Implications for construction quality and sustainability

Statistical Modelling

2024-08-05

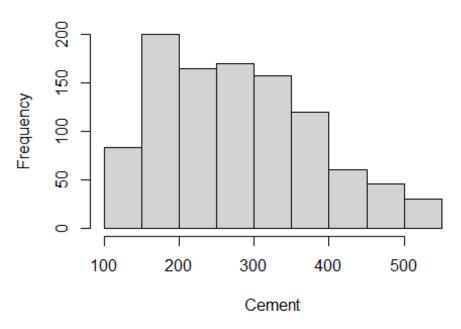
```
#Import the dataset(Copy of Concrete Data)
Data<-read.csv("C:\\Users\\RISINA\\Desktop\\Group 03-Project report\\Copy of</pre>
Concrete Data.csv")
colnames(Data)<-</pre>
c("Cement", "Blast_Furnace_Slag", "Fly_Ash", "Water", "Superplasticizer", "Coarse_
Aggregate", "Fine Aggregate", "Age day", "Concrete compressive strength")
names(Data)
## [1] "Cement"
                                       "Blast_Furnace_Slag"
## [3] "Fly Ash"
                                       "Water"
## [5] "Superplasticizer"
                                       "Coarse_Aggregate"
## [7] "Fine Aggregate"
                                       "Age day"
## [9] "Concrete_compressive_strength"
head(Data)
##
     Cement Blast_Furnace_Slag Fly_Ash Water Superplasticizer
Coarse Aggregate
## 1 540.0
                           0.0
                                         162
                                                          2.5
1040.0
                                         162
## 2 540.0
                           0.0
                                                          2.5
1055.0
## 3 332.5
                        142.5
                                     0
                                         228
                                                          0.0
932.0
## 4 332.5
                                         228
                        142.5
                                     0
                                                          0.0
932.0
                                         192
## 5 198.6
                         132.4
                                     0
                                                          0.0
978.4
## 6 266.0
                         114.0
                                         228
                                                          0.0
932.0
## Fine_Aggregate Age_day Concrete_compressive_strength
## 1
                        28
              676.0
                                                    79.99
## 2
              676.0
                         28
                                                    61.89
## 3
             594.0
                        270
                                                    40.27
## 4
             594.0
                        365
                                                    41.05
## 5
              825.5
                        360
                                                    44.30
## 6
              670.0
                         90
                                                    47.03
nrow(Data)
## [1] 1030
```

```
###Missing values
print("Total of Missing values")
## [1] "Total of Missing values"
sum(is.na(Data))
## [1] 0
colSums(is.na(Data))
##
                           Cement
                                              Blast_Furnace_Slag
##
##
                          Fly_Ash
                                                           Water
##
                Superplasticizer
##
                                                Coarse_Aggregate
##
##
                  Fine_Aggregate
                                                         Age_day
##
## Concrete_compressive_strength
##
```

This data set has no missing values.

```
########Descriptive Analysis########
##Summary
summary(Data$Cement)
##
     Min. 1st Qu. Median
                        Mean 3rd Qu.
                                       Max.
##
    102.0
           192.4
                  272.9
                         281.2
                               350.0
                                      540.0
sd(Data$Cement)
## [1] 104.5064
##Histogram
hist(Data$Cement, xlab = "Cement", main="Histogram of Cement")
```

Histogram of Cement

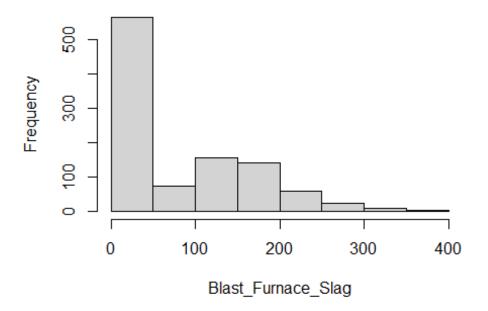


##Interpretation

*There is a peak in the cement content distribution between 150 and 200 units, which is right-skewed. *The values of cement content are roughly between 100 and 550 units. *As the value rises, the frequency of cement content falls, suggesting a greater percentage of samples with lower cement concentration.

```
##############Blast_Furnace_Slag###########
##Summary
summary(Data$Blast_Furnace_Slag)
##
      Min. 1st Qu.
                    Median
                              Mean 3rd Qu.
                                              Max.
       0.0
##
               0.0
                      22.0
                              73.9
                                     142.9
                                             359.4
sd(Data$Blast Furnace Slag)
## [1] 86.27934
##Histogram
hist(Data$Blast_Furnace_Slag,xlab = "Blast_Furnace_Slag",main="Histogram of
Blast_Furnace_Slag")
```

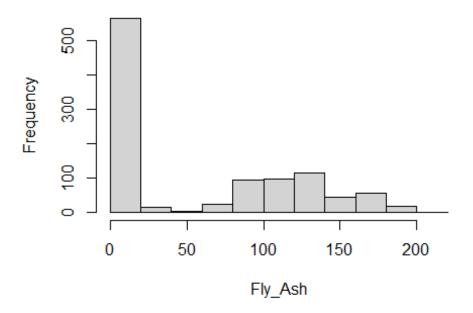
Histogram of Blast_Furnace_Slag



####Interpretation *The data has a lengthy tail that points towards greater amounts of blast furnace slag and is biased to the right (positively skewed).

```
##Summary
summary(Data$Fly_Ash)
##
     Min. 1st Qu.
                 Median
                          Mean 3rd Qu.
                                        Max.
                         54.19 118.30
##
     0.00
            0.00
                   0.00
                                      200.10
sd(Data$Fly_Ash)
## [1] 63.997
##Histogram
hist(Data$Fly_Ash,xlab = "Fly_Ash",main="Histogram of Fly_Ash")
```

Histogram of Fly_Ash

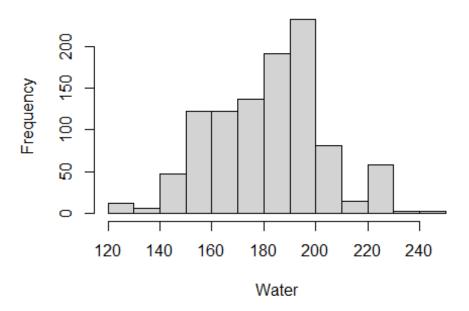


###Interpretation

*A long tail points in the direction of higher values, and the distribution is biased to the right.

```
##Summary
summary(Data$Water)
##
     Min. 1st Qu.
                 Median
                          Mean 3rd Qu.
                                       Max.
##
    121.8
           164.9
                  185.0
                         181.6
                                       247.0
                                192.0
sd(Data$Water)
## [1] 21.35422
##Histogram
hist(Data$Water,xlab = "Water",main="Histogram of Water")
```

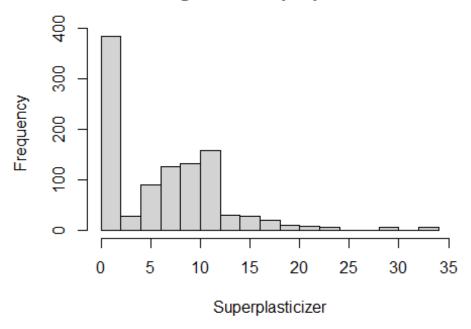
Histogram of Water



####Interpretation *There is a peak in the water content distribution between middle, which is normally distributed.

```
#############Superplasticizer##########
##Summary
summary(Data$Superplasticizer)
##
      Min. 1st Qu.
                   Median
                              Mean 3rd Qu.
                                              Max.
                             6.205 10.200
##
     0.000
            0.000
                     6.400
                                            32.200
sd(Data$Superplasticizer)
## [1] 5.973841
##Histogram
hist(Data$Superplasticizer,xlab = "Superplasticizer",main="Histogram of
Superplasticizer")
```

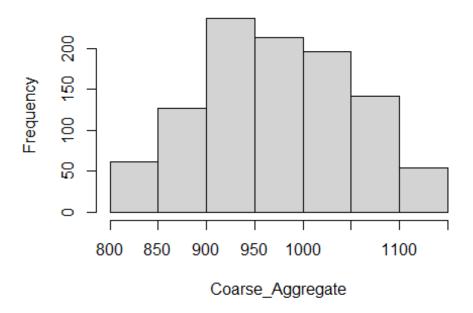
Histogram of Superplasticizer



#####Interpretation *There is a lengthy tail pointing towards higher values and a skew to the right in the data.

```
##############Coarse_Aggregate##############
##Summary
summary(Data$Coarse_Aggregate)
##
      Min. 1st Qu.
                    Median
                              Mean 3rd Qu.
                                               Max.
     801.0
             932.0
                     968.0
                             972.9 1029.4 1145.0
##
sd(Data$Coarse_Aggregate)
## [1] 77.75395
##Histogram
hist(Data$Coarse_Aggregate, xlab = "Coarse_Aggregate", main="Histogram of
Coarse_Aggregate")
```

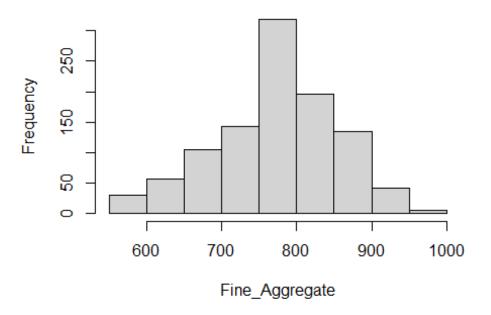
Histogram of Coarse_Aggregate



#####Interpretation *A normal distribution of coarse aggregate sizes in the concrete mix is suggested by the histogram, which has a bell-shaped approximate form.

```
############Fine_Aggregate##########
##Summary
summary(Data$Fine_Aggregate)
##
      Min. 1st Qu. Median
                             Mean 3rd Qu.
                                             Max.
     594.0
            731.0
                    779.5
                             773.6
                                    824.0
                                            992.6
##
sd(Data$Fine_Aggregate)
## [1] 80.17598
##Histogram
hist(Data$Fine_Aggregate,xlab = "Fine_Aggregate",main="Histogram of
Fine_Aggregate")
```

Histogram of Fine_Aggregate

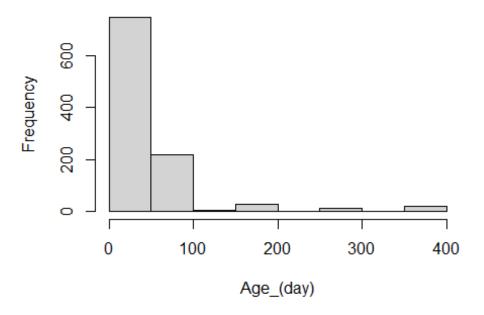


###Interpretation

*A normal distribution of fine aggregate sizes in the concrete mix is suggested by the histogram, which has a bell-shaped approximate form.

```
##Summary
summary(Data$Age_day)
##
     Min. 1st Qu. Median
                          Mean 3rd Qu.
                                        Max.
            7.00
##
     1.00
                  28.00
                         45.66
                                56.00 365.00
sd(Data$Age_day)
## [1] 63.16991
##Histogram
hist(Data$Age_day,xlab = "Age_(day)",main="Histogram of Age_(day)")
```

Histogram of Age_(day)

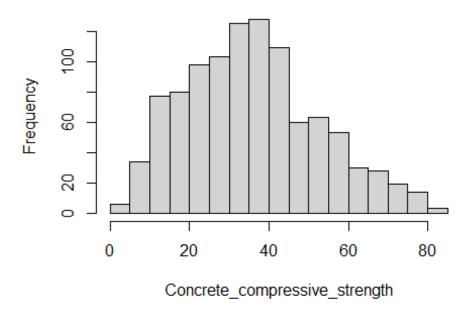


###Interpretation

*There is a significant leftward bias in the data, with many samples falling within the beginning age range of 0–100 days.

```
##Summary
summary(Data$Concrete_compressive_strength)
                 Median
##
     Min. 1st Qu.
                         Mean 3rd Qu.
                                       Max.
##
     2.33
           23.71
                  34.45
                         35.82
                               46.13
                                      82.60
sd(Data$Concrete_compressive_strength)
## [1] 16.70574
##Histogram
hist(Data$Concrete_compressive_strength,xlab =
"Concrete_compressive_strength", main="Histogram of
Concrete compressive strength")
```

Histogram of Concrete_compressive_strength



####Interpretation

*The histogram is roughly bell-shaped, suggesting that the concrete compressive strength values are approximately normally distributed.

```
####Outliers

# create detect outlier function
detect_outlier <- function(x) {

# calculate first quantile
   Quantile1 <- quantile(x, probs=.25)

# calculate third quantile
   Quantile3 <- quantile(x, probs=.75)

# calculate interquartile range
   IQR = Quantile3 - Quantile1

# return true or false
   x > Quantile3 + (IQR * 1.5) | x < Quantile1 - (IQR * 1.5)
}

# create remove outlier function
remove_outlier <- function(dataframe, columns = names(dataframe)) {</pre>
```

```
# for loop to traverse in columns vector
  for (col in columns) {
    # remove observation if it satisfies outlier function
    dataframe <- dataframe[!detect_outlier(dataframe[[col]]), ]</pre>
  }
  print("Remove outliers")
  print(dataframe)
}
cleaned_data_1<-remove_outlier(Data,</pre>
c('Cement', 'Blast Furnace Slag', 'Fly Ash', 'Water', 'Superplasticizer', 'Coarse
Aggregate','Fine_Aggregate','Age_day','Concrete_compressive_strength'))
## [1] "Remove outliers"
        Cement Blast_Furnace_Slag Fly_Ash Water Superplasticizer
Coarse Aggregate
## 2
         540.0
                              0.0
                                      0.0 162.0
                                                              2.5
1055.0
                                      0.0 228.0
## 6
         266.0
                            114.0
                                                              0.0
932.0
                            114.0
## 9
         266.0
                                      0.0 228.0
                                                              0.0
932.0
## 11
         198.6
                            132.4
                                      0.0 192.0
                                                              0.0
978.4
## 12
         198.6
                            132.4
                                      0.0 192.0
                                                              0.0
978.4
## 14
                                      0.0 228.0
                                                              0.0
        190.0
                            190.0
932.0
                                      0.0 228.0
## 15
        304.0
                             76.0
                                                              0.0
932.0
## 16
         380.0
                              0.0
                                      0.0 228.0
                                                              0.0
932.0
## 17
         139.6
                            209.4
                                      0.0 192.0
                                                              0.0
1047.0
## 22
         139.6
                            209.4
                                      0.0 192.0
                                                              0.0
1047.0
                                      0.0 192.0
## 23
         139.6
                            209.4
                                                              0.0
1047.0
## 41
         342.0
                             38.0
                                      0.0 228.0
                                                              0.0
932.0
## 47
         349.0
                              0.0
                                      0.0 192.0
                                                              0.0
1047.0
## 54
         304.0
                             76.0
                                      0.0 228.0
                                                              0.0
932.0
## 55
                            209.4
                                      0.0 192.0
         139.6
                                                              0.0
1047.0
## 56
         198.6
                            132.4
                                      0.0 192.0
                                                              0.0
978.4
```

## 58	198.6	132.4	0.0 192.0	0.0
978.4 ## 63	310.0	0.0	0.0 192.0	0.0
971.0				
## 69 932.0	190.0	190.0	0.0 228.0	0.0
## 70	485.0	0.0	0.0 146.0	0.0
1120.0 ## 71	374.0	189.2	0.0 170.1	10.1
926.1	374.0	109.2	0.0 1/0.1	10.1
## 72	313.3	262.2	0.0 175.5	8.6
1046.9	425.0	106.3	0.0.153.5	16 5
## 73 852.1	425.0	106.3	0.0 153.5	16.5
## 74	425.0	106.3	0.0 151.4	18.6
936.0	47E A	110 0	0.0 181.1	8.9
## 76 852.1	475.0	118.8	0.0 101.1	0.9
## 78	425.0	106.3	0.0 153.5	16.5
852.1				
## 79	388.6	97.1	0.0 157.9	12.1
852.1 ## 81	425.0	106.3	0.0 153.5	16.5
852.1	423.0	100.5	0.0 133.3	10.5
## 82	318.8	212.5	0.0 155.7	14.3
852.1	401.8	94.7	0.0 147.4	11.4
## 83 946.8	401.0	94.7	0.0 147.4	11.4
## 84	362.6	189.0	0.0 164.9	11.6
944.7	222 7	202.0	0 0 103 0	10.2
## 85 942.7	323.7	282.8	0.0 183.8	10.3
## 86	379.5	151.2	0.0 153.9	15.9
1134.3				
## 87 944.7	362.6	189.0	0.0 164.9	11.6
## 88	286.3	200.9	0.0 144.7	11.2
1004.6	262.6	100.0	0.0.464.0	
## 89 944.7	362.6	189.0	0.0 164.9	11.6
## 90	439.0	177.0	0.0 186.0	11.1
884.9				
## 91 944.7	389.9	189.0	0.0 145.9	22.0
## 92	362.6	189.0	0.0 164.9	11.6
944.7				
## 93	337.9	189.0	0.0 174.9	9.5
944.7 ## 94	374.0	189.2	0.0 170.1	10.1
926.1				

## 95	313.3	262.2	0.0 175.5	8.6
1046.9 ## 96	425.0	106.3	0.0 153.5	16.5
852.1				
## 97 936.0	425.0	106.3	0.0 151.4	18.6
## 99	475.0	118.8	0.0 181.1	8.9
852.1	425 0	106 2	0.0 153.5	16 5
## 101 852.1	425.0	106.3	0.0 155.5	16.5
## 102	388.6	97.1	0.0 157.9	12.1
852.1	425.0	106.3	0 0 453 5	16.5
## 104 852.1	425.0	106.3	0.0 153.5	16.5
## 105	318.8	212.5	0.0 155.7	14.3
852.1 ## 106	401.8	94.7	0.0 147.4	11.4
946.8	401.0	J4•7	0.0 147.4	11.4
## 107	362.6	189.0	0.0 164.9	11.6
944.7	222 7	202.0	0 0 103 0	10.2
## 108 942.7	323.7	282.8	0.0 183.8	10.3
## 109	379.5	151.2	0.0 153.9	15.9
1134.3	262.6	100.0	0.0.464.0	44.6
## 110 944.7	362.6	189.0	0.0 164.9	11.6
## 111	286.3	200.9	0.0 144.7	11.2
1004.6				
## 112	362.6	189.0	0.0 164.9	11.6
944.7 ## 113	439.0	177.0	0.0 186.0	11.1
884.9	13310	2// 10	0.0 200.0	
## 114	389.9	189.0	0.0 145.9	22.0
944.7 ## 115	362.6	189.0	0.0 164.9	11.6
944.7	302.0	103.0	0.0 101.5	11.0
## 116	337.9	189.0	0.0 174.9	9.5
944.7 ## 117	374.0	189.2	0.0 170.1	10.1
926.1				
## 118	313.3	262.2	0.0 175.5	8.6
1046.9 ## 119	425.0	106.3	0.0 153.5	16.5
852.1			-,0 -50,5	_ • • •
## 120	425.0	106.3	0.0 151.4	18.6
936.0 ## 122	475.0	118.8	0.0 181.1	8.9
852.1	., 5.0	110.0	0.0 101.1	0.0
## 124	425.0	106.3	0.0 153.5	16.5
852.1				

