grp

2022-11-11

QUESTIONS 1.CHOOSE A DATASET ROCK

```
#Data Manipulation
#clear workspace
rm(list=ls())#used to clear the envirnoment all variable
#we can perform all the manipulation using the dplyr package
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
?datasets
```

```
## starting httpd help server ...
```

```
##  done
```

```
library(help="datasets")
data()
#Loading data
data("rock")
?rock
```

2.CHAGE THE DATASETSET NAME TO USJ

```
usj<-rock
```

3.PRINT THE STRUCTURE OF DATA

```
#structure of the data
str(usj)
```

```
## 'data.frame':    48 obs. of  4 variables:
##  $ area : int  4990 7002 7558 7352 7943 7979 9333 8209 8393 6425 ...
##  $ peri : num  2792 3893 3931 3869 3949 ...
##  $ shape: num  0.0903 0.1486 0.1833 0.1171 0.1224 ...
##  $ perm : num  6.3 6.3 6.3 6.3 17.1 17.1 17.1 17.1 119 119 ...
```

4.PRINT THE MISSING VALUES IN THE DATA

```
#checking for missing values
any(is.na(usj))
```

```
## [1] FALSE
```

```
sum(is.na(usj))
```

```
## [1] 0
```

5.PRINT THE 1ST 6 ROWS IN THE DATA

```
#fetching top 6 rows
head(usj)
```

```
##   area    peri     shape perm
## 1 4990 2791.90 0.0903296  6.3
## 2 7002 3892.60 0.1486220  6.3
## 3 7558 3930.66 0.1833120  6.3
## 4 7352 3869.32 0.1170630  6.3
## 5 7943 3948.54 0.1224170 17.1
## 6 7979 4010.15 0.1670450 17.1
```

6.PRINT THE LAST 6 ROWS IN THE DATA

```
#fetching last 6 rows
tail(usj)
```

```
##    area     peri    shape perm
## 43 5605 1145.690 0.464125 1300
## 44 8793 2280.490 0.420477 1300
## 45 3475 1174.110 0.200744  580
## 46 1651  597.808 0.262651  580
## 47 5514 1455.880 0.182453  580
## 48 9718 1485.580 0.200447  580
```

7.VEIW THE DATA

```
#viewing data
View(usj)
```

8.PRINT THE TIBBLE OF THE DATA

```
as_tibble(usj)
```

```
## # A tibble: 48 x 4
##     area  peri  shape  perm
##    <int> <dbl>  <dbl> <dbl>
##  1  4990 2792. 0.0903   6.3
##  2  7002 3893. 0.149    6.3
##  3  7558 3931. 0.183    6.3
##  4  7352 3869. 0.117    6.3
##  5  7943 3949. 0.122   17.1
##  6  7979 4010. 0.167   17.1
##  7  9333 4346. 0.190   17.1
##  8  8209 4345. 0.164   17.1
##  9  8393 3682. 0.204  119
## 10  6425 3099. 0.162  119
## # ... with 38 more rows
```

9.PRINT THE GLIMPLE OF THE DATA

```
glimpse(usj)
```

```
## Rows: 48
## Columns: 4
## $ area  <int> 4990, 7002, 7558, 7352, 7943, 7979, 9333, 8209, 8393, 6425, 9364~
## $ peri  <dbl> 2791.90, 3892.60, 3930.66, 3869.32, 3948.54, 4010.15, 4345.75, 4~
## $ shape <dbl> 0.0903296, 0.1486220, 0.1833120, 0.1170630, 0.1224170, 0.1670450~
## $ perm  <dbl> 6.3, 6.3, 6.3, 6.3, 17.1, 17.1, 17.1, 17.1, 119.0, 119.0, 119.0,~
```

