.01903 0.9999686
## 77-58 7.383333e+00 -3447.17961 3461.94628 1.0000000
## 78-58 1.498630e+02 -3107.13022 3406.85614 1.0000000
## 80-58 -1.209496e+03 -5198.48199 2779.48940 1.0000000
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## 65-59 -7.002056e+02 -4154.76850 2754.35739 1.0000000
## 67-59 -1.631743e+03 -4452.38143 1188.89624 0.9315288
## 68-59 2.737241e+02 -3180.83887 3728.28702 1.0000000
## 69-59 -4.944259e+01 -2870.08143 2771.19624 1.0000000
## 71-59 -9.497093e+02 -4404.27220 2504.85369 1.0000000
## 74-59 -1.646000e+02 -2985.23883 2656.03883 1.0000000
## 75-59 -2.359524e+03 -5814.08702 1095.03887 0.6956154
## 76-59 5.736241e+02 -2880.93887 4028.18702 1.0000000
## 77-59 -9.400259e+02 -3760.66476 1880.61291 0.9999993
## 78-59 -7.975463e+02 -3372.42549 1777.33290 0.9999999
## 80-59 -2.156906e+03 -5611.46850 1297.65739 0.8500434
## 84-59 -3.631574e+02 -3183.79624 2457.48143 1.0000000
## 86-59 -1.616293e+03 -4436.93143 1204.34624 0.9386759
## 89-59 -1.486524e+03 -4941.08702 1968.03887 0.9994566
## 93-59 -2.249876e+03 -5704.43887 1204.68702 0.7849977
## 63-62 1.355074e+03 -1087.67081 3797.81896 0.9587865
## 65-62 1.347259e+03 -2107.30369 4801.82220 0.9999445
## 67-62 4.157222e+02 -2404.91661 3236.36106 1.0000000
## 68-62 2.321189e+03 -1133.37406 5775.75183 0.7281093
## 69-62 1.998022e+03 -822.61661 4818.66106 0.6181820
## 71-62 1.097756e+03 -2356.80739 4552.31850 0.9999998
## 74-62 1.882865e+03 -937.77402 4703.50365 0.7406257
## 75-62 -3.120593e+02 -3766.62220 3142.50369 1.0000000
## 76-62 2.621089e+03 -833.47406 6075.65183 0.4623588
## 77-62 1.107439e+03 -1713.19994 3928.07772 0.9999344
## 78-62 1.249919e+03 -1324.96067 3824.79771 0.9944151
## 80-62 -1.094407e+02 -3564.00369 3345.12220 1.0000000
## 84-62 1.684307e+03 -1136.33143 4504.94624 0.9031120
## 86-62 4.311722e+02 -2389.46661 3251.81106 1.0000000
## 89-62 5.609407e+02 -2893.62220 4015.50369 1.0000000
## 93-62 -2.024111e+02 -3656.97406 3252.15183 1.0000000
## 65-63 -7.814815e+00 -3161.38490 3145.75527 1.0000000
## 67-63 -9.393519e+02 -3382.09674 1503.39303 0.9999610
## 68-63 9.661148e+02 -2187.45527 4119.68490 1.0000000
## 69-63 6.429481e+02 -1799.79674 3085.69303 1.0000000
## 71-63 -2.573185e+02 -3410.88860 2896.25157 1.0000000
## 74-63 5.277907e+02 -1914.95414 2970.53563 1.0000000
## 75-63 -1.667133e+03 -4820.70342 1486.43675 0.9785443
## 76-63 1.266015e+03 -1887.55527 4419.58490 0.9998874
## 77-63 -2.476352e+02 -2690.38007 2195.10970 1.0000000
## 78-63 -1.051556e+02 -2259.45405 2049.14294 1.0000000
## 80-63 -1.464515e+03 -4618.08490 1689.05527 0.9974833
## 84-63 3.292333e+02 -2113.51155 2771.97822 1.0000000

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## 86-63 -9.239019e+02 -3366.64674 1518.84303 0.9999745