## 125 852.1	388.6	97.1	0.0 157.9	12.1
## 127	425.0	106.3	0.0 153.5	16.5
852.1 ## 128	318.8	212.5	0.0 155.7	14.3
852.1	510.0	212.5	0.0 199.7	14.5
## 129 946.8	401.8	94.7	0.0 147.4	11.4
## 130	362.6	189.0	0.0 164.9	11.6
944.7 ## 131	323.7	282.8	0.0 183.8	10.3
942.7				
## 132 1134.3	379.5	151.2	0.0 153.9	15.9
## 133	362.6	189.0	0.0 164.9	11.6
944.7 ## 134	286.3	200.9	0.0 144.7	11.2
1004.6				
## 135 944.7	362.6	189.0	0.0 164.9	11.6
## 136	439.0	177.0	0.0 186.0	11.1
884.9 ## 137	389.9	189.0	0.0 145.9	22.0
944.7 ## 138	362.6	189.0	0.0 164.9	11.6
944.7				
## 139 944.7	337.9	189.0	0.0 174.9	9.5
## 140	374.0	189.2	0.0 170.1	10.1
926.1 ## 141	313.3	262.2	0.0 175.5	8.6
1046.9	313.3	202.2	0.0 1/5.5	0.0
## 142	425.0	106.3	0.0 153.5	16.5
852.1 ## 143	425.0	106.3	0.0 151.4	18.6
936.0				
## 145 852.1	475.0	118.8	0.0 181.1	8.9
## 147	425.0	106.3	0.0 153.5	16.5
852.1 ## 148	388.6	97.1	0.0 157.9	12.1
852.1	425.0	106.3	0 0 452 5	16.5
## 150 852.1	425.0	106.3	0.0 153.5	16.5
## 151 852.1	318.8	212.5	0.0 155.7	14.3
## 152	401.8	94.7	0.0 147.4	11.4
946.8 ## 153	362.6	189.0	0.0 164.9	11.6
944.7	- 3-10	202.0		•

## 155	379.5	151.2	0.0 153.9	15.9
1134.3 ## 156	362.6	189.0	0.0 164.9	11.6
944.7	33213			
## 157	286.3	200.9	0.0 144.7	11.2
1004.6 ## 158	362.6	189.0	0.0 164.9	11.6
944.7				
## 159 884.9	439.0	177.0	0.0 186.0	11.1
## 160	389.9	189.0	0.0 145.9	22.0
944.7				
## 161 944.7	362.6	189.0	0.0 164.9	11.6
## 162	337.9	189.0	0.0 174.9	9.5
944.7				
## 163 926.1	374.0	189.2	0.0 170.1	10.1
## 164	313.3	262.2	0.0 175.5	8.6
1046.9				
## 165 852.1	425.0	106.3	0.0 153.5	16.5
## 166	425.0	106.3	0.0 151.4	18.6
936.0				
## 168 852.1	475.0	118.8	0.0 181.1	8.9
## 170	425.0	106.3	0.0 153.5	16.5
852.1	200 6	07.1	0 0 157 0	12 1
## 171 852.1	388.6	97.1	0.0 157.9	12.1
## 173	425.0	106.3	0.0 153.5	16.5
852.1	210.0	242 5	0 0 155 7	14.2
## 174 852.1	318.8	212.5	0.0 155.7	14.3
## 175	401.8	94.7	0.0 147.4	11.4
946.8 ## 176	362.6	189.0	0.0 164.9	11.6
944.7	302.0	189.0	0.0 104.9	11.0
## 177	379.5	151.2	0.0 153.9	15.9
1134.3 ## 178	362.6	189.0	0.0 164.9	11.6
944.7	30210	20310	0.0 20.03	1110
## 179	286.3	200.9	0.0 144.7	11.2
1004.6 ## 180	362.6	189.0	0.0 164.9	11.6
944.7				
## 181 884.9	439.0	177.0	0.0 186.0	11.1
## 183	362.6	189.0	0.0 164.9	11.6
944.7				

## 184 944.7	337.9	189.0	0.0 174.9	9.5
## 18 5	222.4	0.0	96.7 189.3	4.5
967.1				
## 186 967.1	222.4	0.0	96.7 189.3	4.5
## 1 87	222.4	0.0	96.7 189.3	4.5
967.1				
## 188	222.4	0.0	96.7 189.3	4.5
967.1 ## 189	222.4	0.0	96.7 189.3	4.5
967.1	222, 1	0.0	30.7 103.3	4.5
## 190	233.8	0.0	94.6 197.9	4.6
947.0 ## 191	222 0	0.0	04 6 107 0	1 6
947.0	233.8	0.0	94.6 197.9	4.6
## 192	233.8	0.0	94.6 197.9	4.6
947.0				
## 193 947.0	233.8	0.0	94.6 197.9	4.6
## 194	233.8	0.0	94.6 197.9	4.6
947.0				
## 195	194.7	0.0	100.5 165.6	7.5
1006.4 ## 196	194.7	0.0	100.5 165.6	7.5
1006.4	231.7	0.0	100.5 105.0	, , ,
## 197	194.7	0.0	100.5 165.6	7.5
1006.4 ## 198	194.7	0.0	100.5 165.6	7.5
1006.4	194.7	0.0	100.5 105.0	7.5
## 199	194.7	0.0	100.5 165.6	7.5
1006.4	400 7	0.0	425 4 462 4	7.0
## 200 1090.0	190.7	0.0	125.4 162.1	7.8
## 201	190.7	0.0	125.4 162.1	7.8
1090.0				
## 202 1090.0	190.7	0.0	125.4 162.1	7.8
## 203	190.7	0.0	125.4 162.1	7.8
1090.0				
## 204	190.7	0.0	125.4 162.1	7.8
1090.0 ## 205	212.1	0.0	121.6 180.3	5.7
1057.6	212.1	0.0	121.0 100.5	5.7
## 206	212.1	0.0	121.6 180.3	5.7
1057.6	212 1	0.0	121 6 100 2	E 7
## 207 1057.6	212.1	0.0	121.6 180.3	5.7
## 208	212.1	0.0	121.6 180.3	5.7
1057.6				
1057.6				

## 209	212.1	0.0	121.6 180.3	5.7
1057.6 ## 210	230.0	0.0	118.3 195.5	4.6
1029.4 ## 211	230.0	0.0	118.3 195.5	4.6
1029.4			110.5 195.5	4.0
## 212	230.0	0.0	118.3 195.5	4.6
1029.4 ## 213	230.0	0.0	118.3 195.5	4.6
1029.4	220.0	0.0	110 2 105 5	4 6
## 214 1029.4	230.0	0.0	118.3 195.5	4.6
## 215	190.3	0.0	125.2 161.9	9.9
1088.1 ## 216	190.3	0.0	125.2 161.9	9.9
1088.1				
## 217 1088.1	190.3	0.0	125.2 161.9	9.9
## 218	190.3	0.0	125.2 161.9	9.9
1088.1	190.3	0.0		0.0
## 219 1088.1	190.3	0.0	125.2 161.9	9.9
## 220	166.1	0.0	163.3 176.5	4.5
1058.6 ## 221	166.1	0.0	163.3 176.5	4.5
1058.6				
## 222 1058.6	166.1	0.0	163.3 176.5	4.5
## 223	166.1	0.0	163.3 176.5	4.5
1058.6 ## 224	166.1	0.0	163.3 176.5	4.5
1058.6			103.3 1/0.3	4.3
## 230	213.7	98.1	24.5 181.7	6.9
1065.8 ## 231	213.7	98.1	24.5 181.7	6.9
1065.8				
## 232 1065.8	213.7	98.1	24.5 181.7	6.9
## 233	213.7	98.1	24.5 181.7	6.9
1065.8 ## 234	213.7	98.1	24.5 181.7	6.9
1065.8				
## 235 1066.0	213.8	98.1	24.5 181.7	6.7
## 236	213.8	98.1	24.5 181.7	6.7
1066.0 ## 237	213.8	98.1	24.5 181.7	6.7
1066.0	213.0	90.1	27.J IOI./	0.7
## 238	213.8	98.1	24.5 181.7	6.7
1066.0				

## 239 1066.0	213.8	98.1	24.5 181.7	6.7
## 240	229.7	0.0	118.2 195.2	6.1
1028.1				
## 241	229.7	0.0	118.2 195.2	6.1
1028.1 ## 242	229.7	0.0	118.2 195.2	6.1
1028.1	22317	0.0	110.2 133.2	0.1
## 243	229.7	0.0	118.2 195.2	6.1
1028.1 ## 244	229.7	0.0	118.2 195.2	6.1
1028.1	223.7	0.0	110.2 193.2	0.1
## 245	238.1	0.0	94.1 186.7	7.0
949.9				
## 246 949.9	238.1	0.0	94.1 186.7	7.0
## 247	238.1	0.0	94.1 186.7	7.0
949.9				
## 248	238.1	0.0	94.1 186.7	7.0
949.9 ## 249	238.1	0.0	94.1 186.7	7.0
949.9	230.1	0.0	94.1 100.7	7.0
## 250	250.0	0.0	95.7 187.4	5.5
956.9				
## 251 956.9	250.0	0.0	95.7 187.4	5.5
## 252	250.0	0.0	95.7 187.4	5.5
956.9				
## 253	250.0	0.0	95.7 187.4	5.5
956.9 ## 254	250.0	0.0	95.7 187.4	5.5
956.9	230.0	0.0	JJ.7 107.4	3.3
## 255	212.5	0.0	100.4 159.3	8.7
1007.8	242 5	0.0	100 4 150 3	0.7
## 256 1007.8	212.5	0.0	100.4 159.3	8.7
## 257	212.5	0.0	100.4 159.3	8.7
1007.8				
## 258	212.5	0.0	100.4 159.3	8.7
1007.8 ## 259	212.5	0.0	100.4 159.3	8.7
1007.8		0.0	20011 23313	· · ·
## 260	212.6	0.0	100.4 159.4	10.4
1003.8	212 (0.0	100 4 150 4	10.4
## 261 1003.8	212.6	0.0	100.4 159.4	10.4
## 262	212.6	0.0	100.4 159.4	10.4
1003.8				
## 263	212.6	0.0	100.4 159.4	10.4
1003.8				

## 264	212.6	0.0	100.4 159.4	10.4
1003.8 ## 265	212.0	0.0	124.8 159.0	7.8
1085.4	212.0	0.0	124.8 133.0	7.0
## 266	212.0	0.0	124.8 159.0	7.8
1085.4				
## 267	212.0	0.0	124.8 159.0	7.8
1085.4 ## 268	212.0	0.0	124.8 159.0	7.8
1085.4	212.0	0.0	124.0 133.0	7.0
## 269	212.0	0.0	124.8 159.0	7.8
1085.4				
## 270	231.8	0.0	121.6 174.0	6.7
1056.4 ## 271	231.8	0.0	121.6 174.0	6.7
1056.4	231.0	0.0	121.0 174.0	0.7
## 272	231.8	0.0	121.6 174.0	6.7
1056.4				
## 273	231.8	0.0	121.6 174.0	6.7
1056.4 ## 274	231.8	0.0	121.6 174.0	6.7
1056.4	231.0	0.0	121.0 174.0	0.7
## 275	251.4	0.0	118.3 188.5	5.8
1028.4				
## 276	251.4	0.0	118.3 188.5	5.8
1028.4 ## 277	251.4	0.0	118.3 188.5	5.8
1028.4	231.4	0.0	110.5 100.5	3.0
## 278	251.4	0.0	118.3 188.5	5.8
1028.4				
## 279	251.4	0.0	118.3 188.5	5.8
1028.4 ## 280	251.4	0.0	118.3 188.5	6.4
1028.4	231.4	0.0	110.5 100.5	0.4
## 281	251.4	0.0	118.3 188.5	6.4
1028.4				
## 282 1028.4	251.4	0.0	118.3 188.5	6.4
## 283	251.4	0.0	118.3 188.5	6.4
1028.4	2321.	0.0	110.5 100.5	
## 284	251.4	0.0	118.3 188.5	6.4
1028.4	101		4.7 0 4.00 5	- 4
## 285 1055.6	181.4	0.0	167.0 169.6	7.6
## 286	181.4	0.0	167.0 169.6	7.6
1055.6		- · •		
## 287	181.4	0.0	167.0 169.6	7.6
1055.6	101 4	0.0	167.0.160.6	7.6
## 288 1055.6	181.4	0.0	167.0 169.6	7.6
D.CCAT				

## 289	181.4	0.0	167.0 169.6	7.6
1055.6 ## 290	182.0	45.2	122.0 170.2	8.2
1059.4	102.0	73.2	122.0 170.2	0.2
## 291	182.0	45.2	122.0 170.2	8.2
1059.4	182.0	45.2	122 0 170 2	0.2
## 292 1059.4	182.0	45.2	122.0 170.2	8.2
## 293	182.0	45.2	122.0 170.2	8.2
1059.4	102.0	45.2	122 0 170 2	0.2
## 294 1059.4	182.0	45.2	122.0 170.2	8.2
## 295	168.9	42.2	124.3 158.3	10.8
1080.8				
## 296	168.9	42.2	124.3 158.3	10.8
1080.8 ## 297	168.9	42.2	124.3 158.3	10.8
1080.8		,_		
## 298	168.9	42.2	124.3 158.3	10.8
1080.8 ## 299	168.9	42.2	124.3 158.3	10.8
1080.8	100.9	42.2	124.5 150.5	10.8
## 300	290.4	0.0	96.2 168.1	9.4
961.2	200.4	0.0	06 0 160 1	
## 301 961.2	290.4	0.0	96.2 168.1	9.4
## 302	290.4	0.0	96.2 168.1	9.4
961.2				
## 303	290.4	0.0	96.2 168.1	9.4
961.2 ## 304	290.4	0.0	96.2 168.1	9.4
961.2				
## 305	277.1	0.0	97.4 160.6	11.8
973.9 ## 306	277.1	0.0	97.4 160.6	11.8
973.9	2//.1	0.0	J7.4 100.0	11.0
## 307	277.1	0.0	97.4 160.6	11.8
973.9	277 1	0.0	07 4 160 6	11 0
## 308 973.9	277.1	0.0	97.4 160.6	11.8
## 309	277.1	0.0	97.4 160.6	11.8
973.9				
## 310 955.1	295.7	0.0	95.6 171.5	8.9
## 311	295.7	0.0	95.6 171.5	8.9
955.1				
## 312	295.7	0.0	95.6 171.5	8.9
955.1 ## 313	295.7	0.0	95.6 171.5	8.9
955.1		0.0	33.0 2,2.3	3.3

## 314	295.7	0.0	95.6 171.5	8.9
955.1 ## 315	251.8	0.0	99.9 146.1	12.4
1006.0	231.0	0.0	JJ.J 140.1	12.4
## 316	251.8	0.0	99.9 146.1	12.4
1006.0				
## 317 1006.0	251.8	0.0	99.9 146.1	12.4
## 318	251.8	0.0	99.9 146.1	12.4
1006.0				
## 319	251.8	0.0	99.9 146.1	12.4
1006.0				
## 320	249.1	0.0	98.8 158.1	12.8
987.8 ## 321	249.1	0.0	98.8 158.1	12.8
987.8	243.1	0.0	30.0 130.1	12.0
## 322	249.1	0.0	98.8 158.1	12.8
987.8				
## 323	249.1	0.0	98.8 158.1	12.8
987.8				
## 324 987.8	249.1	0.0	98.8 158.1	12.8
## 325	252.3	0.0	98.8 146.3	14.2
987.8	232.3	0.0	30.0 140.3	17,2
## 326	252.3	0.0	98.8 146.3	14.2
987.8				
## 327 987.8	252.3	0.0	98.8 146.3	14.2
## 328	252.3	0.0	98.8 146.3	14.2
987.8	232.3	0.0	30.0 140.3	17.2
## 329	252.3	0.0	98.8 146.3	14.2
987.8				
## 330	246.8	0.0	125.1 143.3	12.0
1086.8 ## 331	246.8	0.0	125.1 143.3	12.0
1086.8	240.0	0.0	123.1 143.3	12.0
## 332	246.8	0.0	125.1 143.3	12.0
1086.8				
## 333	246.8	0.0	125.1 143.3	12.0
1086.8 ## 334	246 0	0.0	125.1 143.3	12 0
1086.8	246.8	0.0	123.1 143.3	12.0
## 335	275.1	0.0	121.4 159.5	9.9
1053.6				
## 336	275.1	0.0	121.4 159.5	9.9
1053.6	275 4	0.0	121 4 150 5	0.0
## 337 1053.6	275.1	0.0	121.4 159.5	9.9
## 338	275.1	0.0	121.4 159.5	9.9
1053.6	-: -: -:			- • •

## 339	275.1	0.0	121.4 159.5	9.9
1053.6 ## 340	297.2	0.0	117.5 174.8	9.5
1022.8	297.2	0.0	117.5 174.6	9.9
## 341	297.2	0.0	117.5 174.8	9.5
1022.8				
## 342	297.2	0.0	117.5 174.8	9.5
1022.8 ## 343	297.2	0.0	117.5 174.8	9.5
1022.8	237.2	0.0	117.5 174.0	J.J
## 344	297.2	0.0	117.5 174.8	9.5
1022.8				
## 345	213.7	0.0	174.7 154.8	10.2
1053.5 ## 346	213.7	0.0	174.7 154.8	10.2
1053.5	213.7	0.0	174.7 134.6	10.2
## 347	213.7	0.0	174.7 154.8	10.2
1053.5				
## 348	213.7	0.0	174.7 154.8	10.2
1053.5 ## 349	212 7	0.0	174.7 154.8	10. 2
1053.5	213.7	0.0	1/4./ 154.8	10.2
## 350	213.5	0.0	174.2 154.6	11.7
1052.3				
## 351	213.5	0.0	174.2 154.6	11.7
1052.3	212 5	0.0	174 2 154 6	11 7
## 352 1052.3	213.5	0.0	174.2 154.6	11.7
## 353	213.5	0.0	174.2 154.6	11.7
1052.3				
## 354	213.5	0.0	174.2 154.6	11.7
1052.3	277 2	07.0	24 5 460 7	44.2
## 355 1061.7	277.2	97.8	24.5 160.7	11.2
## 356	277.2	97.8	24.5 160.7	11.2
1061.7				
## 357	277.2	97.8	24.5 160.7	11.2
1061.7	277 2	07.0	24 5 460 7	44.2
## 358 1061.7	277.2	97.8	24.5 160.7	11.2
## 359	277.2	97.8	24.5 160.7	11.2
1061.7		27.00		
## 360	218.2	54.6	123.8 140.8	11.9
1075.7				
## 361	218.2	54.6	123.8 140.8	11.9
1075.7 ## 362	218.2	54.6	123.8 140.8	11.9
1075.7		J + • U	123.0 170.0	
## 363	218.2	54.6	123.8 140.8	11.9
1075.7				

## 364	218.2	54.6	123.8 140.8	11.9
1075.7 ## 365	214.9	53.8	121.9 155.6	9.6
1014.3	214.9	0.00	121.9 133.0	3.0
## 366	214.9	53.8	121.9 155.6	9.6
1014.3				
## 367	214.9	53.8	121.9 155.6	9.6
1014.3 ## 368	214.9	53.8	121.9 155.6	9.6
1014.3	214.5	55.0	121.9 199.0	3.0
## 369	214.9	53.8	121.9 155.6	9.6
1014.3				
## 370	218.9	0.0	124.1 158.5	11.3
1078.7 ## 371	218.9	0.0	124.1 158.5	11.3
1078.7	210.5	0.0	124.1 150.5	11.5
## 372	218.9	0.0	124.1 158.5	11.3
1078.7				
## 373	218.9	0.0	124.1 158.5	11.3
1078.7 ## 374	218.9	0.0	124.1 158.5	11.3
1078.7	210.9	0.0	124.1 150.5	11.5
## 375	376.0	0.0	0.0 214.6	0.0
1003.5				
## 376	376.0	0.0	0.0 214.6	0.0
1003.5 ## 377	376.0	0.0	0.0 214.6	0.0
1003.5	370.0	0.0	0.0 214.0	0.0
## 378	376.0	0.0	0.0 214.6	0.0
1003.5				
## 379	376.0	0.0	0.0 214.6	0.0
1003.5 ## 380	500.0	0.0	0.0 140.0	4.0
966.0	300.0	0.0	0.0 140.0	4.0
## 381	475.0	0.0	59.0 142.0	1.9
1098.0				
## 383	505.0	0.0	60.0 195.0	0.0
1030.0 ## 384	451.0	0.0	0.0 165.0	11.3
1030.0	431.0	0.0	0.0 103.0	11.5
## 385	516.0	0.0	0.0 162.0	8.2
801.0				
## 386	520.0	0.0	0.0 170.0	5.2
855.0 ## 387	528 0	0.0	0.0 185.0	6.9
920.0	528.0	0.0	M.COT M.M	0.9
## 388	520.0	0.0	0.0 175.0	5.2
870.0				
## 389	385.0	0.0	136.0 158.0	20.0
903.0				