10.PRINT THE ROCK DATA ONLY WHO HAS AREA MORE THAN 3666

```
#filtering based on single condition
filter(usj,area>3666)
```

```
##     area     peri     shape   perm
## 1   4990 2791.900 0.0903296    6.3
## 2   7002 3892.600 0.1486220    6.3
## 3   7558 3930.660 0.1833120    6.3
## 4   7352 3869.320 0.1170630    6.3
## 5   7943 3948.540 0.1224170   17.1
## 6   7979 4010.150 0.1670450   17.1
## 7   9333 4345.750 0.1896510   17.1
## 8   8209 4344.750 0.1641270   17.1
## 9   8393 3682.040 0.2036540  119.0
## 10  6425 3098.650 0.1623940  119.0
## 11  9364 4480.050 0.1509440  119.0
## 12  8624 3986.240 0.1481410  119.0
## 13 10651 4036.540 0.2285950   82.4
## 14  8868 3518.040 0.2316230   82.4
## 15  9417 3999.370 0.1725670   82.4
## 16  8874 3629.070 0.1534810   82.4
## 17 10962 4608.660 0.2043140   58.6
## 18 10743 4787.620 0.2627270   58.6
## 19 11878 4864.220 0.2000710   58.6
## 20  9867 4479.410 0.1448100   58.6
## 21  7838 3428.740 0.1138520  142.0
## 22 11876 4353.140 0.2910290  142.0
## 23 12212 4697.650 0.2400770  142.0
## 24  8233 3518.440 0.1618650  142.0
## 25  6360 1977.390 0.2808870  740.0
## 26  4193 1379.350 0.1794550  740.0
## 27  7416 1916.240 0.1918020  740.0
## 28  5246 1585.420 0.1330830  740.0
## 29  6509 1851.210 0.2252140  890.0
## 30  4895 1239.660 0.3412730  890.0
## 31  6775 1728.140 0.3116460  890.0
## 32  7894 1461.060 0.2760160  890.0
## 33  5980 1426.760 0.1976530  950.0
## 34  5318  990.388 0.3266350  950.0
## 35  7392 1350.760 0.1541920  950.0
## 36  7894 1461.060 0.2760160  950.0
## 37  5267 1644.960 0.2538320  100.0
## 38  5048  941.543 0.3286410 1300.0
## 39  5605 1145.690 0.4641250 1300.0
## 40  8793 2280.490 0.4204770 1300.0
## 41  5514 1455.880 0.1824530  580.0
## 42  9718 1485.580 0.2004470  580.0
```

11.PRINT THE ROCK DATA ONLY WHO HAS AREA MORE THAN 3666 AND
PERM MORE THAN 6.3

```r
#filtering based on multiple condition
filter(usj,area>3666 & perm>6.3)
```

```
##     area     peri    shape   perm
## 1   7943 3948.540 0.122417   17.1
## 2   7979 4010.150 0.167045   17.1
## 3   9333 4345.750 0.189651   17.1
## 4   8209 4344.750 0.164127   17.1
## 5   8393 3682.040 0.203654  119.0
## 6   6425 3098.650 0.162394  119.0
## 7   9364 4480.050 0.150944  119.0
## 8   8624 3986.240 0.148141  119.0
## 9  10651 4036.540 0.228595   82.4
## 10  8868 3518.040 0.231623   82.4
## 11  9417 3999.370 0.172567   82.4
## 12  8874 3629.070 0.153481   82.4
## 13 10962 4608.660 0.204314   58.6
## 14 10743 4787.620 0.262727   58.6
## 15 11878 4864.220 0.200071   58.6
## 16  9867 4479.410 0.144810   58.6
## 17  7838 3428.740 0.113852  142.0
## 18 11876 4353.140 0.291029  142.0
## 19 12212 4697.650 0.240077  142.0
## 20  8233 3518.440 0.161865  142.0
## 21  6360 1977.390 0.280887  740.0
## 22  4193 1379.350 0.179455  740.0
## 23  7416 1916.240 0.191802  740.0
## 24  5246 1585.420 0.133083  740.0
## 25  6509 1851.210 0.225214  890.0
## 26  4895 1239.660 0.341273  890.0
## 27  6775 1728.140 0.311646  890.0
## 28  7894 1461.060 0.276016  890.0
## 29  5980 1426.760 0.197653  950.0
## 30  5318  990.388 0.326635  950.0
## 31  7392 1350.760 0.154192  950.0
## 32  7894 1461.060 0.276016  950.0
## 33  5267 1644.960 0.253832  100.0
## 34  5048  941.543 0.328641 1300.0
## 35  5605 1145.690 0.464125 1300.0
## 36  8793 2280.490 0.420477 1300.0
## 37  5514 1455.880 0.182453  580.0
## 38  9718 1485.580 0.200447  580.0
```