## 89-63 -7.941333e+02 -3947.70342 2359.43675 1.0000000
## 93-63 -1.557485e+03 -4711.05527 1596.08490 0.9925187
## 67-65 -9.315370e+02 -4386.09998 2523.02591 1.0000000
## 68-65 9.739296e+02 -3015.05606 4962.91532 1.0000000
## 69-65 6.507630e+02 -2803.79998 4105.32591 1.0000000
## 71-65 -2.495037e+02 -4238.48940 3739.48199 1.0000000
## 74-65 5.356056e+02 -2918.95739 3990.16850 1.0000000
## 75-65 -1.659319e+03 -5648.30421 2329.66717 0.9997425
## 76-65 1.273830e+03 -2715.15606 5262.81532 0.9999998
## 77-65 -2.398204e+02 -3694.38332 3214.74257 1.0000000
## 78-65 -9.734074e+01 -3354.33392 3159.65244 1.0000000
## 80-65 -1.456700e+03 -5445.68569 2532.28569 0.9999900
## 84-65 3.370481e+02 -3117.51480 3791.61109 1.0000000
## 86-65 -9.160870e+02 -4370.64998 2538.47591 1.0000000
## 89-65 -7.863185e+02 -4775.30421 3202.66717 1.0000000
## 93-65 -1.549670e+03 -5538.65606 2439.31532 0.9999496
## 68-67 1.905467e+03 -1549.09628 5360.02961 0.9617012
## 69-67 1.582300e+03 -1238.33883 4402.93883 0.9525559
## 71-67 6.820333e+02 -2772.52961 4136.59628 1.0000000
## 74-67 1.467143e+03 -1353.49624 4287.78143 0.9830718
## 75-67 -7.277815e+02 -4182.34443 2726.78146 1.0000000
## 76-67 2.205367e+03 -1249.19628 5659.92961 0.8175776
## 77-67 6.917167e+02 -2128.92217 3512.35550 1.0000000
## 78-67 8.341963e+02 -1740.68290 3409.07549 0.9999997
## 80-67 -5.251630e+02 -3979.72591 2929.39998 1.0000000
## 84-67 1.268585e+03 -1552.05365 4089.22402 0.9986454
## 86-67 1.545000e+01 -2805.18883 2836.08883 1.0000000
## 89-67 1.452185e+02 -3309.34443 3599.78146 1.0000000
## 93-67 -6.181333e+02 -4072.69628 2836.42961 1.0000000
## 69-68 -3.231667e+02 -3777.72961 3131.39628 1.0000000
## 71-68 -1.223433e+03 -5212.41903 2765.55236 0.9999999
## 74-68 -4.383241e+02 -3892.88702 3016.23887 1.0000000
## 75-68 -2.633248e+03 -6622.23384 1355.73754 0.7612427
## 76-68 2.999000e+02 -3689.08569 4288.88569 1.0000000
## 77-68 -1.213750e+03 -4668.31295 2240.81295 0.9999966
## 78-68 -1.071270e+03 -4328.26355 2185.72281 0.9999995
## 80-68 -2.430630e+03 -6419.61532 1558.35606 0.8810175
## 84-68 -6.368815e+02 -4091.44443 2817.68146 1.0000000
## 86-68 -1.890017e+03 -5344.57961 1564.54628 0.9655714
## 89-68 -1.760248e+03 -5749.23384 2228.73754 0.9990780
## 93-68 -2.523600e+03 -6512.58569 