## 390	500.1	0.0	0.0	200.0	3.0	
1124.4	450 1	F0. 0	0.0	200.0	2.0	
## 391 1124.4	450.1	50.0	0.0	200.0	3.0	
## 392	397.0	17.2	158.0	167.0	20.8	
967.0 ## 393	333.0	17.5	163.0	167.0	17.9	
996.0						
## 394 967.0	334.0	17.6	158.0	189.0	15.3	
## 395 1120.0	405.0	0.0	0.0	175.0	0.0	
## 396	200.0	200.0	0.0	190.0	0.0	
1145.0	546 0	0.0	0.0	462.0	0.3	
## 397 801.0	516.0	0.0	0.0	162.0	8.3	
## 398	145.0	116.0	119.0	184.0	5.7	
833.0						
## 399	160.0	128.0	122.0	182.0	6.4	
824.0						
## 400	234.0	156.0	0.0	189.0	5.9	
981.0 ## 401	250.0	180 0	95 0	150 A	9.5	
860.0	230.0	100.0	93.0	139.0	9.3	
## 402	475.0	0.0	0.0	162.0	9.5	
1044.0						
## 403	285.0	190.0	0.0	163.0	7.6	
1031.0	256 0	110 0	0.0	160 0	9.0	
## 404 1061.0	356.0	119.0	0.0	100.0	9.0	
## 405	275.0	180.0	120.0	162.0	10.4	
830.0						
## 406	500.0	0.0	0.0	151.0	9.0	
1033.0						
## 407	165.0	0.0	143.6	163.8	0.0	
1005.6 ## 408	165.0	128.5	132 1	175.1	8.1	
1005.8	103.0	120.5	132.1	1,3.1	0.1	
## 409	178.0	129.8	118.6	179.9	3.6	
1007.3						
## 410 1006.3	167.4	129.9	128.6	175.5	7.8	
## 411	172.4	13.6	172.4	156.8	4.1	
1006.3		23.0	_,	230.0		
## 412 1006.2	173.5	50.1	173.5	164.8	6.5	
## 413	167.0	75.4	167.0	164.0	7.9	
1007.3	207.0	, 5.4	237.0		,.,	
## 414	173.8	93.4	159.9	172.3	9.7	
1007.2						

## 415	190.3	0.0	125.2 166.6	9.9	
1079.0 ## 416	250.0	0.0	95 7 191 8	5.3	
948.9	250.0	0.0	JJ.7 1J1.0	J.J	
## 417	213.5	0.0	174.2 159.2	11.7	
1043.6					
## 418 998.0	194.7	0.0	100.5 170.2	7.5	
## 419	251.4	0.0	118.3 192.9	5.8	
1043.6					
## 420	165.0	0.0	143.6 163.8	0.0	
1005.6					
## 421 1005.8	165.0	128.5	132.1 175.1	8.1	
## 422	178.0	129.8	118.6 179.9	3.6	
1007.3	170.0	123.0	110.0 175.5	3.0	
## 423	167.4	129.9	128.6 175.5	7.8	
1006.3					
## 424	172.4	13.6	172.4 156.8	4.1	
1006.3 ## 425	173.5	50.1	173.5 164.8	6.5	
1006.2	1/3.3	50.1	173.3 104.8	0.5	
## 426	167.0	75.4	167.0 164.0	7.9	
1007.3					
## 427	173.8	93.4	159.9 172.3	9.7	
1007.2 ## 428	190.3	0.0	125.2 166.6	9.9	
1079.0	190.5	0.0	123.2 100.0	9.9	
## 429	250.0	0.0	95.7 191.8	5.3	
948.9					
## 430	213.5	0.0	174.2 159.2	11.7	
1043.6 ## 431	194.7	0.0	100.5 170.2	7.5	
998.0	194.7	0.0	100.5 170.2	7.5	
## 432	251.4	0.0	118.3 192.9	5.8	
1043.6					
## 433	165.0	0.0	143.6 163.8	0.0	
1005.6	16E A	120 5	122 1 175 1	0 1	
## 434 1005.8	165.0	128.5	132.1 175.1	8.1	
## 435	178.0	129.8	118.6 179.9	3.6	
1007.3					
## 436	167.4	129.9	128.6 175.5	7.8	
1006.3					
## 437	172.4	13.6	172.4 156.8	4.1	
1006.3 ## 438	173.5	50.1	173.5 164.8	6.5	
1006.2	2,3,3	30.1	2,3,3 20 ,.0	0.3	
## 439	167.0	75.4	167.0 164.0	7.9	
1007.3					

## 440	173.8	93.4	159.9 172.3	9.7
1007.2 ## 441	190.3	0.0	125.2 166.6	9.9
1079.0				
## 442	250.0	0.0	95.7 191.8	5.3
948.9	040 =		474 0 450 0	44.5
## 443 1043.6	213.5	0.0	174.2 159.2	11.7
## 444	194.7	0.0	100.5 170.2	7.5
998.0				
## 445	251.4	0.0	118.3 192.9	5.8
1043.6	4.55		442 6 462 0	0.0
## 446 1005.6	165.0	0.0	143.6 163.8	0.0
## 447	165.0	128.5	132.1 175.1	8.1
1005.8				
## 448	178.0	129.8	118.6 179.9	3.6
1007.3				
## 449	167.4	129.9	128.6 175.5	7.8
1006.3 ## 450	172.4	13.6	172.4 156.8	4.1
1006.3	1/2.4	13.0	1/2.4 130.8	4.1
## 451	173.5	50.1	173.5 164.8	6.5
1006.2				
## 452	167.0	75.4	167.0 164.0	7.9
1007.3 ## 453	173.8	93.4	159.9 172.3	9.7
1007.2	1/3.0	93.4	139.9 1/2.3	3.7
## 454	190.3	0.0	125.2 166.6	9.9
1079.0				
## 455	250.0	0.0	95.7 191.8	5.3
948.9 ## 456	212 5	0.0	174.2 159.2	11 7
## 456 1043.6	213.5	0.0	1/4.2 159.2	11.7
## 457	194.7	0.0	100.5 170.2	7.5
998.0				
## 458	251.4	0.0	118.3 192.9	5.8
1043.6	165.0	0.0	142 6 162 0	0.0
## 459 1005.6	165.0	0.0	143.6 163.8	0.0
## 460	165.0	128.5	132.1 175.1	8.1
1005.8				
## 461	178.0	129.8	118.6 179.9	3.6
1007.3	167 4	120.0	130 6 175 5	7 0
## 462 1006.3	167.4	129.9	128.6 175.5	7.8
## 463	172.4	13.6	172.4 156.8	4.1
1006.3				
## 464	173.5	50.1	173.5 164.8	6.5
1006.2				

## 465 1007.3	167.0	75.4	167.0 164.0	7.9
## 466	173.8	93.4	159.9 172.3	9.7
1007.2				
## 467 1079.0	190.3	0.0	125.2 166.6	9.9
## 468	250.0	0.0	95.7 191.8	5.3
948.9				
## 469 1043.6	213.5	0.0	174.2 159.2	11.7
## 470	194.7	0.0	100.5 170.2	7.5
998.0				
## 471 1043.6	251.4	0.0	118.3 192.9	5.8
## 472	446.0	24.0	79.0 162.0	11.6
967.0				
## 473	446.0	24.0	79.0 162.0	11.6
967.0 ## 474	446.0	24.0	79.0 162.0	11.6
967.0				
## 475	446.0	24.0	79.0 162.0	10.3
967.0 ## 476	446.0	24.0	79.0 162.0	11.6
967.0	440.0	24.0	73.0 102.0	11.0
## 477	446.0	24.0	79.0 162.0	11.6
967.0 ## 478	446.0	24.0	79.0 162.0	11.6
967.0		2	7510 20210	
## 479	446.0	24.0	79.0 162.0	11.6
967.0 ## 480	446.0	24.0	79.0 162.0	11.6
967.0		2	7510 20210	22.0
## 481	446.0	24.0	79.0 162.0	11.6
967.0 ## 482	446.0	24.0	79.0 162.0	11.6
967.0		2	7510 20210	22.0
## 483	446.0	24.0	79.0 162.0	11.6
967.0 ## 484	446.0	24.0	79.0 162.0	11.6
967.0		2	7510 20210	
## 485	446.0	24.0	79.0 162.0	10.3
967.0 ## 486	387.0	20.0	94.0 157.0	14.3
938.0		_5.0		
## 487	387.0	20.0	94.0 157.0	13.9
938.0 ## 488	387.0	20.0	94.0 157.0	11.6
938.0		_5.0		
## 489	387.0	20.0	94.0 157.0	14.3
938.0				

## 490 938.0	387.0	20.0	94.0 157.0	13.9
## 491	387.0	20.0	94.0 157.0	11.6
938.0 ## 492	387.0	20.0	94.0 157.0	14.3
938.0	367.0	20.0	94.0 137.0	14.5
## 493 938.0	387.0	20.0	94.0 157.0	13.9
## 494	387.0	20.0	94.0 157.0	11.6
938.0 ## 495	207 0	20.0	94.0 157.0	14 2
938.0	387.0	20.0	94.0 157.0	14.3
## 496 938.0	387.0	20.0	94.0 157.0	13.9
## 497	387.0	20.0	94.0 157.0	11.6
938.0	255.0	10.0	07 0 145 0	12.1
## 498 967.0	355.0	19.0	97.0 145.0	13.1
## 499	355.0	19.0	97.0 145.0	12.3
967.0 ## 500	491.0	26.0	123.0 210.0	3.9
882.0				
## 501 822.0	491.0	26.0	123.0 201.0	3.9
## 502	491.0	26.0	123.0 210.0	3.9
882.0 ## 503	491.0	26.0	123.0 210.0	3.9
882.0	131.0	20.0	123.0 210.0	3.3
## 504 882.0	491.0	26.0	123.0 210.0	3.9
## 505	491.0	26.0	123.0 201.0	3.9
822.0	404 0	26.0	122 0 201 0	2.0
## 506 822.0	491.0	26.0	123.0 201.0	3.9
## 507	491.0	26.0	123.0 201.0	3.9
822.0 ## 508	424.0	22.0	132.0 178.0	8.5
822.0				
## 509 882.0	424.0	22.0	132.0 178.0	8.5
## 510	424.0	22.0	132.0 168.0	8.9
822.0 ## 511	424.0	22.0	132.0 178.0	8.5
822.0	727.0	22.0	132.0 170.0	0.3
## 512 822.0	424.0	22.0	132.0 178.0	8.5
## 513	424.0	22.0	132.0 168.0	8.9
822.0 ## 514	424.0	22.0	132.0 168.0	8.9
822.0	74.0	22.0	172.0 100.0	0.3

	424.0	22.0	132.0 168.0	8.9	
822.0 ## 516	202.0	11.0	141.0 206.0	1.7	
942.0					
## 517 942.0	202.0	11.0	141.0 206.0	1.7	
## 518 942.0	202.0	11.0	141.0 206.0	1.7	
## 519	202.0	11.0	141.0 206.0	1.7	
942.0 ## 520	284.0	15.0	141.0 179.0	5.5	
842.0	204.0	45.0	141 0 170 0		
## 521 842.0	284.0	15.0	141.0 179.0	5.5	
## 522	284.0	15.0	141.0 179.0	5.5	
842.0	20.10	23.0	11210 27310	3.3	
## 523	284.0	15.0	141.0 179.0	5.5	
842.0					
## 524	359.0	19.0	141.0 154.0	10.9	
942.0					
## 525	359.0	19.0	141.0 154.0	10.9	
942.0	359.0	10.0	141.0 154.0	10.0	
## 526 942.0	359.0	19.0	141.0 154.0	10.9	
## 527	359.0	19.0	141.0 154.0	10.9	
942.0	332.0	23.0	11210 25110	2015	
## 528	359.0	19.0	141.0 154.0	10.9	
942.0					
## 529	359.0	19.0	141.0 154.0	10.9	
942.0	250.0	10.0	444 0 454 0	10.0	
## 530	359.0	19.0	141.0 154.0	10.9	
942.0 ## 531	350 0	10 0	141.0 154.0	10.9	
942.0				10.9	
## 532	436.0	0.0	0.0 218.0	0.0	
838.4					
## 533	289.0	0.0	0.0 192.0	0.0	
913.2					
## 534	289.0	0.0	0.0 192.0	0.0	
913.2	202.0	0.0	0 0 102 0	0.0	
## 535 940.6	393.0	0.0	0.0 192.0	0.0	
## 536	393.0	0.0	0.0 192.0	0.0	
940.6	333.0	3.0	0.0 172.0	J. U	
## 537	393.0	0.0	0.0 192.0	0.0	
940.6					
## 538	480.0	0.0	0.0 192.0	0.0	
936.2					
## 539	480.0	0.0	0.0 192.0	0.0	
936.2					

## 540 936.2	480.0	0.0	0.0 192.0	0.0
## 541	480.0	0.0	0.0 192.0	0.0
936.2 ## 542	333.0	0.0	0.0 192.0	0.0
931.2 ## 543	255.0	0.0	0.0 192.0	0.0
889.8				
## 544 889.8	255.0	0.0	0.0 192.0	0.0
## 545 913.2	289.0	0.0	0.0 192.0	0.0
## 546	255.0	0.0	0.0 192.0	0.0
889.8				
## 547 931.2	333.0	0.0	0.0 192.0	0.0
## 548	333.0	0.0	0.0 192.0	0.0
931.2			0 0 100 0	
## 549 913.2	289.0	0.0	0.0 192.0	0.0
## 550	333.0	0.0	0.0 192.0	0.0
931.2	202.0	0.0	0 0 102 0	0.0
## 551 940.6	393.0	0.0	0.0 192.0	0.0
## 552	255.0	0.0	0.0 192.0	0.0
889.8 ## 553	158.8	238.2	0.0 185.7	0.0
1040.6	130.0	230.2	0.0 105.7	0.0
## 555	238.2	158.8	0.0 185.7	0.0
1040.6	404.0	272 0	0 0 405 7	0.0
## 556 1012.4	181.9	272.8	0.0 185.7	0.0
## 557	193.5	290.2	0.0 185.7	0.0
998.2				
## 558 1026.6	255.5	170.3	0.0 185.7	0.0
## 559	272.8	181.9	0.0 185.7	0.0
1012.4	220.0	447.0	0 0 105 7	0.0
## 561 1055.0	220.8	147.2	0.0 185.7	0.0
## 562	397.0	0.0	0.0 185.7	0.0
1040.6 ## 563	382.5	0.0	0.0 185.7	0.0
1047.8	302.3	0.0	0.0 105.7	0.0
## 564 977.0	210.7	316.1	0.0 185.7	0.0
## 565	158.8	238.2	0.0 185.7	0.0
1040.6				
## 566 1091.4	295.8	0.0	0.0 185.7	0.0
1071.4				

## 567 1026.6	255.5	170.3	0.0 185.7	0.0
## 568	203.5	135.7	0.0 185.7	0.0
1076.2 ## 569	397.0	0.0	0.0 185.7	0.0
1040.6				
## 570 1104.6	381.4	0.0	0.0 185.7	0.0
## 571	295.8	0.0	0.0 185.7	0.0
1091.4 ## 572	228.0	342.1	0.0 185.7	0.0
955.8	220.0	342.1	0.0 183.7	0.0
## 573	220.8	147.2	0.0 185.7	0.0
1055.0				
## 574	316.1	210.7	0.0 185.7	0.0
977.0				
## 575	135.7	203.5	0.0 185.7	0.0
1076.2	220.4	0.0	0 0 105 7	0.0
## 576	238.1	0.0	0.0 185.7	0.0
1118.8 ## 577	339.2	0.0	0.0 185.7	0.0
1069.2	339.2	0.0	0.0 183.7	0.0
## 578	135.7	203.5	0.0 185.7	0.0
1076.2	233.7	203.3	0.0 103.7	0.0
## 579	193.5	290.2	0.0 185.7	0.0
998.2				
## 580	203.5	135.7	0.0 185.7	0.0
1076.2				
## 581	290.2	193.5	0.0 185.7	0.0
998.2				
## 582	181.9	272.8	0.0 185.7	0.0
1012.4	170 2	155 5	0 0 105 7	0.0
## 583 1026.6	170.3	155.5	0.0 185.7	0.0
## 584	210.7	316.1	0.0 185.7	0.0
977.0	210.7	310.1	0.0 103.7	0.0
## 585	228.0	342.1	0.0 185.7	0.0
955.8				
## 586	290.2	193.5	0.0 185.7	0.0
998.2				
## 587	381.4	0.0	0.0 185.7	0.0
1104.6				
## 588	238.2	158.8	0.0 185.7	0.0
1040.6	105.0	1011	0 0 105 =	
## 589	186.2	124.1	0.0 185.7	0.0
1083.4 ## 590	339.2	0.0	0.0 185.7	0.0
1069.2	JJ9 • Z	0.0	0.0 103./	0.0
## 591	238.1	0.0	0.0 185.7	0.0
1118.8		0.0	2031.	
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## 592 1111.6	252.5	0.0	0.0 185.7	0.0
## 593	382.5	0.0	0.0 185.7	0.0
1047.8	252.5	0.0	0 0 105 7	0.0
## 594 1111.6	252.5	0.0	0.0 185.7	0.0
## 595	316.1	210.7	0.0 185.7	0.0
977.0	106 0	124 1	0 0 105 7	0.0
## 596 1083.4	186.2	124.1	0.0 185.7	0.0
## 597	170.3	155.5	0.0 185.7	0.0
1026.6				
## 598	272.8	181.9	0.0 185.7	0.0
1012.4				
## 599	339.0	0.0	0.0 197.0	0.0
968.0				
## 600	339.0	0.0	0.0 197.0	0.0
968.0				
## 601	339.0	0.0	0.0 197.0	0.0
968.0				
## 602	339.0	0.0	0.0 197.0	0.0
968.0				
## 603	339.0	0.0	0.0 197.0	0.0
968.0				
## 606	236.0	0.0	0.0 194.0	0.0
968.0				
## 607	236.0	0.0	0.0 194.0	0.0
968.0				
## 608	236.0	0.0	0.0 194.0	0.0
968.0				
## 609	236.0	0.0	0.0 194.0	0.0
968.0				
## 612	277.0	0.0	0.0 191.0	0.0
968.0				
## 613	277.0	0.0	0.0 191.0	0.0
968.0				
## 614	277.0	0.0	0.0 191.0	0.0
968.0				
## 615	277.0	0.0	0.0 191.0	0.0
968.0				
## 618	254.0	0.0	0.0 198.0	0.0
968.0				
## 619	254.0	0.0	0.0 198.0	0.0
968.0				
## 624	307.0	0.0	0.0 193.0	0.0
968.0				.
## 625	307.0	0.0	0.0 193.0	0.0
968.0				
## 626	307.0	0.0	0.0 193.0	0.0
968.0				