12.PRINT THE DISTINCT THE DATA

```
#remove the duplicate elements
distinct(usj)
```

```
##     area     peri     shape   perm
## 1   4990 2791.900 0.0903296    6.3
## 2   7002 3892.600 0.1486220    6.3
## 3   7558 3930.660 0.1833120    6.3
## 4   7352 3869.320 0.1170630    6.3
## 5   7943 3948.540 0.1224170   17.1
## 6   7979 4010.150 0.1670450   17.1
## 7   9333 4345.750 0.1896510   17.1
## 8   8209 4344.750 0.1641270   17.1
## 9   8393 3682.040 0.2036540  119.0
## 10  6425 3098.650 0.1623940  119.0
## 11  9364 4480.050 0.1509440  119.0
## 12  8624 3986.240 0.1481410  119.0
## 13 10651 4036.540 0.2285950   82.4
## 14  8868 3518.040 0.2316230   82.4
## 15  9417 3999.370 0.1725670   82.4
## 16  8874 3629.070 0.1534810   82.4
## 17 10962 4608.660 0.2043140   58.6
## 18 10743 4787.620 0.2627270   58.6
## 19 11878 4864.220 0.2000710   58.6
## 20  9867 4479.410 0.1448100   58.6
## 21  7838 3428.740 0.1138520  142.0
## 22 11876 4353.140 0.2910290  142.0
## 23 12212 4697.650 0.2400770  142.0
## 24  8233 3518.440 0.1618650  142.0
## 25  6360 1977.390 0.2808870  740.0
## 26  4193 1379.350 0.1794550  740.0
## 27  7416 1916.240 0.1918020  740.0
## 28  5246 1585.420 0.1330830  740.0
## 29  6509 1851.210 0.2252140  890.0
## 30  4895 1239.660 0.3412730  890.0
## 31  6775 1728.140 0.3116460  890.0
## 32  7894 1461.060 0.2760160  890.0
## 33  5980 1426.760 0.1976530  950.0
## 34  5318  990.388 0.3266350  950.0
## 35  7392 1350.760 0.1541920  950.0
## 36  7894 1461.060 0.2760160  950.0
## 37  3469 1376.700 0.1769690  100.0
## 38  1468  476.322 0.4387120  100.0
## 39  3524 1189.460 0.1635860  100.0
## 40  5267 1644.960 0.2538320  100.0
## 41  5048  941.543 0.3286410 1300.0
## 42  1016  308.642 0.2300810 1300.0
## 43  5605 1145.690 0.4641250 1300.0
## 44  8793 2280.490 0.4204770 1300.0
## 45  3475 1174.110 0.2007440  580.0
## 46  1651  597.808 0.2626510  580.0
## 47  5514 1455.880 0.1824530  580.0
## 48  9718 1485.580 0.2004470  580.0
```

13.RANDOMLY SELECT THE DATA OF JUDGES WITH FRACTION 0.8

```
#randomly select fraction of rows
?sample_frac
sample_frac(usj,0.8)
```

```
##     area     peri    shape   perm
## 1   8868 3518.040 0.231623   82.4
## 2  10962 4608.660 0.204314   58.6
## 3   1016  308.642 0.230081 1300.0
## 4   5267 1644.960 0.253832  100.0
## 5   3469 1376.700 0.176969  100.0
## 6   6775 1728.140 0.311646  890.0
## 7   6509 1851.210 0.225214  890.0
## 8   5514 1455.880 0.182453  580.0
## 9   1468  476.322 0.438712  100.0
## 10  9417 3999.370 0.172567   82.4
## 11  8793 2280.490 0.420477 1300.0
## 12 11878 4864.220 0.200071   58.6
## 13  7894 1461.060 0.276016  890.0
## 14 10651 4036.540 0.228595   82.4
## 15  8624 3986.240 0.148141  119.0
## 16  6425 3098.650 0.162394  119.0
## 17  5605 1145.690 0.464125 1300.0
## 18 12212 4697.650 0.240077  142.0
## 19  7558 3930.660 0.183312    6.3
## 20 10743 4787.620 0.262727   58.6
## 21  8233 3518.440 0.161865  142.0
## 22  9718 1485.580 0.200447  580.0
## 23  5980 1426.760 0.197653  950.0
## 24  8874 3629.070 0.153481   82.4
## 25  4895 1239.660 0.341273  890.0
## 26  5318  990.388 0.326635  950.0
## 27  3475 1174.110 0.200744  580.0
## 28  6360 1977.390 0.280887  740.0
## 29  4193 1379.350 0.179455  740.0
## 30  8393 3682.040 0.203654  119.0
## 31  7894 1461.060 0.276016  950.0
## 32  7352 3869.320 0.117063    6.3
## 33  7838 3428.740 0.113852  142.0
## 34  5246 1585.420 0.133083  740.0
## 35  7002 3892.600 0.148622    6.3
## 36  5048  941.543 0.328641 1300.0
## 37 11876 4353.140 0.291029  142.0
## 38  9333 4345.750 0.189651   17.1
```