1465.38569 0.8312835
## 71-69 -9.002667e+02 -4354.82961 2554.29628 1.0000000
## 74-69 -1.151574e+02 -2935.79624 2705.48143 1.0000000
## 75-69 -2.310081e+03 -5764.64443 1144.48146 0.7373002
## 76-69 6.230667e+02 -2831.49628 4077.62961 1.0000000
## 77-69 -8.905833e+02 -3711.22217 1930.05550 0.9999999
## 78-69 -7.481037e+02 -3322.98290 1826.77549 1.0000000
## 80-69 -2.107463e+03 -5562.02591 1347.09998 0.8796335
## 84-69 -3.137148e+02 -3134.35365 2506.92402 1.0000000
## 86-69 -1.566850e+03 -4387.48883 1253.78883 0.9580604
## 89-69 -1.437081e+03 -4891.64443 2017.48146 0.9997422
## 93-69 -2.200433e+03 -5654.99628 1254.12961 0.8210314
## 74-71 7.851093e+02 -2669.45369 4239.67220 1.0000000

```

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## 75-71 -1.409815e+03 -5398.80051 2579.17088 0.9999960
## 76-71 1.523333e+03 -2465.65236 5512.31903 0.9999674
## 77-71 9.683333e+00 -3444.87961 3464.24628 1.0000000
## 78-71 1.521630e+02 -3104.83022 3409.15614 1.0000000
## 80-71 -1.207196e+03 -5196.18199 2781.78940 1.0000000
## 84-71 5.865519e+02 -2868.01109 4041.11480 1.0000000
## 86-71 -6.665833e+02 -4121.14628 2787.97961 1.0000000
## 89-71 -5.368148e+02 -4525.80051 3452.17088 1.0000000
## 93-71 -1.300167e+03 -5289.15236 2688.81903 0.9999996
## 75-74 -2.194924e+03 -5649.48702 1259.63887 0.8248496
## 76-74 7.382241e+02 -2716.33887 4192.78702 1.0000000
## 77-74 -7.754259e+02 -3596.06476 2045.21291 1.0000000
## 78-74 -6.329463e+02 -3207.82549 1941.93290 1.0000000
## 80-74 -1.992306e+03 -5446.86850 1462.25739 0.9339154
## 84-74 -1.985574e+02 -3019.19624 2622.08143 1.0000000
## 86-74 -1.451693e+03 -4272.33143 1368.94624 0.9855669
## 89-74 -1.321924e+03 -4776.48702 2132.63887 0.9999656
## 93-74 -2.085276e+03 -5539.83887 1369.28702 0.8916967
## 76-75 2.933148e+03 -1055.83754 6922.13384 0.5340290
## 77-75 1.419498e+03 -2035.06480 4874.06109 0.9998054
## 78-75 1.561978e+03 -1695.01540 4818.97096 0.9954798
## 80-75 2.026185e+02 -3786.36717 4191.60421 1.0000000
## 84-75 1.996367e+03 -1458.19628 5450.92961 0.9323491
## 86-75 7.432315e+02 -2711.33146 4197.79443 1.0000000
## 89-75 8.730000e+02 -3115.98569 4861.98569 1.0000000
## 93-75 1.096481e+02 -3879.33754 4098.63384 1.0000000
## 77-76 -1.513650e+03 -4968.21295 1940.91295 0.9992037
## 78-76 -1.371170e+03 -4628.16355 1885.82281 0.9996630
## 80-76 -2.730530e+03 -6719.51532 1258.45606 0.6911395
## 84-76 -9.367815e+02 -4391.34443 2517.78146 1.0000000
## 86-76 -2.189917e+03 -5644.47961 1264.64628 0.8282841
## 89-76 -2.060148e+03 -6049.13384 1928.83754 0.9847852
## 93-76 -2.823500e+03 -6812.48569 1165.48569 0.6198433
## 78-77 1.424796e+02 -2432.39956 2717.35882 1.0000000
## 80-77 -1.216880e+03 -4671.44257 2237.68332 0.9999963
## 84-77 5.768685e+02 -2243.77031 3397.50735 1.0000000
## 86-77 -6.762667e+02 -3496.90550 2144.37217 1.0000000
## 89-77 -5.464981e+02 -4001.06109 2908.06480 1.0000000
## 93-77 -1.309850e+03 -4764.41295 2144.71295 0.9999728
## 80-78 -1.359359e+03 -4616.35244 1897.63392 0.9997223
## 84-78 4.343889e+02 -2140.49030 3009.26808 1.0000000
## 86-78 -8.187463e+02 -3393.62549 1756.13290 0.9999998
## 89-78 -6.889778e+02 -3945.97096 2568.01540 1.0000000
## 93-78 -1.452330e+03 -4709.32281 1804.66355 0.9988593
## 84-80 1.793748e+03 -1660.81480 5248.31109 0.9835059
## 86-80 5.406130e+02 -2913.94998 3995.17591 1.0000000
## 89-80 6.703815e+02 -3318.60421 4659.36717 1.0000000
## 93-80 -9.297037e+01 -4081.95606 3896.01532 1.0000000
## 86-84 -1.253135e+03 -4073.77402 1567.50365 0.9989412
## 89-84 -1.123367e+03 -4577.92961 2331.19628 0.9999997
## 93-84 -1.886719e+03 -5341.28146 1567.84443 0.9663588
## 89-86 1.297685e+02 -3324.79443 3584.33146 1.0000000
## 93-86 -6.335833e+02 -4088.14628 2820.97961 1.0000000
## 93-89 -7.633519e+02 -4752.33754 3225.63384 1.0000000

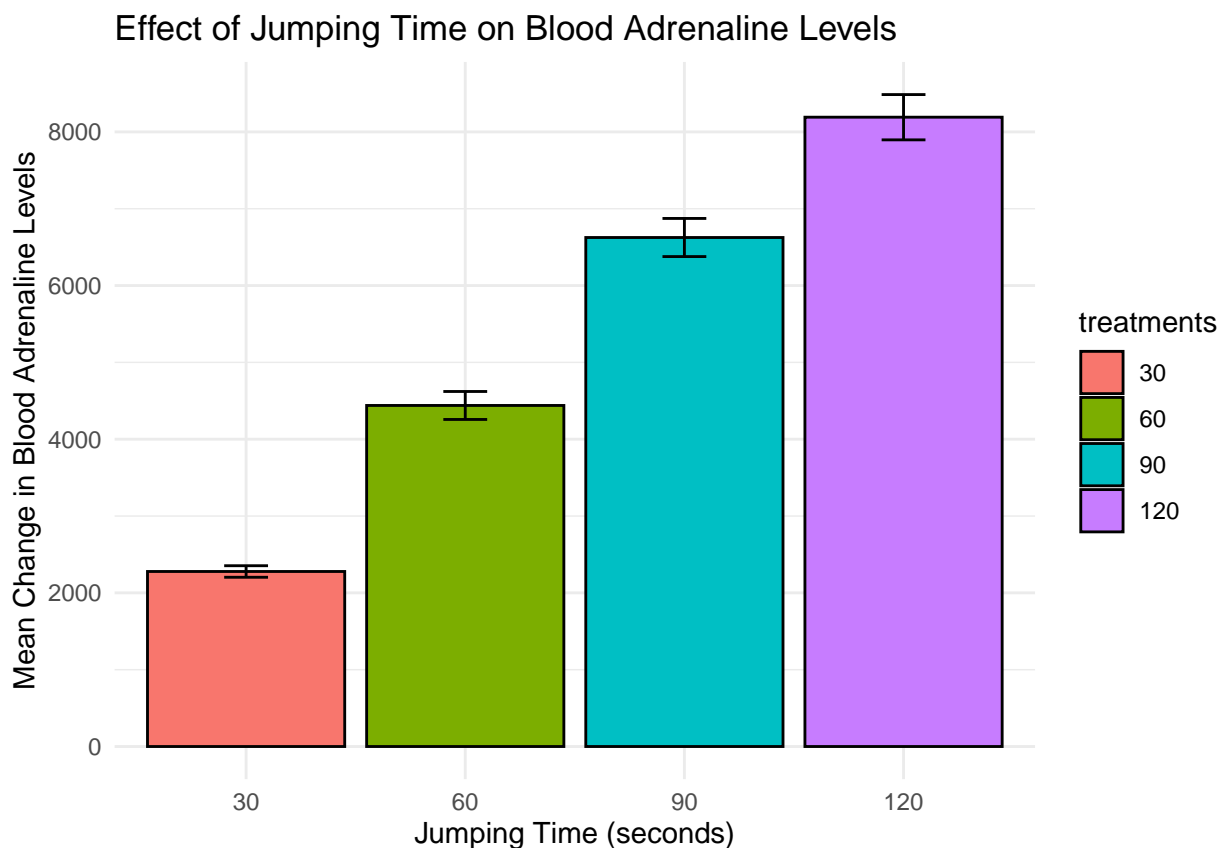
```

```
##
## $gender
##      diff      lwr      upr p adj
## M-F -777.5626 -1026.585 -528.5402 1e-07

treatment_means <- aggregate(response ~ treatments, data = a,
  mean)
treatment_se <- aggregate(response ~ treatments, data = a, function(x) sd(x)/sqrt(length(x)))

# Merge means and standard errors for plotting
plot_data <- merge(treatment_means, treatment_se, by = "treatments")
names(plot_data) <- c("treatments", "mean", "se")

# Bar Graph Plot for each level of treatment
ggplot(plot_data, aes(x = treatments, y = mean, fill = treatments)) +
  geom_bar(stat = "identity", position = position_dodge(),
    color = "black") + geom_errorbar(aes(ymin = mean - se,
  ymax = mean + se), width = 0.2, position = position_dodge(0.9)) +
  labs(title = "Effect of Jumping Time on Blood Adrenaline Levels",
    x = "Jumping Time (seconds)", y = "Mean Change in Blood Adrenaline Levels") +
  theme_minimal()
```



```
# Boxplot
ggplot(data, aes(y = factor(treatments), x = response, fill = factor(treatments))) +
  geom_boxplot() + labs(title = "Adrenaline Level Changes Across Jumping Times",
  y = "Jumping Time (seconds)", x = "Change in Blood Adrenaline Levels") +
  theme_minimal()
```