## 627 968.0	236.0	0.0	0.0 193.0	0.0
## 628	200.0	0.0	0.0 180.0	0.0
1125.0 ## 629	200.0	0.0	0.0 180.0	0.0
1125.0 ## 630	225.0	0.0	0.0 181.0	0.0
1113.0				
## 631 1113.0	225.0	0.0	0.0 181.0	0.0
## 632	325.0	0.0	0.0 184.0	0.0
1063.0	225 0	0.0	0 0 104 0	0.0
## 633 1063.0	325.0	0.0	0.0 184.0	0.0
## 634 1088.0	275.0	0.0	0.0 183.0	0.0
## 635 1088.0	275.0	0.0	0.0 183.0	0.0
## 636	300.0	0.0	0.0 184.0	0.0
1075.0	200.0	0.0	0 0 104 0	0.0
## 637 1075.0	300.0	0.0	0.0 184.0	0.0
## 638	375.0	0.0	0.0 186.0	0.0
1038.0 ## 639	375.0	0.0	0.0 186.0	0.0
1038.0	400.0	0.0	0 0 107 0	0.0
## 640 1025.0	400.0	0.0	0.0 187.0	0.0
## 641	400.0	0.0	0.0 187.0	0.0
1025.0 ## 642	250.0	0.0	0.0 182.0	0.0
1100.0	230.0	0.0	0.0 102.0	0.0
## 643	250.0	0.0	0.0 182.0	0.0
1100.0	250.0	0.0	0 0 100 0	0.0
## 644 1050.0	350.0	0.0	0.0 186.0	0.0
## 645	350.0	0.0	0.0 186.0	0.0
1050.0 ## 646	203.5	305.3	0.0 203.5	0.0
963.4	250.2	166.0	0 0 202 5	0.0
## 647 977.6	250.2	166.8	0.0 203.5	0.0
## 648 935.4	157.0	236.0	0.0 192.0	0.0
## 649	141.3	212.0	0.0 203.5	0.0
971.8	166 9	250.2	0 0 102 5	0.0
## 650 975.6	166.8	250.2	0.0 203.5	0.0
## 651 958.2	122.6	183.9	0.0 203.5	0.0

## 652 959.2	183.9	122.6	0.0 203.5	0.0
## 653	102.0	153.0	0.0 192.0	0.0
887.0 ## 654	102.0	153.0	0.0 192.0	0.0
887.0 ## 655	122.6	183.9	0.0 203.5	0.0
958.2 ## 656	166.8	250.2	0.0 203.5	0.0
975.6 ## 657	200.0	133.0	0.0 192.0	0.0
965.4				
## 658 938.2	108.3	162.4	0.0 203.5	0.0
## 659 965.4	305.3	203.5	0.0 203.5	0.0
## 660 938.2	108.3	162.4	0.0 203.5	0.0
## 661 909.8	116.0	173.0	0.0 192.0	0.0
## 662	141.3	212.0	0.0 203.5	0.0
971.8 ## 663	157.0	236.0	0.0 192.0	0.0
935.4 ## 664	133.0	200.0	0.0 192.0	0.0
927.4 ## 665	250.2	166.8	0.0 203.5	0.0
977.6	472.0	116.0	0 0 100 0	0.0
## 666 946.8	173.0	116.0	0.0 192.0	0.0
## 667	192.0	288.0	0.0 192.0	0.0
929.8	102.0	200.0	0 0 103 0	0.0
## 668 929.8	192.0	288.0	0.0 192.0	0.0
## 669 888.0	153.0	102.0	0.0 192.0	0.0
## 670	288.0	192.0	0.0 192.0	0.0
932.0 ## 671	305.3	203.5	0.0 203.5	0.0
965.4 ## 672	236.0	157.0	0.0 192.0	0.0
972.6	172 0	116 0	0.0 192.0	0.0
## 673 946.8	173.0	116.0	0.0 192.0	0.0
## 674 973.4	212.0	141.3	0.0 203.5	0.0
## 675 972.6	236.0	157.0	0.0 192.0	0.0
## 676 959.2	183.9	122.6	0.0 203.5	0.0
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## 677 975.6	166.8	250.2	0.0 203.5	0.0
## 678	102.0	153.0	0.0 192.0	0.0
887.0 ## 679	288.0	192.0	0.0 192.0	0.0
932.0 ## 680	212.0	141.3	0.0 203.5	0.0
973.4				
## 681 887.0	102.0	153.0	0.0 192.0	0.0
## 682 946.8	173.0	116.0	0.0 192.0	0.0
## 683 959.2	183.9	122.6	0.0 203.5	0.0
## 684 927.4	133.0	200.0	0.0 192.0	0.0
## 685	192.0	288.0	0.0 192.0	0.0
929.8 ## 686	133.0	200.0	0.0 192.0	0.0
927.4 ## 687	305.3	203.5	0.0 203.5	0.0
965.4 ## 688	236.0	157.0	0.0 192.0	0.0
972.6 ## 689	108.3	162.4	0.0 203.5	0.0
938.2 ## 690	157.0	236.0	0.0 192.0	0.0
935.4	137.0	230.0	0.0 192.0	0.0
## 691 932.0	288.0	192.0	0.0 192.0	0.0
## 692 973.4	212.0	141.3	0.0 203.5	0.0
## 693	212.0	141.3	0.0 203.5	0.0
973.4 ## 694	153.0	102.0	0.0 192.0	0.0
888.0 ## 695	236.0	157.0	0.0 192.0	0.0
972.6 ## 696	116.0	173.0	0.0 192.0	0.0
909.8 ## 697	183.9	122.6	0.0 203.5	0.0
959.2				
## 698 938.2	108.3	162.4	0.0 203.5	0.0
## 699 963.4	203.5	305.3	0.0 203.5	0.0
## 700 963.4	203.5	305.3	0.0 203.5	0.0
## 701 927.4	133.0	200.0	0.0 192.0	0.0
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## 702 932.0	288.0	192.0	0.0 192.0	0.0
## 703	200.0	133.0	0.0 192.0	0.0
965.4 ## 704	200.0	133.0	0.0 192.0	0.0
965.4 ## 705	250.2	166.8	0.0 203.5	0.0
977.6				
## 706 958.2	122.6	183.9	0.0 203.5	0.0
## 707 888.0	153.0	102.0	0.0 192.0	0.0
## 708	200.0	133.0	0.0 192.0	0.0
965.4 ## 709	116.0	173.0	0.0 192.0	0.0
909.8				
## 710 946.8	173.0	116.0	0.0 192.0	0.0
## 711 977.6	250.2	166.8	0.0 203.5	0.0
## 712	305.3	203.5	0.0 203.5	0.0
965.4 ## 713	192.0	288.0	0.0 192.0	0.0
929.8 ## 714	157.0	236.0	0.0 192.0	0.0
935.4 ## 715	153.0	102.0	0.0 192.0	0.0
888.0	133.0	10210	0.0 192.0	0.0
## 716	141.3	212.0	0.0 203.5	0.0
971.8 ## 717	116.0	173.0	0.0 192.0	0.0
909.8				
## 718 971.8	141.3	212.0	0.0 203.5	0.0
## 719	122.6	183.9	0.0 203.5	0.0
958.2 ## 720	166.8	250.2	0.0 203.5	0.0
975.6 ## 721	203.5	305.3	0.0 203.5	0.0
963.4				
## 722 1012.0	310.0	0.0	0.0 192.0	0.0
## 723 1012.0	310.0	0.0	0.0 192.0	0.0
## 724	310.0	0.0	0.0 192.0	0.0
1012.0 ## 725	310.0	0.0	0.0 192.0	0.0
1012.0 ## 726 1012.0	310.0	0.0	0.0 192.0	0.0

## 727 1025.0	331.0	0.0	0.0 192.0	0.0
## 728	331.0	0.0	0.0 192.0	0.0
1025.0	551.0	0.0	0.0 132.0	0.0
## 729	331.0	0.0	0.0 192.0	0.0
1025.0	331.0	0.0	0.0 132.0	
## 730	331.0	0.0	0.0 192.0	0.0
1025.0				
## 731	331.0	0.0	0.0 192.0	0.0
1025.0				
## 732	349.0	0.0	0.0 192.0	0.0
1056.0				
## 733	349.0	0.0	0.0 192.0	0.0
1056.0	240.0			
## 734	349.0	0.0	0.0 192.0	0.0
1056.0 ## 735	349.0	0.0	0.0 192.0	0.0
1056.0	349.0	0.0	0.0 192.0	0.0
## 736	349.0	0.0	0.0 192.0	0.0
1056.0	3.3.0	0.0	0.0 132.0	0.0
## 737	238.0	0.0	0.0 186.0	0.0
1119.0				
## 738	238.0	0.0	0.0 186.0	0.0
1119.0				
## 739	296.0	0.0	0.0 186.0	0.0
1090.0	205.0			
## 740	296.0	0.0	0.0 186.0	0.0
1090.0 ## 741	297.0	0.0	0.0 186.0	0.0
1040.0	297.0	0.0	0.0 100.0	0.0
## 742	480.0	0.0	0.0 192.0	0.0
936.0	.0010	0.0	0.0 191.0	
## 743	480.0	0.0	0.0 192.0	0.0
936.0				
## 744	397.0	0.0	0.0 186.0	0.0
1040.0				
## 745	281.0	0.0	0.0 186.0	0.0
1104.0	204 0	0.0	0 0 105 0	0.0
## 746	281.0	0.0	0.0 185.0	0.0
1104.0 ## 747	500.0	0.0	0.0 200.0	0.0
1125.0	0.000	0.0	0.0 200.0	0.0
## 748	500.0	0.0	0.0 200.0	0.0
1125.0	30000			
## 749	500.0	0.0	0.0 200.0	0.0
1125.0				
## 750	500.0	0.0	0.0 200.0	0.0
1125.0				
## 751	500.0	0.0	0.0 200.0	0.0
1125.0				

## 752 1125.0	540.0	0.0	0.0 173.0	0.0
## 753	540.0	0.0	0.0 173.0	0.0
1125.0 ## 754	540.0	0.0	0.0 173.0	0.0
1125.0	340.0	0.0	0.0 1/3.0	0.0
## 755	540.0	0.0	0.0 173.0	0.0
1125.0 ## 758	350.0	0.0	0.0 203.0	0.0
974.0	350.0	0.0	0 0 202 0	0.0
## 759 974.0	350.0	0.0	0.0 203.0	0.0
## 760	350.0	0.0	0.0 203.0	0.0
974.0 ## 761	350.0	0.0	0.0 203.0	0.0
974.0				
## 762 974.0	350.0	0.0	0.0 203.0	0.0
## 764	385.0	0.0	0.0 186.0	0.0
966.0 ## 765	385.0	0.0	0.0 186.0	0.0
966.0	303.0	0.0	0.0 100.0	0.0
## 766 966.0	385.0	0.0	0.0 186.0	0.0
## 767	385.0	0.0	0.0 186.0	0.0
966.0 ## 768	385.0	0.0	0.0 186.0	0.0
966.0	363.0	0.0	0.0 100.0	0.0
## 771	349.0	0.0	0.0 192.0	0.0
1047.0 ## 772	331.0	0.0	0.0 192.0	0.0
978.0	202.0	0.0	0 0 100 0	0.0
## 773 1047.0	382.0	0.0	0.0 186.0	0.0
## 774	382.0	0.0	0.0 186.0	0.0
1047.0 ## 775	382.0	0.0	0.0 186.0	0.0
1111.0				0.0
## 776 1104.0	281.0	0.0	0.0 186.0	0.0
## 777	339.0	0.0	0.0 185.0	0.0
1069.0 ## 778	339.0	0.0	0.0 185.0	0.0
1069.0				
## 779 1069.0	295.0	0.0	0.0 185.0	0.0
## 780	295.0	0.0	0.0 185.0	0.0
1069.0 ## 781	238.0	0.0	0.0 185.0	0.0
1118.0		0.0	2.3 203.0	

## 782 1085.0	296.0	0.0	0.0 192.0	0.0
## 783	296.0	0.0	0.0 192.0	0.0
1085.0 ## 784	296.0	0.0	0.0 192.0	0.0
1085.0				
## 785 879.0	331.0	0.0	0.0 192.0	0.0
## 786 978.0	331.0	0.0	0.0 192.0	0.0
## 787	331.0	0.0	0.0 192.0	0.0
978.0	221 0	0 0	0 0 103 0	0.0
## 788 978.0	331.0	0.0	0.0 192.0	0.0
## 789 1047.0	349.0	0.0	0.0 192.0	0.0
## 790 1047.0	349.0	0.0	0.0 192.0	0.0
## 791 1047.0	349.0	0.0	0.0 192.0	0.0
## 794	302.0	0.0	0.0 203.0	0.0
974.0 ## 797	500.0	0.0	0.0 200.0	0.0
1125.0 ## 800	540.0	0.0	0.0 173.0	0.0
1125.0				
## 801 1111.0	252.0	0.0	0.0 185.0	0.0
## 802	252.0	0.0	0.0 185.0	0.0
1111.0	232.0	0.0	0.0 203.0	
## 803	339.0	0.0	0.0 185.0	0.0
1060.0				
## 804	393.0	0.0	0.0 192.0	0.0
940.0 ## 805	393.0	0.0	0.0 192.0	0.0
940.0				
## 806	393.0	0.0	0.0 192.0	0.0
940.0 ## 807	382.0	0.0	0.0 185.0	0.0
1047.0	302.0	0.0	0.0 103.0	0.0
## 808 1047.0	382.0	0.0	0.0 185.0	0.0
## 809	252.0	0.0	0.0 186.0	0.0
1111.0 ## 810	252.0	0.0	0.0 185.0	0.0
1111.0				
## 811 970.0	310.0	0.0	0.0 192.0	0.0
## 812 970.0	310.0	0.0	0.0 192.0	0.0
2,0.0				

## 813 970.0	310.0	0.0	0.0	192.0	0.0
## 816	525.0	0.0	0.0	189.0	0.0
1125.0					
## 817 1125.0	525.0	0.0	0.0	189.0	0.0
## 818	525.0	0.0	0.0	189.0	0.0
1125.0	F3F 0	0.0	0.0	100.0	0.0
## 819 1125.0	525.0	0.0	0.0	189.0	0.0
## 820	525.0	0.0	0.0	189.0	0.0
1125.0					
## 822	322.0	0.0	0.0	203.0	0.0
974.0	222.0	0.0	0.0	202.0	0.0
## 823 974.0	322.0	0.0	0.0	203.0	0.0
## 825	302.0	0.0	0.0	203.0	0.0
974.0					
## 826	397.0	0.0	0.0	185.0	0.0
1040.0					
## 827	480.0	0.0	0.0	192.0	0.0
936.0 ## 828	522.0	0.0	0.0	146.0	0.0
896.0	522.0	0.0	0.0	140.0	0.0
## 829	522.0	0.0	0.0	146.0	0.0
896.0					
## 830	273.0	105.0	82.0	210.0	9.0
904.0 ## 831	162.0	190.0	1/10 A	179.0	19.0
838.0	102.0	190.0	140.0	1/3.0	19.0
## 832	154.0	144.0	112.0	220.0	10.0
923.0					
## 833	147.0	115.0	89.0	202.0	9.0
860.0 ## 834	152 0	170 A	120.0	160 0	18.0
944.0	152.0	178.0	139.0	100.0	10.0
## 835	310.0	143.0	111.0	168.0	22.0
914.0					
## 836 943.0	144.0	0.0	1/5.0	158.0	18.0
## 837	304.0	140.0	0.0	214.0	6.0
895.0					
## 838	374.0	0.0	0.0	190.0	7.0
1013.0	150.0	4.40	445.5	475.0	45.0
## 839 953.0	159.0	149.0	116.0	1/5.0	15.0
## 840	153.0	239.0	0.0	200.0	6.0
1002.0					
## 841	310.0	143.0	0.0	168.0	10.0
914.0					

## 842	305.0	0.0	100.0	196.0	10.0
959.0 ## 843	151.0	0.0	184.0	167.0	12.0
991.0					
## 844 883.0	142.0	167.0	130.0	174.0	11.0
## 845 878.0	298.0	137.0	107.0	201.0	6.0
## 846 870.0	321.0	164.0	0.0	190.0	5.0
## 847	366.0	187.0	0.0	191.0	7.0
824.0 ## 848	280.0	129 0	100.0	172 0	9.0
825.0	200.0	123.0	100.0	172.0	3.0
## 849	252.0	97.0	76.0	194.0	8.0
835.0					
## 850	165.0	0.0	150.0	182.0	12.0
1023.0					
## 851	156.0	243.0	0.0	180.0	11.0
1022.0	160.0	100.0	446.0	202.0	44.0
## 852	160.0	188.0	146.0	203.0	11.0
829.0	200 A	0.0	107 0	106 A	6.0
## 853 879.0	298.0	0.0	107.0	100.0	6.0
## 854	318.0	0.0	126 0	210 O	6.0
861.0	310.0	0.0	120.0	210.0	0.0
## 855	287.0	121.0	94.0	188.0	9.0
904.0					- 1
## 856	326.0	166.0	0.0	174.0	9.0
882.0					
## 857	356.0	0.0	142.0	193.0	11.0
801.0					
## 858	132.0	207.0	161.0	179.0	5.0
867.0					
## 859	322.0	149.0	0.0	186.0	8.0
951.0	164 0	0.0	200 0	101 0	12.0
## 860 849.0	164.0	0.0	200.0	181.0	13.0
## 861	314.0	0.0	113 0	170.0	10.0
925.0	314.0	0.0	115.0	170.0	10.0
## 862	321.0	0.0	128.0	182.0	11.0
870.0	322.0	0.0			22.0
## 864	288.0	121.0	0.0	177.0	7.0
908.0	·				
## 865	298.0	0.0	107.0	210.0	11.0
880.0					
## 866	265.0	111.0	86.0	195.0	6.0
833.0					
## 867	160.0	250.0	0.0	168.0	12.0
1049.0					

## 868	166.0	260.0	0.0	183.0	13.0
859.0 ## 869	276.0	116 0	90 A	180.0	9.0
870.0	270.0	110.0	50.0	100.0	3.0
## 870	322.0	0.0	116.0	196.0	10.0
818.0					
## 871 892.0	149.0	139.0	109.0	193.0	6.0
## 872	159.0	187.0	0.0	176.0	11.0
990.0					
## 873	261.0	100.0	78.0	201.0	9.0
864.0					
## 875	313.0	0.0	113.0	178.0	8.0
1002.0	155 0	102 A	0.0	102.0	9.0
## 876 1047.0	155.0	103.0	0.0	193.0	9.0
## 877	146.0	230.0	0.0	202.0	3.0
827.0					
## 878	296.0	0.0	107.0	221.0	11.0
819.0					
## 879	133.0	210.0	0.0	196.0	3.0
949.0					
## 880	313.0	145.0	0.0	178.0	8.0
867.0 ## 881	152.0	0.0	112.0	10/ 0	8.0
992.0	132.0	0.0	112.0	104.0	8.0
## 882	153.0	145.0	113.0	178.0	8.0
1002.0					
## 883	140.0	133.0	103.0	200.0	7.0
916.0					
## 884	149.0	236.0	0.0	176.0	13.0
847.0	200 0	0.0	120 0	212 0	10.0
## 885 878.0	300.0	0.0	120.0	212.0	10.0
## 886	153.0	145.0	113.0	178.0	8.0
867.0					
## 887	148.0	0.0	137.0	158.0	16.0
1002.0					
## 888	326.0	0.0	138.0	199.0	11.0
801.0	152.0	145 0	0.0	170 0	9.0
## 889 1000.0	153.0	145.0	0.0	1/8.0	8.0
## 890	262.0	111.0	86.0	195.0	5.0
895.0			20.0		2.0
## 891	158.0	0.0	195.0	220.0	11.0
898.0					
## 892	151.0	0.0	185.0	167.0	16.0
1074.0	272 0	0.0	00.0	100.0	11.0
## 893	273.0	0.0	90.0	199.0	11.0
931.0					