14.RANDOMLY SELECT 6 DATA FROM DATA

```
#randomly select no. of rows
sample_n(usj,6)
```

```
##    area     peri    shape   perm
## 1  8874 3629.070 0.153481   82.4
## 2 10651 4036.540 0.228595   82.4
## 3  5605 1145.690 0.464125 1300.0
## 4  5318  990.388 0.326635  950.0
## 5  3475 1174.110 0.200744  580.0
## 6  5267 1644.960 0.253832  100.0
```

```
slice_sample(usj,n=6)
```

```
##    area     peri    shape  perm
## 1  7894 1461.060 0.276016 950.0
## 2  5318  990.388 0.326635 950.0
## 3  8874 3629.070 0.153481  82.4
## 4  9718 1485.580 0.200447 580.0
## 5  8393 3682.040 0.203654 119.0
## 6 10962 4608.660 0.204314  58.6
```

15.ARRANGE THE DATA IN ACCENDING ODER OF SHAPE

```
#arrange the data in ascending order of mpg
arrange(usj,shape)
```

```
##     area     peri     shape   perm
## 1   4990 2791.900 0.0903296    6.3
## 2   7838 3428.740 0.1138520  142.0
## 3   7352 3869.320 0.1170630    6.3
## 4   7943 3948.540 0.1224170   17.1
## 5   5246 1585.420 0.1330830  740.0
## 6   9867 4479.410 0.1448100   58.6
## 7   8624 3986.240 0.1481410  119.0
## 8   7002 3892.600 0.1486220    6.3
## 9   9364 4480.050 0.1509440  119.0
## 10  8874 3629.070 0.1534810   82.4
## 11  7392 1350.760 0.1541920  950.0
## 12  8233 3518.440 0.1618650  142.0
## 13  6425 3098.650 0.1623940  119.0
## 14  3524 1189.460 0.1635860  100.0
## 15  8209 4344.750 0.1641270   17.1
## 16  7979 4010.150 0.1670450   17.1
## 17  9417 3999.370 0.1725670   82.4
## 18  3469 1376.700 0.1769690  100.0
## 19  4193 1379.350 0.1794550  740.0
## 20  5514 1455.880 0.1824530  580.0
## 21  7558 3930.660 0.1833120    6.3
## 22  9333 4345.750 0.1896510   17.1
## 23  7416 1916.240 0.1918020  740.0
## 24  5980 1426.760 0.1976530  950.0
## 25 11878 4864.220 0.2000710   58.6
## 26  9718 1485.580 0.2004470  580.0
## 27  3475 1174.110 0.2007440  580.0
## 28  8393 3682.040 0.2036540  119.0
## 29 10962 4608.660 0.2043140   58.6
## 30  6509 1851.210 0.2252140  890.0
## 31 10651 4036.540 0.2285950   82.4
## 32  1016  308.642 0.2300810 1300.0
## 33  8868 3518.040 0.2316230   82.4
## 34 12212 4697.650 0.2400770  142.0
## 35  5267 1644.960 0.2538320  100.0
## 36  1651  597.808 0.2626510  580.0
## 37 10743 4787.620 0.2627270   58.6
## 38  7894 1461.060 0.2760160  890.0
## 39  7894 1461.060 0.2760160  950.0
## 40  6360 1977.390 0.2808870  740.0
## 41 11876 4353.140 0.2910290  142.0
## 42  6775 1728.140 0.3116460  890.0
## 43  5318  990.388 0.3266350  950.0
## 44  5048  941.543 0.3286410 1300.0
## 45  4895 1239.660 0.3412730  890.0
## 46  8793 2280.490 0.4204770 1300.0
## 47  1468  476.322 0.4387120  100.0
## 48  5605 1145.690 0.4641250 1300.0
```

16.ARRANGE THE DATA IN DESCENDING OF PERI

```
#arrange the data in descending order of wt
arrange(usj,desc(peri))
```

```
##     area     peri     shape   perm
## 1  11878 4864.220 0.2000710   58.6
## 2  10743 4787.620 0.2627270   58.6
## 3  12212 4697.650 0.2400770  142.0
## 4  10962 4608.660 0.2043140   58.6
## 5   9364 4480.050 0.1509440  119.0
## 6   9867 4479.410 0.1448100   58.6
## 7  11876 4353.140 0.2910290  142.0
## 8   9333 4345.750 0.1896510   17.1
## 9   8209 4344.750 0.1641270   17.1
## 10 10651 4036.540 0.2285950   82.4
## 11  7979 4010.150 0.1670450   17.1
## 12  9417 3999.370 0.1725670   82.4
## 13  8624 3986.240 0.1481410  119.0
## 14  7943 3948.540 0.1224170   17.1
## 15  7558 3930.660 0.1833120    6.3
## 16  7002 3892.600 0.1486220    6.3
## 17  7352 3869.320 0.1170630    6.3
## 18  8393 3682.040 0.2036540  119.0
## 19  8874 3629.070 0.1534810   82.4
## 20  8233 3518.440 0.1618650  142.0
## 21  8868 3518.040 0.2316230   82.4
## 22  7838 3428.740 0.1138520  142.0
## 23  6425 3098.650 0.1623940  119.0
## 24  4990 2791.900 0.0903296    6.3
## 25  8793 2280.490 0.4204770 1300.0
## 26  6360 1977.390 0.2808870  740.0
## 27  7416 1916.240 0.1918020  740.0
## 28  6509 1851.210 0.2252140  890.0
## 29  6775 1728.140 0.3116460  890.0
## 30  5267 1644.960 0.2538320  100.0
## 31  5246 1585.420 0.1330830  740.0
## 32  9718 1485.580 0.2004470  580.0
## 33  7894 1461.060 0.2760160  890.0
## 34  7894 1461.060 0.2760160  950.0
## 35  5514 1455.880 0.1824530  580.0
## 36  5980 1426.760 0.1976530  950.0
## 37  4193 1379.350 0.1794550  740.0
## 38  3469 1376.700 0.1769690  100.0
## 39  7392 1350.760 0.1541920  950.0
## 40  4895 1239.660 0.3412730  890.0
## 41  3524 1189.460 0.1635860  100.0
## 42  3475 1174.110 0.2007440  580.0
## 43  5605 1145.690 0.4641250 1300.0
## 44  5318  990.388 0.3266350  950.0
## 45  5048  941.543 0.3286410 1300.0
## 46  1651  597.808 0.2626510  580.0
## 47  1468  476.322 0.4387120  100.0
## 48  1016  308.642 0.2300810 1300.0
```

17.ARRANGE THE DATA IN ODER OD CONT AND DECI

```
#arrange the data in order based on more than one column
arrange(usj,shape,peri)
```

```
##     area     peri     shape   perm
## 1   4990 2791.900 0.0903296    6.3
## 2   7838 3428.740 0.1138520  142.0
## 3   7352 3869.320 0.1170630    6.3
## 4   7943 3948.540 0.1224170   17.1
## 5   5246 1585.420 0.1330830  740.0
## 6   9867 4479.410 0.1448100   58.6
## 7   8624 3986.240 0.1481410  119.0
## 8   7002 3892.600 0.1486220    6.3
## 9   9364 4480.050 0.1509440  119.0
## 10  8874 3629.070 0.1534810   82.4
## 11  7392 1350.760 0.1541920  950.0
## 12  8233 3518.440 0.1618650  142.0
## 13  6425 3098.650 0.1623940  119.0
## 14  3524 1189.460 0.1635860  100.0
## 15  8209 4344.750 0.1641270   17.1
## 16  7979 4010.150 0.1670450   17.1
## 17  9417 3999.370 0.1725670   82.4
## 18  3469 1376.700 0.1769690  100.0
## 19  4193 1379.350 0.1794550  740.0
## 20  5514 1455.880 0.1824530  580.0
## 21  7558 3930.660 0.1833120    6.3
## 22  9333 4345.750 0.1896510   17.1
## 23  7416 1916.240 0.1918020  740.0
## 24  5980 1426.760 0.1976530  950.0
## 25 11878 4864.220 0.2000710   58.6
## 26  9718 1485.580 0.2004470  580.0
## 27  3475 1174.110 0.2007440  580.0
## 28  8393 3682.040 0.2036540  119.0
## 29 10962 4608.660 0.2043140   58.6
## 30  6509 1851.210 0.2252140  890.0
## 31 10651 4036.540 0.2285950   82.4
## 32  1016  308.642 0.2300810 1300.0
## 33  8868 3518.040 0.2316230   82.4
## 34 12212 4697.650 0.2400770  142.0
## 35  5267 1644.960 0.2538320  100.0
## 36  1651  597.808 0.2626510  580.0
## 37 10743 4787.620 0.2627270   58.6
## 38  7894 1461.060 0.2760160  890.0
## 39  7894 1461.060 0.2760160  950.0
## 40  6360 1977.390 0.2808870  740.0
## 41 11876 4353.140 0.2910290  142.0
## 42  6775 1728.140 0.3116460  890.0
## 43  5318  990.388 0.3266350  950.0
## 44  5048  941.543 0.3286410 1300.0
## 45  4895 1239.660 0.3412730  890.0
## 46  8793 2280.490 0.4204770 1300.0
## 47  1468  476.322 0.4387120  100.0
## 48  5605 1145.690 0.4641250 1300.0
```