## 894	149.0	118.0	92.0 183.0	7.0	
953.0 ## 895	143.0	169.0	143.0 191.0	8 0	
967.0	143.0	103.0	143.0 131.0	0.0	
## 896	260.0	101.0	78.0 171.0	10.0	
936.0 ## 897	313.0	161 0	0.0 178.0	10.0	
917.0	313.0	101.0	0.0 1/0.0	10.0	
## 898	284.0	120.0	0.0 168.0	7.0	
970.0 ## 899	336.0	a a	0.0 182.0	3.0	
986.0	330.0	0.0	0.0 102.0	3.0	
## 900	145.0	0.0	134.0 181.0	11.0	
979.0	150.0	227 0	0 0 174 0	12.0	
## 901 1069.0	150.0	237.0	0.0 174.0	12.0	
## 902	144.0	170.0	133.0 192.0	8.0	
814.0					
## 903 811.0	331.0	170.0	0.0 195.0	8.0	
## 904	155.0	0.0	143.0 193.0	9.0	
1047.0					
## 905	155.0	183.0	0.0 193.0	9.0	
877.0 ## 906	135.0	0.0	166.0 180.0	10.0	
961.0					
## 907	266.0	112.0	87.0 178.0	10.0	
910.0 ## 908	314.0	145.0	113.0 179.0	8.0	
869.0	314.0	145.0	113.0 1/3.0	0.0	
## 909	313.0	145.0	0.0 127.0	8.0	
1000.0	146.0	172 0	0 0 102 0	2.0	
## 910 986.0	146.0	1/3.0	0.0 182.0	3.0	
## 911	144.0	136.0	106.0 178.0	7.0	
941.0	110.0	0.0	100 0 101 0	45.0	
## 912 839.0	148.0	0.0	182.0 181.0	15.0	
## 913	277.0	117.0	91.0 191.0	7.0	
946.0					
## 914 953.0	298.0	0.0	107.0 164.0	13.0	
## 915	313.0	145.0	0.0 178.0	8.0	
1002.0					
## 916 880.0	155.0	184.0	143.0 194.0	9.0	
## 917	289.0	134.0	0.0 195.0	6.0	
924.0					
## 918	148.0	175.0	0.0 171.0	2.0	
1000.0					

## 919	145.0	0.0	179.0 202.0	8.0
824.0 ## 920	313.0	0.0	0.0 178.0	8.0
1000.0	52513		27070	
## 921	136.0	162.0	126.0 172.0	10.0
923.0 ## 922	155.0	0.0	143.0 193.0	9.0
877.0	199.0	0.0	143.0 133.0	3.0
## 923	255.0	99.0	77.0 189.0	6.0
919.0 ## 924	162.0	207.0	172.0 216.0	10.0
822.0	102.0	207.0	172.0 210.0	10.0
## 925	136.0	196.0	98.0 199.0	6.0
847.0	164 0	162.0	128.0 197.0	8.0
## 926 961.0	164.0	163.0	128.0 197.0	8.0
## 927	162.0	214.0	164.0 202.0	10.0
820.0	455.0		450 0 000 0	
## 928 819.0	157.0	214.0	152.0 200.0	9.0
## 929	149.0	153.0	194.0 192.0	8.0
935.0				
## 930 965.0	135.0	105.0	193.0 196.0	6.0
## 931	159.0	209.0	161.0 201.0	7.0
848.0				
## 932	144.0	15.0	195.0 176.0	6.0
1021.0 ## 933	154.0	174.0	185.0 228.0	7.0
845.0	154.0	174.0	103.0 220.0	7.0
## 934	167.0	187.0	195.0 185.0	7.0
898.0 ## 935	184.0	86.0	190.0 213.0	6.0
923.0	104.0	80.0	190.0 213.0	0.0
## 936	156.0	178.0	187.0 221.0	7.0
854.0	242 2	0.0	112 0 170 5	8.0
## 938 1001.9	313.3	0.0	113.0 178.5	8.0
## 939	154.8	183.4	0.0 193.3	9.1
1047.4	445.0	220 5	0 0 202 5	2.4
## 940 827.0	145.9	230.5	0.0 202.5	3.4
## 941	296.0	0.0	106.7 221.4	10.5
819.2	422.4	24.2	0 0 105 5	2.4
## 942 949.4	133.1	210.2	0.0 195.7	3.1
## 943	313.3	145.0	0.0 178.5	8.0
867.2				
## 944 992.0	151.6	0.0	111.9 184.4	7.9
222.0				

## 945	153.1	145.0	113.0 178.5	8.0
1001.9 ## 946	139.9	132.6	103.3 200.3	7.4
916.0	133.3	132.0	103.3 200.3	, • -
## 947	149.5	236.0	0.0 175.8	12.6
846.8 ## 948	299.8	0.0	119.8 211.5	9.9
## 946 878.2	299.8	0.0	119.6 211.5	9.9
## 949	153.1	145.0	113.0 178.5	8.0
867.2	440.4		124 4 170 1	
## 950 1001.8	148.1	0.0	136.6 158.1	16.1
## 951	326.5	0.0	137.9 199.0	10.8
801.1				
## 952	152.7	144.7	0.0 178.1	8.0
999.7 ## 953	261.9	110.5	86.1 195.4	5.0
895.2	201.9	110.5	00.1 155.4	3.0
## 954	158.4	0.0	194.9 219.7	11.0
897.7	150.7	0.0	105 2 166 7	15.6
## 955 1074. 5	150.7	0.0	185.3 166.7	15.6
## 956	272.6	0.0	89.6 198.7	10.6
931.3				
## 957 953.4	149.0	117.6	91.7 182.9	7.1
## 958	143.0	169.4	142.7 190.7	8.4
967.4				
## 959	259.9	100.6	78.4 170.6	10.4
935.7 ## 960	312.9	160 5	0.0 177.6	9.6
916.6	312.3	100.5	0.0 177.0	3.0
## 961	284.0	119.7	0.0 168.3	7.2
970.4	226 5	0.0	0 0 101 0	2.4
## 962 985.8	336.5	0.0	0.0 181.9	3.4
## 963	144.8	0.0	133.6 180.8	11.1
979.5	450.0	225.0	0 0 4=0 0	44.0
## 964 1069.3	150.0	236.8	0.0 173.8	11.9
## 965	143.7	170.2	132.6 191.6	8.5
814.1				
## 966	330.5	169.6	0.0 194.9	8.1
811.0 ## 967	154.8	0.0	142.8 193.3	9.1
1047.4	±5-10	0.0	172.0 100.0	J.1
## 968	154.8	183.4	0.0 193.3	9.1
877.2 ## 969	134.7	0.0	165.7 180.2	10.0
961.0	±J++•/	0.0	103.7 100.2	10.0

## 970	266.2	112.3	87.5 177.9	10.4	
909.7 ## 971	314.0	145 3	113.2 178.9	8.0	
869.1	314.0	140.0	113.2 170.5	0.0	
## 972	312.7	144.7	0.0 127.3	8.0	
999.7	145.7	472.6	0 0 101 0	2.4	
## 973 985.8	145.7	1/2.6	0.0 181.9	3.4	
## 974	143.8	136.3	106.2 178.1	7.5	
941.5	110.1	0.0	100 1 101 1	45.0	
## 975 838.9	148.1	0.0	182.1 181.4	15.0	
## 976	277.0	116.8	91.0 190.6	7.0	
946.5					
## 977	298.1	0.0	107.5 163.6	12.8	
953.2 ## 978	313.3	145 0	0.0 178.5	8.0	
1001.9	515.5	143.0	0.0 170.5	0.0	
## 979	155.2	183.9	143.2 193.8	9.2	
879.6	200.0	422 7	0 0 101 0		
## 980 924.1	289.0	133./	0.0 194.9	5.5	
## 981	147.8	175.1	0.0 171.2	2.2	
1000.0					
## 982 824.0	145.4	0.0	178.9 201.7	7.8	
## 983	312.7	0.0	0.0 178.1	8.0	
999.7					
## 984	136.4	161.6	125.8 171.6	10.4	
922.6 ## 985	154.8	0.0	142.8 193.3	9.1	
877.2	154.0	0.0	142.0 199.9	J.1	
## 986	255.3	98.8	77.0 188.6	6.5	
919.0	272 0	105 1	01 0 200 7	0.0	
## 987 904.0	272.8	105.1	81.8 209.7	9.0	
## 988	162.0	190.1	148.1 178.8	18.8	
838.1					
## 989 923.2	153.6	144.2	112.3 220.1	10.1	
## 990	146.5	114.6	89.3 201.9	8.8	
860.0					
## 991	151.8	178.1	138.7 167.5	18.3	
944.0 ## 992	309.9	142.8	111.2 167.8	22.1	
913.9	505.5	172.0	111.2 107.0	44.1	
## 993	143.6	0.0	174.9 158.4	17.9	
942.7	202 6	120.0	0 0 212 5	6.2	
## 994 895.5	303.6	139.9	0.0 213.5	6.2	

## 995	374.3	0.0	0.0	190.2	6.7
1013.2 ## 996	158.6	148.9	116.0	175.1	15.0
953.3					
## 997	152.6	238.7	0.0	200.0	6.3
1001.8 ## 998	310.0	142.8	0.0	167.9	10.0
914.3					
## 999	304.8	0.0	99.6	196.0	9.8
959.4 ## 1000	150.9	0.0	183 9	166.6	11.6
991.2	150.5	0.0	103.3	100.0	11.0
## 1001	141.9	166.6	129.7	173.5	10.9
882.6 ## 1002	297.8	137.2	106 0	201.3	6.0
## 1002 878.4	297.8	13/.2	100.9	201.3	6.0
## 1003	321.3	164.2	0.0	190.5	4.6
870.0	266.0	407.0		101 2	
## 1004 824.3	366.0	187.0	0.0	191.3	6.6
## 1005	279.8	128.9	100.4	172.4	9.5
825.1					
## 1006	252.1	97.1	75.6	193.8	8.3
835.5 ## 1007	164.6	0.0	150.4	181.6	11.7
1023.3					,
## 1008	155.6	243.5	0.0	180.3	10.7
1022.0 ## 1009	160.2	188.0	1/6 /	203.2	11.3
828.7	100.2	100.0	140.4	203.2	11.5
## 1010	298.1	0.0	107.0	186.4	6.1
879.0	247.0	0.0	426 5	200 7	
## 1011 860.5	317.9	0.0	126.5	209.7	5.7
## 1012	287.3	120.5	93.9	187.6	9.2
904.4					
## 1013 881.6	325.6	166.4	0.0	174.0	8.9
## 1014	355.9	0.0	141.6	193.3	11.0
801.4					
## 1015	132.0	206.5	160.9	178.9	5.5
866.9 ## 1016	322.5	148.6	9.9	185.8	8.5
951.0	322.3	21010	0.0	203.0	0.5
## 1017	164.2	0.0	200.1	181.2	12.6
849.3 ## 1018	313.8	0.0	112.6	169 9	10.1
925.3	J1J.0	0.0	112.0	100.0	10.1
## 1019	321.4	0.0	127.9	182.5	11.5
870.1					

## 1021 907.9	288.4	121.0	0.0	177.4	7.0
## 1022	298.2	0.0	107.0	209.7	11.1
879.6 ## 1023 832.6	264.5	111.0	86.5	195.5	5.9
## 1024 1049.3	159.8	250.0	0.0	168.4	12.2
## 1025 858.8	166.0	259.7	0.0	183.2	12.7
## 1026 870.1	276.4	116.0	90.3	179.6	8.9
## 1027 817.9	322.2	0.0	115.6	196.0	10.4
## 1028 892.4	148.5	139.4	108.6	192.7	6.1
## 1029 989.6	159.1	186.7	0.0	175.6	11.3
## 1030 864.5	260.9	100.5	78.3	200.6	8.6
##	Fine_Aggregate	Age day Con	crete co	mpressi	ive strength
## 2	676.0		_	•	61.89
## 6	670.0	90			47.03
## 9	670.0				45.85
## 11	825.5				38.07
## 12	825.5				28.02
## 14	670.0				42.33
## 15	670.0				47.81
## 16	670.0				52.91
## 17	806.9				39.36
## 22	806.9				28.24
## 23	806.9				8.06
## 41	670.0				50.46
## 47	806.9	3			15.05
## 54	670.0				49.19
## 55	806.9	7			14.59
## 56	825.5	7			14.64
## 58	825.5	3			9.13
## 63	850.6	3			9.87
## 69	670.0	28			40.86
## 70	800.0	28			71.99
## 71	756.7	3			34.40
## 72	611.8	3			28.80
## 73	887.1	3			33.40
## 74	803.7	3			36.30
## 76	781.5	3			37.80
## 78	887.1	3			33.40
## 79	925.7	3			28.10
## 81	887.1	3			33.40
## 82	880.4	3			25.20

##	83	852.1	3	41.10
##	84	755.8	3	35.30
##	85	659.9	3	28.30
##	86	605.0	3	28.60
##	87	755.8	3	35.30
##	88	803.7	3	24.40
##	89	755.8	3	35.30
##	90	707.9	3	39.30
	91	755.8	3	40.60
##	92	755.8	3	35.30
##	93	755.8	3	24.10
##	94	756.7	7	46.20
	95	611.8	7	42.80
##	96	887.1	7	49.20
	97	803.7	7	46.80
	99	781.5	7	55.60
	101	887.1	7	49.20
##	102	925.7	7	34.90
	104	887.1	7	49.20
##	105	880.4	7	33.40
	106	852.1	7	54.10
	107	755.8	7	55.90
	108	659.9	7	49.80
	109	605.0	7	47.10
	110	755.8	7	55.90
	111	803.7	7	38.00
	112	755.8	7	55.90
	113	707.9	7	56.10
	114	755.8	7	59.09
	115	755.8	7	22.90
	116	755.8	7	35.10
	117	756.7	28	61.09
	118	611.8	28	59.80
	119	887.1	28	60.29
	120	803.7	28	61.80
	122	781.5	28	68.30
	124	887.1	28	60.29
	125	925.7	28	50.70
	127	887.1	28	60.29
	128	880.4	28	55.50
	129	852.1	28	68.50
	130	755.8	28	71.30
	131	659.9	28	74.70
	132	605.0	28	52.20
	133	755.8	28	71.30
	134	803.7	28	67.70
	135	755.8	28	71.30
	136	707.9	28	66.00
	137	755.8	28	74.50
##	138	755.8	28	71.30

##	139	755.8	28	49.90
##	140	756.7	56	63.40
##	141	611.8	56	64.90
##	142	887.1	56	64.30
##	143	803.7	56	64.90
##	145	781.5	56	72.30
	147	887.1	56	64.30
##	148	925.7	56	55.20
##	150	887.1	56	64.30
##	151	880.4	56	66.10
##	152	852.1	56	73.70
##	153	755.8	56	77.30
	155	605.0	56	54.90
##	156	755.8	56	77.30
##	157	803.7	56	72.99
##	158	755.8	56	77.30
##	159	707.9	56	71.70
	160	755.8	56	79.40
	161	755.8	56	77.30
##	162	755.8	56	59.89
##	163	756.7	91	64.90
	164	611.8	91	66.60
##	165	887.1	91	65.20
##	166	803.7	91	66.70
##	168	781.5	91	74.19
##	170	887.1	91	65.20
##	171	925.7	91	57.60
##	173	887.1	91	65.20
##	174	880.4	91	68.10
##	175	852.1	91	75.50
##	176	755.8	91	79.30
##	177	605.0	91	56.50
##	178	755.8	91	79.30
##	179	803.7	91	76.80
##	180	755.8	91	79.30
##	181	707.9	91	73.30
##	183	755.8	91	79.30
##	184	755.8	91	67.80
##	185	870.3	3	11.58
##	186	870.3	14	24.45
##	187	870.3	28	24.89
##	188	870.3	56	29.45
##	189	870.3	100	40.71
##	190	852.2	3	10.38
##	191	852.2	14	22.14
##	192	852.2	28	22.84
##	193	852.2	56	27.66
##	194	852.2	100	34.56
##	195	905.9	3	12.45
##	196	905.9	14	24.99

##	197	905.9	28	25.72
##	198	905.9	56	33.96
##	199	905.9	100	37.34
##	200	804.0	3	15.04
##	201	804.0	14	21.06
##	202	804.0	28	26.40
##	203	804.0	56	35.34
##	204	804.0	100	40.57
##	205	779.3	3	12.47
	206	779.3	14	20.92
##	207	779.3	28	24.90
##	208	779.3	56	34.20
	209	779.3	100	39.61
	210	758.6	3	10.03
	211	758.6	14	20.08
	212	758.6	28	24.48
	213	758.6	56	31.54
	214	758.6	100	35.34
	215	802.6	3	9.45
	216	802.6	14	22.72
	217	802.6	28	28.47
	218	802.6	56	38.56
	219	802.6	100	40.39
	220	780.1	3	10.76
	221	780.1	14	25.48
	222	780.1	28	21.54
	223	780.1	56	28.63
	224	780.1	100	33.54
	230	785.4	3	18.00
	231	785.4	14	30.39
	232	785.4	28	45.71
	233	785.4	56	50.77
	234	785.4	100	53.90
	235	785.5	3	13.18
	236	785.5	14	17.84
	237	785.5	28	40.23
	238	785.5	56	47.13
	239	785.5	100	49.97
	240	757.6	3	13.36
	241	757 . 6	14	22.32
	242	757 . 6	28	24.54
	243	757.6	56	31.35
	244 245	757.6 847.0	100 3	40.86 19.93
	246		14	25.69
	246	847.0 847.0	28	30.23
	247	847.0	56	39.59
	249	847.0	100	44.30
	250	861.2	3	13.82
	251	861.2	14	24.92
π#	231	301.2	1 7	LT. JL

##	252	861.2	28	29.22
##	253	861.2	56	38.33
	254	861.2	100	42.35
	255	903.6	3	13.54
	256	903.6	14	26.31
	257	903.6	28	31.64
	258	903.6	56	42.55
	259	903.6	100	42.92
	260	903.8	3	13.33
	261	903.8	14	25.37
	262	903.8	28	37.40
##	263	903.8	56	44.40
##	264	903.8	100	47.74
##	265	799.5	3	19.52
##	266	799.5	14	31.35
##	267	799.5	28	38.50
##	268	799.5	56	45.08
##	269	799.5	100	47.82
	270	778.5	3	15.44
	271	778.5	14	26.77
	272	778.5	28	33.73
	273	778.5	56	42.70
	274	778.5	100	45.84
	275	757.7	3	17.22
	276	757.7	14	29.93
	277	757.7	28	29.65
	278	757.7	56	36.97
	279	757.7	100	43.58
	280	757.7	3	13.12
	281	757.7	14	24.43
	282	757.7	28	32.66
	283	757.7	56	36.64
	284	757.7	100	44.21
	285	777.8	3	13.62
	286	777.8	14	21.60
	287	777.8	28	27.77
	288	777.8	56	35.57
	289	777.8	100	45.37
	290	780.7	3	7.32
	291	780.7	14	21.50
	292	780.7	28	31.27
	293	780.7	56	43.50
	294	780.7	100	48.67
	295	796.2	3	7.40
	296	796.2	14	23.51
	297	796.2	28	31.12
##	298	796.2	56	39.15
##	299	796.2	100	48.15
##	300	865.0	3	22.50
##	301	865.0	14	34.67

##	302	865.0	28	34.74
##	303	865.0	56	45.08
##	304	865.0	100	48.97
##	305	875.6	3	23.14
##	306	875.6	14	41.89
##	307	875.6	28	48.28
	308	875.6	56	51.04
##	309	875.6	100	55.64
##	310	859.2	3	22.95
	311	859.2	14	35.23
	312	859.2	28	39.94
##	313	859.2	56	48.72
	314	859.2	100	52.04
##	315	899.8	3	21.02
##	316	899.8	14	33.36
	317	899.8	28	33.94
##	318	899.8	56	44.14
	319	899.8	100	45.37
	320	889.0	3	15.36
	321	889.0	14	28.68
##	322	889.0	28	30.85
	323	889.0	56	42.03
	324	889.0	100	51.06
	325	889.0	3	21.78
	326	889.0	14	42.29
	327	889.0	28	50.60
	328	889.0	56	55.83
	329	889.0	100	60.95
##	330	800.9	3	23.52
##	331	800.9	14	42.22
##	332	800.9	28	52.50
##	333	800.9	56	60.32
##	334	800.9	100	66.42
##	335	777.5	3	23.80
##	336	777.5	14	38.77
	337	777.5	28	51.33
##	338	777.5	56	56.85
##	339	777.5	100	58.61
##	340	753.5	3	21.91
##	341	753.5	14	36.99
##	342	753.5	28	47.40
##	343	753.5	56	51.96
##	344	753.5	100	56.74
##	345	776.4	3	17.57
##	346	776.4	14	33.73
	347	776.4	28	40.15
##	348	776.4	56	46.64
##	349	776.4	100	50.08
##	350	775.5	3	17.37
##	351	775.5	14	33.70

##	352	775.5	28	45.94
##	353	775.5	56	51.43
	354	775.5	100	59.30
	355	782.5	3	30.45
	356	782.5	14	47.71
	357	782.5	28	63.14
	358	782.5	56	66.82
	359	782.5	100	66.95
	360	792.7	3	27.42
	361	792.7	14	35.96
	362	792.7	28	55.51
	363	792.7	56	61.99
	364	792.7	100	63.53
	365	780.6	3	18.02
	366	780.6	14	38.60
	367	780.6	28	52.20
	368	780.6	56	53.96
	369	780.6	100	56.63
	370	794.9	3	15.34
	371	794.9	14	26.05
	372	794.9	28	30.22
	373	794.9	56	37.27
	374	794.9	100	46.23
	375	762.4	3	16.28
	376	762.4	14	25.62
	377	762.4	28	31.97
	378	762.4	56	36.30
	379	762.4	100	43.06
	380	853.0	28	67.57
	381	641.0	28	57.23
	383	630.0	28	64.02
	384	745.0	28	78.80
	385	802.0	28	41.37
	386	855.0	28	60.28
	387	720.0	28	56.83
	388	805.0	28	51.02
	389	768.0	28	55.55
	390	613.2	28	44.13
	391	613.2	28	39.38
	392	633.0	28	55.65
	393	652.0	28	47.28
	394	633.0	28	44.33
	395	695.0	28	52.30
	396	660.0	28	49.25
	397	802.0	28	41.37
	398	880.0	28	29.16
	399	879.0	28	39.40
	400	760.0	28	39.30
	401	800.0	28	67.87
	402	662.0	28	58.52

##	403	685.0	28	53.58
##	404	657.0	28	59.00
##	405	765.0	28	76.24
##	406	655.0	28	69.84
##	407	900.9	3	14.40
##	408	746.6	3	19.42
##	409	746.8	3	20.73
##	410	746.6	3	14.94
##	411	856.4	3	21.29
##	412	793.5	3	23.08
##	413	770.1	3	15.52
##	414	746.6	3	15.82
	415	798.9	3	12.55
##	416	857.2	3	8.49
	417	771.9	3	15.61
	418	901.8	3	12.18
	419	754.3	3	11.98
	420	900.9	14	16.88
	421	746.6	14	33.09
	422	746.8	14	34.24
	423	746.6	14	31.81
	424	856.4	14	29.75
	425	793.5	14	33.01
	426	770.1	14	32.90
	427	746.6	14	29.55
	428	798.9	14	19.42
	429	857.2	14	24.66
	430	771.9	14	29.59
	431	901.8	14	24.28
	432	754.3	14	20.73
	433	900.9	28	26.20
	434	746.6	28	46.39
	435	746.8	28	39.16
	436	746.6	28	41.20
	437	856.4	28	33.69
	438	793.5	28	38.20
	439	770.1	28	41.41
	440	746.6	28	37.81
	441	798.9	28	24.85
	442	857.2	28	27.22
	443	771.9	28	44.64
	444	901.8	28	37.27
	445	754.3	28	33.27
	446	900.9	56	36.56
	447	746.6	56	53.72
	448	746.8	56	48.59
	449	746.6	56	51.72
	450	856.4	56	35.85
	451	793.5	56	53.77
##	452	770.1	56	53.46

##	453	746.6	56	48.99
##	454	798.9	56	31.72
##	455	857.2	56	39.64
##	456	771.9	56	51.26
##	457	901.8	56	43.39
##	458	754.3	56	39.27
##	459	900.9	100	37.96
##	460	746.6	100	55.02
##	461	746.8	100	49.99
##	462	746.6	100	53.66
##	463	856.4	100	37.68
	464	793.5	100	56.06
	465	770.1	100	56.81
##	466	746.6	100	50.94
##	467	798.9	100	33.56
	468	857.2	100	41.16
	469	771.9	100	52.96
	470	901.8	100	44.28
	471	754.3	100	40.15
	472	712.0	28	57.03
	473	712.0	28	44.42
	474	712.0	28	51.02
	475	712.0	28	53.39
	476	712.0	3	35.36
	477	712.0	3	25.02
	478	712.0	3	23.35
	479	712.0	7	52.01
	480	712.0	7	38.02
	481	712.0	7	39.30
	482	712.0	56	61.07
	483	712.0	56	56.14
	484	712.0	56	55.25
	485	712.0	56	54.77
	486	845.0	28	50.24
	487	845.0	28	46.68
	488	845.0	28	46.68
	489	845.0	3	22.75
	490	845.0	3	25.51
	491	845.0	3	34.77
	492	845.0	7	36.84
	493	845.0	7	45.90
	494	845.0	7	41.67
	495	845.0	56	56.34
	496	845.0	56	47.97
	497	845.0	56	61.46
	498	871.0	28	44.03
	499	871.0	28	55.45
	500	699.0	28	55.55
	501	699.0	28	57.92
##	502	699.0	3	25.61

##	503	699.0	7	33.49
##	504	699.0	56	59.59
##	505	699.0	3	29.55
##	506	699.0	7	37.92
##	507	699.0	56	61.86
##	508	750.0	28	62.05
##	509	750.0	3	32.01
##	510	750.0	28	72.10
##	511	750.0	7	39.00
##	512	750.0	56	65.70
##	513	750.0	3	32.11
##	514	750.0	7	40.29
	515	750.0	56	74.36
##	516	801.0	28	21.97
##	517	801.0	3	9.85
	518	801.0	7	15.07
	519	801.0	56	23.25
##	520	801.0	28	43.73
	521	801.0	3	13.40
	522	801.0	7	24.13
	523	801.0	56	44.52
	524	801.0	28	62.94
	525	801.0	28	59.49
	526	801.0	3	25.12
	527	801.0	3	23.64
	528	801.0	7	35.75
	529	801.0	7	38.61
	530	801.0	56	68.75
	531	801.0	56	66.78
	532	719.7	28	23.85
	533	895.3	90	32.07
	534	895.3	3	11.65
	535	785.6	3	19.20
	536	785.6	90	48.85
	537	785.6	28	39.60
	538	712.2	28	43.94
	539	712.2	7	34.57
	540	712.2	90	54.32
	541	712.2	3	24.40
	542	842.6	3	15.62
	543	945.0	90	21.86
	544	945.0	7	10.22
	545	895.3	7	14.60
	546	945.0	28	18.75
	547	842.6	28	31.97
	548	842.6	7	23.40
	549	895.3	28	25.57
	550	842.6	90	41.68
	551	785.6	7	27.74
##	552	945.0	3	8.20

##	553	734.3	7	9.62
##	555	734.3	7	15.69
##	556	714.3	28	27.94
##	557	704.3	28	32.63
##	558	724.3	7	17.24
##	559	714.3	7	19.77
	561	744.3	28	25.75
	562	734.3	28	33.08
	563	739.3	7	24.07
	564	689.3	7	21.82
	565	734.3	28	21.07
	566	769.3	7	14.84
	567	724.3	28	32.05
	568	759.3	7	11.96
	569	734.3	7	25.45
	570	784.3	28	22.49
	571	769.3	28	25.22
	572	674.3	28	39.70
	573	744.3	7	13.09
	574	689.3	28	38.70
	575	759.3	7	7.51
	576	789.3	28	17.58
	577	754.3	7	21.18
	578	759.3	28	18.20
	579	704.3	7	17.20
	580	759.3	28	22.63
	581	704.3	7	21.86
	582	714.3	7	12.37
##	583	724.3	28	25.73
	584	689.3	28	37.81
	585	674.3	7	21.92
##	586	704.3	28	33.04
##	587	784.3	7	14.54
##	588	734.3	28	26.91
##	589	764.3	7	8.00
	590	754.3	28	31.90
##	591	789.3	7	10.34
##	592	784.3	28	19.77
##	593	739.3	28	37.44
##	594	784.3	7	11.48
##	595	689.3	7	24.44
##	596	764.3	28	17.60
	597	724.3	7	10.73
	598	714.3	28	31.38
	599	781.0	3	13.22
	600	781.0	7	20.97
	601	781.0	14	27.04
	602	781.0	28	32.04
	603	781.0	90	35.17
	606	885.0	3	6.47

##	607	885.0	14	12.84
##	608	885.0	28	18.42
	609	885.0	90	21.95
	612	856.0	14	21.26
	613	856.0	28	25.97
	614	856.0	3	11.36
	615	856.0	90	31.25
	618	863.0	3	9.31
	619	863.0	90	26.94
	624	812.0	3	12.54
	625	812.0	28	27.53
	626	812.0	90	32.92
	627	885.0	7	9.99
	628	845.0	7	7.84
	629	845.0	28	12.25
			²⁰ 7	
	630	833.0		11.17
	631	833.0	28	17.34
	632	783.0	7	17.54
	633	783.0	28	30.57
	634	808.0	7	14.20
	635	808.0	28	24.50
	636	795.0	7	15.58
	637	795.0	28	26.85
	638	758.0	7	26.06
	639	758.0	28	38.21
	640	745.0	28	43.70
	641	745.0	7	30.14
	642	820.0	7	12.73
	643	820.0	28	20.87
	644	770.0	7	20.28
##	645	770.0	28	34.29
##	646	630.0	7	19.54
##	647	694.1	90	47.71
	648	781.2	90	43.38
##	649	748.5	28	29.89
##	650	692.6	3	6.90
##	651	800.1	90	33.19
##	652	800.0	3	4.90
##	653	942.0	3	4.57
##	654	942.0	90	25.46
##	655	800.1	28	24.29
##	656	692.6	28	33.95
##	657	806.2	3	11.41
##	658	849.0	28	20.59
##	659	631.0	7	25.89
##	660	849.0	90	29.23
	661	891.9	90	31.02
	662	748.5	7	10.39
	663	781.2	28	33.66
	664	839.2	28	27.87

##	665	694.1	7	19.35
##	666	856.8	7	11.39
##	667	716.1	3	12.79
##	668	716.1	28	39.32
##	669	943.1	3	4.78
##	670	717.8	3	16.11
##	671	631.0	28	43.38
##	672	749.1	7	20.42
##	673	856.8	3	6.94
##	674	750.0	7	15.03
##	675	749.1	3	13.57
##	676	800.0	90	32.53
##	677	692.6	7	15.75
	678	942.0	7	7.68
	679	717.8	28	38.80
	680	750.0	28	33.00
	681	942.0	28	17.28
	682	856.8	28	24.28
	683	800.0	28	24.05
	684	839.2	90	36.59
	685	716.1	90	50.73
	686	839.2	7	13.66
	687	631.0	3	14.14
	688	749.1	90	47.78
	689	849.0	3	2.33
	690	781.2	7	16.89
	691	717.8	7	23.52
	692	750.0	3	6.81
	693	750.0	90	39.70
	694	943.1	28	17.96
	695	749.1	28	32.88
	696	891.9	28	22.35
	697	800.0	7	10.79
	698	849.0	7	7.72
	699	630.0	28	41.68
	700	630.0	3	9.56
	701	839.2	3	6.88
	702	717.8	90	50.53
	703	806.2	7	17.17
	704	806.2	28	30.44
	705	694.1	3	9.73
	706	800.1	3	3.32
	707	943.1	90	26.32
	708	806.2	90	43.25
	709	891.9	3	6.28
	710	856.8	90	32.10
	711	694.1	28	36.96
	712	631.0	90	54.60
	713	716.1	7	21.48
##	714	781.2	3	9.69

##	715	943.1	7	8.37
##	716	748.5	90	39.66
##	717	891.9	7	10.09
##	718	748.5	3	4.83
##	719	800.1	7	10.35
##	720	692.6	90	43.57
##	721	630.0	90	51.86
##	722	830.0	3	11.85
##	723	830.0	7	17.24
##	724	830.0	28	27.83
##	725	830.0	90	35.76
##	726	830.0	120	38.70
##	727	821.0	3	14.31
##	728	821.0	7	17.44
##	729	821.0	28	31.74
##	730	821.0	90	37.91
##	731	821.0	120	39.38
##	732	809.0	3	15.87
##	733	809.0	7	9.01
##	734	809.0	28	33.61
##	735	809.0	90	40.66
##	736	809.0	120	40.86
##	737	789.0	7	12.05
##	738	789.0	28	17.54
##	739	769.0	7	18.91
##	740	769.0	28	25.18
##	741	734.0	7	30.96
##	742	721.0	28	43.89
##	743	721.0	90	54.28
##	744	734.0	28	36.94
##	745	774.0	7	14.50
##	746	774.0	28	22.44
##	747	613.0	1	12.64
##	748	613.0	3	26.06
##	749	613.0	7	33.21
##	750	613.0	14	36.94
##	751	613.0	28	44.09
##	752	613.0	7	52.61
##	753	613.0	14	59.76
##	754	613.0	28	67.31
##	755	613.0	90	69.66
##	758	775.0	7	18.13
##	759	775.0	14	22.53
##	760	775.0	28	27.34
##	761	775.0	56	29.98
##	762	775.0	90	31.35
##	764	763.0	1	6.27
##	765	763.0	3	14.70
##	766	763.0	7	23.22
##	767	763.0	14	27.92

##	768	763.0	28	31.35
##	771	806.0	3	14.99
##	772	825.0	3	13.52
##	773	739.0	7	24.00
##	774	739.0	28	37.42
##	775	784.0	7	11.47
##	776	774.0	28	22.44
##	777	754.0	7	21.16
##	778	754.0	28	31.84
##	779	769.0	7	14.80
##	780	769.0	28	25.18
##	781	789.0	28	17.54
##	782	765.0	7	14.20
##	783	765.0	28	21.65
##	784	765.0	90	29.39
##	785	825.0	3	13.52
##	786	825.0	7	16.26
##	787	825.0	28	31.45
##	788	825.0	90	37.23
##	789	806.0	7	18.13
##	790	806.0	28	32.72
##	791	806.0	90	39.49
##	794	817.0	14	18.13
##	797	613.0	90	47.22
##	800	613.0	3	41.64
##	801	784.0	7	13.71
##	802	784.0	28	19.69
##	803	754.0	28	31.65
##	804	758.0	3	19.11
	805	758.0	28	39.58
	806	758.0	90	48.79
	807	739.0	7	24.00
	808	739.0	28	37.42
	809	784.0	7	11.47
	810	784.0	28	19.69
	811	850.0	7	14.99
	812	850.0	28	27.92
	813	850.0	90	34.68
	816	613.0	3	33.80
	817	613.0	7	42.42
	818	613.0	14	48.40
	819	613.0	28	55.94
	820	613.0	90	58.78
	822	800.0	14	20.77
	823	800.0	28	25.18
	825	817.0	28	21.75
	826	734.0	28	39.09
	827	721.0	3	24.39
	828	896.0	7	50.51
##	829	896.0	28	74.99

##	830	680.0	28	37.17
##	831	741.0	28	33.76
##	832	658.0	28	16.50
##	833	829.0	28	19.99
##	834	695.0	28	36.35
##	835	651.0	28	33.69
##	836	844.0	28	15.42
##	837	722.0	28	33.42
	838	730.0	28	39.05
##	839	720.0	28	27.68
	840	684.0	28	26.86
	841	804.0	28	45.30
	842	705.0	28	30.12
	843	772.0	28	15.57
	844	785.0	28	44.61
	845	655.0	28	53.52
	846	774.0	28	57.21
	847	757.0	28	65.91
	848	805.0	28	52.82
	849	821.0	28	33.40
	850	729.0	28	18.03
	851	698.0	28	37.36
	852	710.0	28	32.84
	853	815.0	28	42.64
	854	737.0	28	40.06
	855	696.0	28	41.94
	856	790.0	28	61.23
	857	778.0	28	40.87
	858	736.0	28	33.30
	859	709.0	28	52.42
	860	846.0	28	15.09
	861	783.0	28	38.46
	862	780.0	28	37.26
	864	829.0	28	42.13
	865	744.0	28	31.87
	866	790.0	28	41.54
	867	688.0	28	39.45
	868	827.0	28	37.91
	869	768.0	28	44.28 31.18
	870	813.0	28 28	23.69
	871 872	780.0 789.0	28	32.76
	873	761.0	28	32.40
	875	689.0	28	36.80
	876	697.0		
	877	872.0	28 28	18.28 33.06
	878	778.0	28	31.42
	879	795.0	28	31.03
	880	824.0	28	44.39
	881	816.0	28	12.18
TT TT	001	010.0	20	12.10

##	882	689.0	28	25.56
##	883	753.0	28	36.44
##	884	893.0	28	32.96
##	885	728.0	28	23.84
##	886	824.0	28	26.23
##	887	830.0	28	17.95
##	888	792.0	28	40.68
##	889	822.0	28	19.01
##	890	733.0	28	33.72
##	891	713.0	28	8.54
##	892	678.0	28	13.46
##	893	762.0	28	32.24
##	894	780.0	28	23.52
##	895	643.0	28	29.72
##	896	763.0	28	49.77
##	897	759.0	28	52.44
##	898	794.0	28	40.93
##	899	817.0	28	44.86
##	900	812.0	28	13.20
##	901	675.0	28	37.43
	902	805.0	28	29.87
##	903	802.0	28	56.61
	904	697.0	28	12.46
##	905	868.0	28	23.79
##	906	805.0	28	13.29
##	907	745.0	28	39.42
	908	690.0	28	46.23
	909	822.0	28	44.52
	910	817.0	28	23.74
	911	774.0	28	26.14
	912	884.0	28	15.52
	913	666.0	28	43.57
	914	784.0	28	35.86
	915	689.0	28	41.05
	916	699.0	28	28.99
	917	760.0	28	46.24
	918	828.0	28	26.92
	919	869.0	28	10.54
	920	822.0	28	25.10
	921	764.0	28	29.07
	922	868.0	28	9.74
	923	749.0	28	33.80
	924	638.0	28	39.84
	925	783.0	28	26.97
	926	641.0	28	27.23
	927	680.0	28	30.65
	928	704.0	28	33.05
	929	623.0	28	24.58
	930	643.0	28	21.91
##	931	669.0	28	30.88