18. PRINT ONLY CONT COLUMN

```
#select single columns
select(usj,peri)
```

```
##        peri
## 1  2791.900
## 2  3892.600
## 3  3930.660
## 4  3869.320
## 5  3948.540
## 6  4010.150
## 7  4345.750
## 8  4344.750
## 9  3682.040
## 10 3098.650
## 11 4480.050
## 12 3986.240
## 13 4036.540
## 14 3518.040
## 15 3999.370
## 16 3629.070
## 17 4608.660
## 18 4787.620
## 19 4864.220
## 20 4479.410
## 21 3428.740
## 22 4353.140
## 23 4697.650
## 24 3518.440
## 25 1977.390
## 26 1379.350
## 27 1916.240
## 28 1585.420
## 29 1851.210
## 30 1239.660
## 31 1728.140
## 32 1461.060
## 33 1426.760
## 34  990.388
## 35 1350.760
## 36 1461.060
## 37 1376.700
## 38  476.322
## 39 1189.460
## 40 1644.960
## 41  941.543
## 42  308.642
## 43 1145.690
## 44 2280.490
## 45 1174.110
## 46  597.808
## 47 1455.880
## 48 1485.580
```

19 PRINT ONLY SHAPE,PERI,PERM COLUMN

```
#selectiong multiple columns
select(usj,c("shape","peri","perm"))
```

```
##        shape     peri   perm
## 1  0.0903296 2791.900    6.3
## 2  0.1486220 3892.600    6.3
## 3  0.1833120 3930.660    6.3
## 4  0.1170630 3869.320    6.3
## 5  0.1224170 3948.540   17.1
## 6  0.1670450 4010.150   17.1
## 7  0.1896510 4345.750   17.1
## 8  0.1641270 4344.750   17.1
## 9  0.2036540 3682.040  119.0
## 10 0.1623940 3098.650  119.0
## 11 0.1509440 4480.050  119.0
## 12 0.1481410 3986.240  119.0
## 13 0.2285950 4036.540   82.4
## 14 0.2316230 3518.040   82.4
## 15 0.1725670 3999.370   82.4
## 16 0.1534810 3629.070   82.4
## 17 0.2043140 4608.660   58.6
## 18 0.2627270 4787.620   58.6
## 19 0.2000710 4864.220   58.6
## 20 0.1448100 4479.410   58.6
## 21 0.1138520 3428.740  142.0
## 22 0.2910290 4353.140  142.0
## 23 0.2400770 4697.650  142.0
## 24 0.1618650 3518.440  142.0
## 25 0.2808870 1977.390  740.0
## 26 0.1794550 1379.350  740.0
## 27 0.1918020 1916.240  740.0
## 28 0.1330830 1585.420  740.0
## 29 0.2252140 1851.210  890.0
## 30 0.3412730 1239.660  890.0
## 31 0.3116460 1728.140  890.0
## 32 0.2760160 1461.060  890.0
## 33 0.1976530 1426.760  950.0
## 34 0.3266350  990.388  950.0
## 35 0.1541920 1350.760  950.0
## 36 0.2760160 1461.060  950.0
## 37 0.1769690 1376.700  100.0
## 38 0.4387120  476.322  100.0
## 39 0.1635860 1189.460  100.0
## 40 0.2538320 1644.960  100.0
## 41 0.3286410  941.543 1300.0
## 42 0.2300810  308.642 1300.0
## 43 0.4641250 1145.690 1300.0
## 44 0.4204770 2280.490 1300.0
## 45 0.2007440 1174.110  580.0
## 46 0.2626510  597.808  580.0
## 47 0.1824530 1455.880  580.0
## 48 0.2004470 1485.580  580.0
```