##	932	709.0	28	15.34
##	933	612.0	28	24.34
##	934	636.0	28	23.89
##	935	623.0	28	22.93
	936	614.0	28	29.41
	938	688.7	28	36.80
	939	696.7	28	18.29
	940	871.8	28	32.72
	941	778.4	28	31.42
	942	795.3	28	28.94
	943	824.0	28	40.93
	944	815.9	28	12.18
	945	688.7	28	25.56
	946	753.4	28	36.44
	947	892.7	28	32.96
	948	727.6	28	23.84
	949	824.0	28	26.23
	950	830.1	28	17.96
	951	792.5	28	38.63
	952	822.2	28	19.01
	953	732.6	28	33.72
	954	712.9	28	8.54
	955	678.0	28	13.46
	956	762.2	28	32.25
	957	780.3	28	23.52
	958	643.5	28	29.73
	959	762.9	28	49.77
	960	759.5	28	52.45
	961	794.2	28	40.93
	962	816.8	28	44.87
	963	811.5	28	13.20
	964	674.8	28	37.43
	965	805.3	28	29.87
	966	802.3	28	56.62
	967	696.7	28	12.46
	968	867.7	28	23.79
	969	804.9	28	13.29
##	970	744.5	28	39.42
##	971	690.2	28	46.23
##	972	822.2	28	44.52
	973	816.8	28	23.74
	974	774.3	28	26.15
	975	884.3	28	15.53
	976	665.6	28	43.58
	977	784.0	28	35.87
	978	688.7	28	41.05
	979	698.5	28	28.99
##	980	760.1	28	46.25
##	981	828.5	28	26.92
##	982	868.7	28	10.54

##	983	822.2	28	25.10
##	984	764.4	28	29.07
##	985	867.7	28	9.74
##	986	749.3	28	33.80
##	987	679.7	28	37.17
##	988	741.4	28	33.76
	989	657.9	28	16.50
	990	829.5	28	19.99
	991	694.6	28	36.35
	992	651.2	28	38.22
	993	844.5	28	15.42
	994	722.5	28	33.42
	995	730.4	28	39.06
	996	719.7	28	27.68
	997	683.9	28	26.86
	998	804.0	28	45.30
	999	705.2	28	30.12
	1000	772.2	28	15.57
	1001	785.3	28	44.61
	1002	655.3	28	53.52
	1003	774.0	28	57.22
	1004	756.9	28	65.91
	1005	804.9	28	52.83
	1005	821.4	28	33.40
	1007	728.9	28	18.03
	1007	697.7	28	37.36
	1009	709.7	28	35.31
	1010	815.2	28	42.64
	1011	736.6	28	40.06
	1012	695.9	28	43.80
	1013	790.0	28	61.24
	1014	778.4	28	40.87
	1015	735.6	28	33.31
	1016	709.5	28	52.43
	1017	846.0	28	15.09
	1017	782.9	28	38.46
	1019	779.7	28	37.27
	1021	829.5	28	42.14
	1021	744.2	28	31.88
	1023	790.4	28	41.54
	1024	688.2	28	39.46
	1024	826.8	28	37.92
	1025	768.3	28	44.28
	1025	813.4	28	31.18
	1027	780.0	28	23.70
	1028	788.9	28	32.77
	1030	761.5	28	32.40
##	1000	/UI.J	20	J2.70

```
cleaned data 2<-remove_outlier(cleaned_data_1,</pre>
c('Cement', 'Blast_Furnace_Slag', 'Fly_Ash', 'Water', 'Superplasticizer', 'Coarse_
Aggregate','Fine_Aggregate','Age_day','Concrete_compressive_strength'))
## [1] "Remove outliers"
        Cement Blast_Furnace_Slag Fly_Ash Water Superplasticizer
Coarse_Aggregate
## 2
                              0.0
                                     0.0 162.0
         540.0
                                                             2.5
1055.0
## 9
        266.0
                            114.0
                                      0.0 228.0
                                                             0.0
932.0
## 12
        198.6
                            132.4
                                     0.0 192.0
                                                             0.0
978.4
                                      0.0 228.0
## 15
        304.0
                            76.0
                                                             0.0
932.0
## 22
                            209.4
                                      0.0 192.0
                                                             0.0
        139.6
1047.0
                                     0.0 192.0
                                                             0.0
## 23
        139.6
                            209.4
1047.0
                              0.0
                                      0.0 192.0
## 47
        349.0
                                                             0.0
1047.0
## 55
        139.6
                           209.4
                                      0.0 192.0
                                                             0.0
1047.0
## 56
        198.6
                            132.4
                                      0.0 192.0
                                                             0.0
978.4
## 58
        198.6
                            132.4
                                      0.0 192.0
                                                             0.0
978.4
                                      0.0 192.0
## 63
        310.0
                              0.0
                                                             0.0
971.0
## 69
        190.0
                            190.0
                                      0.0 228.0
                                                             0.0
932.0
                                      0.0 146.0
## 70
        485.0
                              0.0
                                                             0.0
1120.0
## 71
                            189.2
                                      0.0 170.1
        374.0
                                                            10.1
926.1
## 73
        425.0
                            106.3
                                      0.0 153.5
                                                            16.5
852.1
## 74
        425.0
                            106.3
                                      0.0 151.4
                                                            18.6
936.0
                                      0.0 181.1
## 76
        475.0
                            118.8
                                                            8.9
852.1
## 78
        425.0
                            106.3
                                      0.0 153.5
                                                            16.5
852.1
                                      0.0 157.9
## 79
        388.6
                             97.1
                                                            12.1
852.1
## 81
        425.0
                            106.3
                                      0.0 153.5
                                                            16.5
852.1
## 82
         318.8
                            212.5
                                      0.0 155.7
                                                            14.3
852.1
                                      0.0 147.4
                             94.7
## 83
        401.8
                                                            11.4
```

946.8 ## 84	362.6	189.0	0.0 164.9	11.6
944.7	30210		•••	
## 85 942.7	323.7	282.8	0.0 183.8	10.3
## 87 944.7	362.6	189.0	0.0 164.9	11.6
## 88	286.3	200.9	0.0 144.7	11.2
1004.6 ## 89	362.6	189.0	0.0 164.9	11.6
944.7 ## 90	439.0	177.0	0.0 186.0	11.1
884.9 ## 91	389.9	189.0	0.0 145.9	22.0
944.7 ## 92	362.6	189.0	0.0 164.9	11.6
944.7	337.9	189.0	0.0 174.9	9.5
944.7 ## 94	374.0	189.2	0.0 170.1	10.1
926.1 ## 96	425.0	106.3	0.0 153.5	16.5
852.1 ## 97	425.0	106.3	0.0 151.4	18.6
936.0 ## 99	475.0	118.8	0.0 181.1	8.9
852.1 ## 101	425.0	106.3	0.0 153.5	16.5
852.1 ## 102	388.6	97.1	0.0 157.9	12.1
852.1 ## 104	425.0	106.3	0.0 153.5	16.5
	318.8	212.5	0.0 155.7	14.3
852.1 ## 106	401.8	94.7	0.0 147.4	11.4
946.8 ## 107	362.6	189.0	0.0 164.9	11.6
944.7 ## 108	323.7	282.8	0.0 183.8	10.3
942.7 ## 110	362.6	189.0	0.0 164.9	11.6
944.7 ## 111	286.3	200.9	0.0 144.7	11.2
1004.6	362.6	189.0	0.0 164.9	11.6
944.7 ## 113	439.0	177.0	0.0 186.0	11.1
884.9 ## 114	389.9	189.0	0.0 145.9	22.0

944.7				
## 115	362.6	189.0	0.0 164.9	11.6
944.7 ## 116	227 0	100 0	0.0 174.9	9.5
944.7	337.9	189.0	0.0 1/4.9	9.5
## 11 7	274 0	190 2	0.0 170.1	10.1
926.1	374.0	109.2	0.0 1/0.1	10.1
## 119	425.0	106 3	0.0 153.5	16.5
852.1	423.0	100.5	0.0 133.3	10.5
## 120	425.0	106.3	0.0 151.4	18.6
936.0	.2310	200.5	0.0 131.	2010
## 122	475.0	118.8	0.0 181.1	8.9
852.1				
## 124	425.0	106.3	0.0 153.5	16.5
852.1				
## 125	388.6	97.1	0.0 157.9	12.1
852.1				
## 127	425.0	106.3	0.0 153.5	16.5
852.1				
## 128	318.8	212.5	0.0 155.7	14.3
852.1				
## 129	401.8	94.7	0.0 147.4	11.4
946.8				
## 130	362.6	189.0	0.0 164.9	11.6
944.7				
## 133	362.6	189.0	0.0 164.9	11.6
944.7				
## 134	286.3	200.9	0.0 144.7	11.2
1004.6	262.6	100.0	0 0 164 0	11 6
## 135	362.6	189.0	0.0 164.9	11.6
944.7 ## 136	420 A	177 0	0 0 196 0	11 1
## 136 884.9	439.0	1//.0	0.0 186.0	11.1
## 138	362.6	180 0	0.0 164.9	11.6
944.7	302.0	109.0	0.0 104.9	11.0
## 139	337.9	189.0	0.0 174.9	9.5
944.7	337.3	103.0	0.0 17.1.9	3.3
## 140	374.0	189.2	0.0 170.1	10.1
926.1				
## 142	425.0	106.3	0.0 153.5	16.5
852.1				
## 143	425.0	106.3	0.0 151.4	18.6
936.0				
## 145	475.0	118.8	0.0 181.1	8.9
852.1				
## 147	425.0	106.3	0.0 153.5	16.5
852.1				
## 148	388.6	97.1	0.0 157.9	12.1
852.1				
## 150	425.0	106.3	0.0 153.5	16.5

852.1 ## 151	318.8	212.5	0.0 155.7	14.3
852.1	320.0		0.0 233.7	2.03
## 157 1004.6	286.3	200.9	0.0 144.7	11.2
## 159 884.9	439.0	177.0	0.0 186.0	11.1
## 162 944.7	337.9	189.0	0.0 174.9	9.5
## 185 967.1	222.4	0.0	96.7 189.3	4.5
## 186 967.1	222.4	0.0	96.7 189.3	4.5
## 187 967.1	222.4	0.0	96.7 189.3	4.5
## 188 967.1	222.4	0.0	96.7 189.3	4.5
## 190 947.0	233.8	0.0	94.6 197.9	4.6
## 191 947.0	233.8	0.0	94.6 197.9	4.6
## 192 947.0	233.8	0.0	94.6 197.9	4.6
## 193 947.0	233.8	0.0	94.6 197.9	4.6
## 195 1006.4	194.7	0.0	100.5 165.6	7.5
## 196 1006.4	194.7	0.0	100.5 165.6	7.5
## 197 1006.4	194.7	0.0	100.5 165.6	7.5
## 198 1006.4	194.7	0.0	100.5 165.6	7.5
## 200 1090.0	190.7	0.0	125.4 162.1	7.8
## 201 1090.0	190.7	0.0	125.4 162.1	7.8
## 202 1090.0	190.7	0.0	125.4 162.1	7.8
## 203 1090.0	190.7	0.0	125.4 162.1	7.8
## 205 1057.6	212.1	0.0	121.6 180.3	5.7
## 206 1057.6	212.1	0.0	121.6 180.3	5.7
## 207 1057.6	212.1	0.0	121.6 180.3	5.7
## 208 1057.6	212.1	0.0	121.6 180.3	5.7
## 210	230.0	0.0	118.3 195.5	4.6

1029.4 ## 211	230.0	0.0	118.3 195.5	4.6
1029.4	250.0	0.0	110.5 195.5	4.0
## 212	230.0	0.0	118.3 195.5	4.6
1029.4 ## 213	230.0	0.0	118.3 195.5	4.6
1029.4 ## 215	190.3	0.0	125.2 161.9	9.9
1088.1 ## 216	190.3	0.0	125.2 161.9	9.9
1088.1 ## 217	190.3	0.0	125.2 161.9	9.9
1088.1				
## 218 1088.1	190.3	0.0	125.2 161.9	9.9
## 220 1058.6	166.1	0.0	163.3 176.5	4.5
## 221 1058.6	166.1	0.0	163.3 176.5	4.5
## 222	166.1	0.0	163.3 176.5	4.5
1058.6 ## 223	166.1	0.0	163.3 176.5	4.5
1058.6 ## 230	213.7	98.1	24.5 181.7	6.9
1065.8 ## 231	213.7	98.1	24.5 181.7	6.9
1065.8 ## 232	213.7	98.1	24.5 181.7	6.9
1065.8				
## 233 1065.8	213.7	98.1	24.5 181.7	6.9
## 235 1066.0	213.8	98.1	24.5 181.7	6.7
## 236 1066.0	213.8	98.1	24.5 181.7	6.7
## 237	213.8	98.1	24.5 181.7	6.7
1066.0 ## 238	213.8	98.1	24.5 181.7	6.7
1066.0 ## 240	229.7	0.0	118.2 195.2	6.1
1028.1 ## 241	229.7	0.0	118.2 195.2	6.1
1028.1 ## 242	229.7	0.0	118.2 195.2	6.1
1028.1				
## 243 1028.1	229.7	0.0	118.2 195.2	6.1
## 245 949.9	238.1	0.0	94.1 186.7	7.0
## 246	238.1	0.0	94.1 186.7	7.0

949.9 ## 247	238.1	0.0	94.1 186.7	7.0
949.9				
## 248 949.9	238.1	0.0	94.1 186.7	7.0
## 250 956.9	250.0	0.0	95.7 187.4	5.5
## 251 956.9	250.0	0.0	95.7 187.4	5.5
## 252	250.0	0.0	95.7 187.4	5.5
956.9 ## 253	250.0	0.0	95.7 187.4	5.5
956.9 ## 255	212.5	0.0	100.4 159.3	8.7
1007.8	212.5	0.0	100.4 159.3	8.7
1007.8 ## 257	212.5	0.0	100.4 159.3	8.7
1007.8 ## 258	212.5	0.0	100.4 159.3	8.7
1007.8 ## 260	212.6	0.0	100.4 159.4	10.4
1003.8 ## 261	212.6	0.0	100.4 159.4	10.4
1003.8 ## 262	212.6	0.0	100.4 159.4	10.4
1003.8 ## 263	212.6	0.0	100.4 159.4	10.4
1003.8 ## 265	212.0	0.0	124.8 159.0	7.8
1085.4 ## 266	212.0	0.0	124.8 159.0	7.8
1085.4 ## 267	212.0	0.0	124.8 159.0	
1085.4 ## 268	212.0	0.0	124.8 159.0	7.8
1085.4 ## 270	231.8	0.0	121.6 174.0	6.7
1056.4 ## 271	231.8	0.0	121.6 174.0	6.7
1056.4				
## 272 1056.4	231.8	0.0	121.6 174.0	6.7
## 273 1056.4	231.8	0.0	121.6 174.0	6.7
## 275 1028.4	251.4	0.0	118.3 188.5	5.8
## 276 1028.4	251.4	0.0	118.3 188.5	5.8
## 277	251.4	0.0	118.3 188.5	5.8

1028.4	251.4	0.0	118.3 188.5	5.8
## 278 1028.4	251.4	0.0	110.5 100.5	5.0
## 280	251.4	0.0	118.3 188.5	6.4
1028.4				• • • • • • • • • • • • • • • • • • • •
## 281	251.4	0.0	118.3 188.5	6.4
1028.4				
## 282	251.4	0.0	118.3 188.5	6.4
1028.4				
## 283	251.4	0.0	118.3 188.5	6.4
1028.4				
## 285	181.4	0.0	167.0 169.6	7.6
1055.6	101 4	0.0	167 0 160 6	7.6
## 286	181.4	0.0	167.0 169.6	7.6
1055.6 ## 287	181.4	0.0	167.0 169.6	7.6
1055.6	101.4	0.0	107.0 105.0	7.0
## 288	181.4	0.0	167.0 169.6	7.6
1055.6			20710 20710	, , ,
## 290	182.0	45.2	122.0 170.2	8.2
1059.4				
## 291	182.0	45.2	122.0 170.2	8.2
1059.4				
## 292	182.0	45.2	122.0 170.2	8.2
1059.4				
## 293	182.0	45.2	122.0 170.2	8.2
1059.4	160 0	42.2	124 2 150 2	10.0
## 295 1080.8	168.9	42.2	124.3 158.3	10.8
## 296	168.9	42.2	124.3 158.3	10.8
1080.8	100.3	72,2	124.5 150.5	10.0
## 297	168.9	42.2	124.3 158.3	10.8
1080.8				
## 298	168.9	42.2	124.3 158.3	10.8
1080.8				
## 300	290.4	0.0	96.2 168.1	9.4
961.2				-
## 301	290.4	0.0	96.2 168.1	9.4
961.2	200 4	0.0	06 2 160 1	0.4
## 302 961.2	290.4	0.0	96.2 168.1	9.4
## 303	290.4	0.0	96.2 168.1	9.4
961.2	250.4	0.0	JU. 2 100.1	J.4
## 305	277.1	0.0	97.4 160.6	11.8
973.9	_ · · · • <u>-</u>	3.0	200.0	
## 306	277.1	0.0	97.4 160.6	11.8
973.9				
## 307	277.1	0.0	97.4 160.6	11.8
973.9				
## 308	277.1	0.0	97.4 160.6	11.8

973.9	205 7	0.0	95.6 171.5	9.0
## 310 955.1	295.7	0.0	93.6 1/1.3	0.9
## 311	295.7	0.0	95.6 171.5	8.9
955.1				
## 312	295.7	0.0	95.6 171.5	8.9
955.1				
## 313	295.7	0.0	95.6 171.5	8.9
955.1				
## 315	251.8	0.0	99.9 146.1	12.4
1006.0 ## 316	251.8	0.0	99.9 146.1	12.4
1006.0	231.0	0.0	99.9 140.1	12.4
## 317	251.8	0.0	99.9 146.1	12.4
1006.0				
## 318	251.8	0.0	99.9 146.1	12.4
1006.0				
## 320	249.1	0.0	98.8 158.1	12.8
987.8				
## 321	249.1	0.0	98.8 158.1	12.8
987.8	240 1	0 0	98.8 158.1	10.0
## 322 987.8	249.1	0.0	98.8 158.1	12.8
## 323	249.1	0.0	98.8 158.1	12.8
987.8	213.1	0.0	30.0 130.1	12.0
## 325	252.3	0.0	98.8 146.3	14.2
987.8				
## 326	252.3	0.0	98.8 146.3	14.2
987.8				
## 327	252.3	0.0	98.8 146.3	14.2
987.8 ## 328	252.3	0.0	98.8 146.3	14.2
987.8	252.5	0.0	90.0 140.3	14.2
	246.8	0.0	125.1 143.3	12.0
1086.8				
## 331	246.8	0.0	125.1 143.3	12.0
1086.8				
## 332	246.8	0.0	125.1 143.3	12.0
1086.8				
## 333	246.8	0.0	125.1 143.3	12.0
1086.8 ## 335	275.1	0.0	121.4 159.5	9.9
1053.6	2/3.1	0.0	121.4 139.3	9.9
## 336	275.1	0.0	121.4 159.5	9.9
1053.6				
## 337	275.1	0.0	121.4 159.5	9.9
1053.6				
## 338	275.1	0.0	121.4 159.5	9.9
1053.6	207.2	0 0	447 5 474 0	0.5
## 340	297.2	0.0	117.5 174.8	9.5

1022.8	207.2	0.0	447 5 474 0	0.5
## 341 1022.8	297.2	0.0	117.5 174.8	9.5
## 342	297.2	0.0	117.5 174.8	9.5
1022.8	237.2	0.0	117.5 174.0	J.J
## 343	297.2	0.0	117.5 174.8	9.5
1022.8		0.0	117.13 17.110	3.0
## 345	213.7	0.0	174.7 154.8	10.2
1053.5				
## 346	213.7	0.0	174.7 154.8	10.2
1053.5				
## 347	213.7	0.0	174.7 154.8	10.2
1053.5				
## 348	213.7	0.0	174.7 154.8	10.2
1053.5	212 5	0.0	174 2 154 6	11 7
## 350 1052.3	213.5	0.0	174.2 154.6	11.7
## 351	213.5	0.0	174.2 154.6	11.7
1052.3	213.3	0.0	174.2 134.0	11.7
## 352	213.5	0.0	174.2 154.6	11.7
1052.3				
## 353	213.5	0.0	174.2 154.6	11.7
1052.3				
## 355	277.2	97.8	24.5 160.7	11.2
1061.7				
## 356	277.2	97.8	24.5 160.7	11.2
1061.7		27.0	04 5 460 5	44.0
## 357	277.2	97.8	24.5 160.7	11.2
1061.7	277.2	97.8	24.5 160.7	11 2
## 358 1061.7	2//.2	97.8	24.5 100.7	11.2
## 360	218.2	54.6	123.8 140.8	11.9
1075.7	210.2	54.0	123.0 140.0	11.5
## 361	218.2	54.6	123.8 140.8	11.9
1075.7				
## 362	218.2	54.6	123.8 140.8	11.9
1075.7				
## 363	218.2	54.6	123.8 140.8	11.9
1075.7				
## 365	214.9	53.8	121.9 155.6	9.6
1014.3	214.0	F2 0	121 0 155 6	0.6
## 366	214.9	53.8	121.9 155.6	9.6
1014.3 ## 367	214.9	53.8	121.9 155.6	9.6
1014.3	21 7 . J	00.00	121.7 133.0	J.0
## 368	214.9	53.8	121.9 155.6	9.6
1014.3		22.0		•
## 370	218.9	0.0	124.1 158.5	11.3
1078.7				
## 371	218.9	0.0	124.1 158.5	11.3

1078.7 ## 372	218.9	0.0	124.1 158.5	11.3
1078.7	210.9	0.0	124.1 130.3	11.5
## 373	218.9	0.0	124.1 158.5	11.3
1078.7				
## 375	376.0	0.0	0.0 214.6	0.0
1003.5				
## 376	376.0	0.0	0.0 214.6	0.0
1003.5				
## 377	376.0	0.0	0.0 214.6	0.0
1003.5				
## 378	376.0	0.0	0.0 214.6	0.0
1003.5	F00 0	0.0	0 0 140 0	4.0
## 380 966.0	500.0	0.0	0.0 140.0	4.0
## 381	475.0	0.0	59.0 142.0	1.9
1098.0	4/3.0	0.0	39.0 142.0	1.9
## 385	516.0	0.0	0.0 162.0	8.2
801.0	310.0	0.0	0.0 102.0	3.2
## 386	520.0	0.0	0.0 170.0	5.2
855.0				
## 387	528.0	0.0	0.0 185.0	6.9
920.0				
## 388	520.0	0.0	0.0 175.0	5.2
870.0				
## 389	385.0	0.0	136.0 158.0	20.0
903.0	207.0	17.2	150 0 167 0	20. 8
## 392 967.0	397.0	17.2	158.0 167.0	20.8
## 393	333.0	17.5	163.0 167.0	17.9
996.0	222.0	17.5	103.0 107.0	17.3
## 394	334.0	17.6	158.0 189.0	15.3
967.0				
## 395	405.0	0.0	0.0 175.0	0.0
1120.0				
## 396	200.0	200.0	0.0 190.0	0.0
1145.0				
## 397	516.0	0.0	0.0 162.0	8.3
801.0	445.0	444	440 0 404 0	
## 398	145.0	116.0	119.0 184.0	5.7
833.0 ## 399	160 0	120 0	122.0 182.0	6.4
## 399 824.0	160.0	128.0	177.0 TO7.0	0.4
## 400	234.0	156.0	0.0 189.0	5.9
981.0		150.0	0.0 100.0	3.2
## 401	250.0	180.0	95.0 159.0	9.5
860.0				
## 402	475.0	0.0	0.0 162.0	9.5
1044.0				
## 403	285.0	190.0	0.0 163.0	7.6

1031.0 ## 404	356.0	110 0	0.0 160.0	9.0
1061.0	330.0	119.0	0.0 100.0	9.0
## 406	500.0	0.0	0.0 151.0	9.0
1033.0				
## 407	165.0	0.0	143.6 163.8	0.0
1005.6 ## 408	165.0	128.5	132.1 175.1	8.1
1005.8				
## 409	178.0	129.8	118.6 179.9	3.6
1007.3	167.4	120.0	120 (175 5	7.0
## 410 1006.3	167.4	129.9	128.6 175.5	7.8
## 411	172.4	13.6	172.4 156.8	4.1
1006.3				
## 412	173.5	50.1	173.5 164.8	6.5
1006.2 ## 413	167 0	75 /	167.0 164.0	7.9
## 413 1007.3	167.0	75.4	107.0 104.0	7.9
## 414	173.8	93.4	159.9 172.3	9.7
1007.2				
## 415	190.3	0.0	125.2 166.6	9.9
1079.0 ## 416	250.0	0.0	95.7 191.8	5.3
948.9	230.0	0.0	95.7 191.8	3.3
## 417	213.5	0.0	174.2 159.2	11.7
1043.6				
## 418	194.7	0.0	100.5 170.2	7.5
998.0 ## 419	251.4	0.0	118 3 192 9	5.8
1043.6	231.4	0.0	110.5 152.5	3.0
## 420	165.0	0.0	143.6 163.8	0.0
1005.6				
## 421	165.0	128.5	132.1 175.1	8.1
1005.8 ## 422	178.0	129.8	118.6 179.9	3.6
1007.3	170.0	123.0	110.0 175.5	3.0
## 423	167.4	129.9	128.6 175.5	7.8
1006.3	470.4	40.4	450 4 454 0	
## 424 1006.3	172.4	13.6	172.4 156.8	4.1
## 425	173.5	50.1	173.5 164.8	6.5
1006.2	_, , , ,	50.1		3.3
## 426	167.0	75.4	167.0 164.0	7.9
1007.3	472.0	02.4	150 0 170 3	0.7
## 427 1007.2	173.8	93.4	159.9 172.3	9.7
## 428	190.3	0.0	125.2 166.6	9.9
1079.0	_			
## 429	250.0	0.0	95.7 191.8	5.3

948.9 ## 430	213.5	0.0	174.2 159.2	11.7
1043.6	213.3	0.0	174.2 139.2	11.7
## 431 998.0	194.7	0.0	100.5 170.2	7.5
## 432	251.4	0.0	118.3 192.9	5.8
1043.6 ## 433	165.0	0.0	143.6 163.8	0.0
1005.6 ## 434	165.0	128.5	132.1 175.1	8.1
1005.8			118.6 179.9	
## 435 1007.3				
## 436 1006.3	167.4	129.9	128.6 175.5	7.8
## 437 1006.3	172.4	13.6	172.4 156.8	4.1
## 438	173.5	50.1	173.5 164.8	6.5
1006.2 ## 439	167.0	75.4	167.0 164.0	7.9
1007.3 ## 440	173.8	93.4	159.9 172.3	9.7
1007.2	100.0	0.0		
## 441 1079.0	190.3	0.0	125.2 166.6	9.9
## 442 948.9	250.0	0.0	95.7 191.8	5.3
## 443 1043.6	213.5	0.0	174.2 159.2	11.7
## 444	194.7	0.0	100.5 170.2	7.5
998.0 ## 445	251.4	0.0	118.3 192.9	5.8
1043.6 ## 446	165.0	0.0	143.6 163.8	0.0
1005.6				
## 447 1005.8	165.0	128.5	132.1 175.1	8.1
## 448 1007.3	178.0	129.8	118.6 179.9	3.6
## 449	167.4	129.9	128.6 175.5	7.8
1006.3 ## 450	172.4	13.6	172.4 156.8	4.1
1006.3 ## 451	173.5	50.1	173.5 164.8	6.5
1006.2 ## 452	167.0	75.4	167.0 164.0	7.9
1007.3				
## 453 1007.2	173.8	93.4	159.9 172.3	9.7
## 454	190.3	0.0	125.2 166.6	9.9

1079.0 ## 455	250.0	аа	95.7 191.8	5.3
948.9	250.0	0.0	33.7 131.0	3.3
## 456 1043.6	213.5	0.0	174.2 159.2	11.7
## 457	194.7	0.0	100.5 170.2	7.5
998.0 ## 458	251.4	0.0	118.3 192.9	5.8
1043.6 ## 472	446.0	24.0	79.0 162.0	11.6
967.0 ## 473	446.0	24.0	79.0 162.0	11.6
967.0 ## 474	446.0	24.0	79.0 162.0	11.6
967.0 ## 475	446.0	24.0	79.0 162.0	10.3
967.0 ## 476	446.0	24.0	79.0 162.0	11.6
967.0 ## 477	446.0	24.0	79.0 162.0	11.6
967.0 ## 478	446.0	24.0	79.0 162.0	11.6
967.0 ## 479	446.0	24.0	79.0 162.0	11.6
967.0 ## 480	446.0	24.0	79.0 162.0	11.6
967.0 ## 481	446.0	24.0	79.0 162.0	11.6
967.0 ## 482 967.0	446.0	24.0	79.0 162.0	11.6
## 483 967.0	446.0	24.0	79.0 162.0	11.6
	446.0	24.0	79.0 162.0	11.6
## 485 967.0	446.0	24.0	79.0 162.0	10.3
## 486 938.0	387.0	20.0	94.0 157.0	14.3
## 487 938.0	387.0	20.0	94.0 157.0	13.9
## 488 938.0	387.0	20.0	94.0 157.0	11.6
## 489 938.0	387.0	20.0	94.0 157.0	14.3
## 490 938.0	387.0	20.0	94.0 157.0	13.9
## 491 938.0	387.0	20.0	94.0 157.0	11.6
## 492	387.0	20.0	94.0 157.0	14.3

938.0 ## 493	387.0	20.0	94.0 157.0	13.9
938.0				
## 494 938.0	387.0	20.0	94.0 157.0	11.6
## 495 938.0	387.0	20.0	94.0 157.0	14.3
## 496 938.0	387.0	20.0	94.0 157.0	13.9
## 497	387.0	20.0	94.0 157.0	11.6
938.0 ## 498	355.0	19.0	97.0 145.0	13.1
967.0 ## 499	355.0	19.0	97.0 145.0	12.3
967.0 ## 500	491.0	26.0	123.0 210.0	3.9
882.0 ## 501	491.0	26.0	123.0 201.0	3.9
	491.0	26.0	123.0 210.0	3.9
882.0 ## 503	491.0	26.0	123.0 210.0	3.9
882.0 ## 504	491.0	26.0	123.0 210.0	3.9
882.0 ## 505	491.0	26.0	123.0 201.0	3.9
822.0 ## 506	491.0	26.0	123.0 201.0	3.9
822.0 ## 507	491.0	26.0	123.0 201.0	3.9
	424.0	22.0	132.0 178.0	8.5
	424.0	22.0	132.0 178.0	8.5
882.0 ## 510	424.0	22.0	132.0 168.0	8.9
822.0 ## 511	424.0	22.0	132.0 178.0	8.5
822.0 ## 512	424.0	22.0	132.0 178.0	8.5
822.0 ## 513	424.0	22.0	132.0 168.0	8.9
822.0 ## 514	424.0	22.0	132.0 168.0	8.9
822.0 ## 516	202.0	11.0	141.0 206.0	1.7
942.0 ## 517	202.0	11.0	141.0 206.0	1.7
942.0 ## 518	202.0	11.0	141.0 206.0	1.7

942.0 ## 519	202.0	11.0	141.0 206.0	1.7
942.0	202.0	11.0	141.0 200.0	1.7
## 520	284.0	15.0	141.0 179.0	5.5
842.0 ## 521	284.0	15.0	141.0 179.0	5.5
842.0 ## 522	284.0	15.0	141.0 179.0	5.5
842.0 ## 523	284.0	15.0	141.0 179.0	5.5
842.0 ## 524	359.0	19.0	141.0 154.0	10.9
942.0 ## 525	359.0	19.0	141.0 154.0	10.9
942.0 ## 526	359.0	19.0	141.0 154.0	10.9
942.0 ## 527	359.0	19.0	141.0 154.0	
942.0 ## 528	359.0	19.0	141.0 154.0	
942.0				10.9
## 529 942.0	359.0	19.0		2015
## 530 942.0	359.0	19.0	141.0 154.0	10.9
## 531 942.0	359.0	19.0	141.0 154.0	10.9
## 532 838.4	436.0	0.0	0.0 218.0	0.0
## 534 913.2	289.0	0.0	0.0 192.0	0.0
## 535 940.6	393.0	0.0	0.0 192.0	0.0
## 537 940.6	393.0	0.0	0.0 192.0	0.0
## 538 936.2	480.0	0.0	0.0 192.0	0.0
## 539 936.2	480.0	0.0	0.0 192.0	0.0
## 541 936.2	480.0	0.0	0.0 192.0	0.0
## 542 931.2	333.0	0.0	0.0 192.0	0.0
## 545	289.0	0.0	0.0 192.0	0.0
913.2 ## 547	333.0	0.0	0.0 192.0	0.0
931.2 ## 548	333.0	0.0	0.0 192.0	0.0
931.2 ## 549	289.0	0.0	0.0 192.0	0.0

913.2 ## 551	393.0	0.0	0.0 192.0	0.0
940.6	333.0	0.0	0.0 132.0	0.0
## 553 1040.6	158.8	238.2	0.0 185.7	0.0
## 555	238.2	158.8	0.0 185.7	0.0
1040.6 ## 556	181.9	272.8	0.0 185.7	0.0
1012.4 ## 557	193.5	290.2	0.0 185.7	0.0
998.2 ## 558	255.5	170.3	0.0 185.7	0.0
1026.6 ## 559	272.8	181.9	0.0 185.7	0.0
1012.4 ## 561	220.8	147.2	0.0 185.7	0.0
1055.0				
## 562 1040.6	397.0	0.0	0.0 185.7	0.0
## 563 1047.8	382.5	0.0	0.0 185.7	0.0
## 564 977.0	210.7	316.1	0.0 185.7	0.0
## 565 1040.6	158.8	238.2	0.0 185.7	0.0
## 566	295.8	0.0	0.0 185.7	0.0
1091.4 ## 567	255.5	170.3	0.0 185.7	0.0
1026.6 ## 568	203.5	135.7	0.0 185.7	0.0
1076.2 ## 569	397.0	0.0	0.0 185.7	0.0
1040.6 ## 570	381.4	0.0	0.0 185.7	0.0
1104.6 ## 571	295.8	0.0	0.0 185.7	0.0
1091.4				
## 572 955.8	228.0	342.1	0.0 185.7	0.0
## 573 1055.0	220.8	147.2	0.0 185.7	0.0
## 574 977.0	316.1	210.7	0.0 185.7	0.0
## 575 1076.2	135.7	203.5	0.0 185.7	0.0
## 576	238.1	0.0	0.0 185.7	0.0
1118.8 ## 577	339.2	0.0	0.0 185.7	0.0
1069.2 ## 578	135.7	203.5	0.0 185.7	0.0

1076.2 ## 579	193.5	290.2	0.0 185.7	0.0
998.2	100.0	250.2	0.0 103.7	0.0
## 580 1076.2	203.5	135.7	0.0 185.7	0.0
## 581 998.2	290.2	193.5	0.0 185.7	0.0
## 582	181.9	272.8	0.0 185.7	0.0
1012.4 ## 583	170.3	155.5	0.0 185.7	0.0
1026.6 ## 584	210.7	316.1	0.0 185.7	0.0
977.0 ## 585	228.0	342.1	0.0 185.7	0.0
955.8 ## 586	290.2	193.5	0.0 185.7	0.0
998.2 ## 587	381.4	0.0	0.0 185.7	0.0
1104.6 ## 588	238.2	158.8	0.0 185.7	0.0
1040.6 ## 589	186.2	124.1	0.0 185.7	0.0
1083.4				
## 590 1069.2	339.2	0.0	0.0 185.7	0.0
## 591 1118.8	238.1	0.0	0.0 185.7	0.0
## 592 1111.6	252.5	0.0	0.0 185.7	0.0
## 593 1047.8	382.5	0.0	0.0 185.7	0.0
## 594 1111.6	252.5	0.0	0.0 185.7	0.0
	316.1	210.7	0.0 185.7	0.0
## 596 1083.4	186.2	124.1	0.0 185.7	0.0
## 597 1026.6	170.3	155.5	0.0 185.7	0.0
## 598	272.8	181.9	0.0 185.7	0.0
1012.4 ## 599	339.0	0.0	0.0 197.0	0.0
968.0 ## 600	339.0	0.0	0.0 197.0	0.0
968.0 ## 601	339.0	0.0	0.0 197.0	0.0
968.0 ## 602	339.0	0.0	0.0 197.0	0.0
968.0 ## 606	236.0	0.0	0.0 194.0	0.0

968.0 ## 607	236.0	0.0	0.0 194.0	0.0
968.0	230.0	0.0	0.0 154.0	0.0
## 608 968.0	236.0	0.0	0.0 194.0	0.0
## 612 968.0	277.0	0.0	0.0 191.0	0.0
## 613	277.0	0.0	0.0 191.0	0.0
968.0 ## 614	277.0	0.0	0.0 191.0	0.0
968.0 ## 618	254.0	0.0	0.0 198.0	0.0
968.0 ## 624	307.0	0.0	0.0 193.0	0.0
968.0 ## 625	307.0	0.0	0.0 193.0	0.0
968.0 ## 627	236.0	0.0	0.0 193.0	0.0
968.0 ## 628	200.0	0.0	0.0 180.0	0.0
1125.0				
## 629 1125.0	200.0	0.0	0.0 180.0	0.0
## 630 1113.0	225.0	0.0	0.0 181.0	0.0
## 631 1113.0	225.0	0.0	0.0 181.0	0.0
## 632 1063.0	325.0	0.0	0.0 184.0	0.0
## 633 1063.0	325.0	0.0	0.0 184.0	0.0
## 634 1088.0	275.0	0.0	0.0 183.0	0.0
## 635 1088.0	275.0	0.0	0.0 183.0	0.0
## 636 1075.0	300.0	0.0	0.0 184.0	0.0
## 637 1075.0	300.0	0.0	0.0 184.0	0.0
## 638 1038.0	375.0	0.0	0.0 186.0	0.0
## 639	375.0	0.0	0.0 186.0	0.0
1038.0 ## 640	400.0	0.0	0.0 187.0	0.0
1025.0 ## 641	400.0	0.0	0.0 187.0	0.0
1025.0 ## 642	250.0	0.0	0.0 182.0	0.0
1100.0 ## 643	250.0	0.0	0.0 182.0	0.0

1100.0 ## 644	350.0	0.0	0.0 186.0	0.0
1050.0	330.0	0.0	0.0 200.0	0.0
## 645 1050.0	350.0	0.0	0.0 186.0	0.0
## 649 971.8	141.3	212.0	0.0 203.5	0.0
## 650	166.8	250.2	0.0 203.5	0.0
975.6 ## 652	183.9	122.6	0.0 203.5	0.0
959.2 ## 655	122.6	183.9	0.0 203.5	0.0
958.2 ## 656	166.8	250.2	0.0 203.5	0.0
975.6 ## 657	200.0	133.0	0.0 192.0	0.0
965.4 ## 658	108.3	162.4	0.0 203.5	0.0
938.2 ## 659	305.3	203.5	0.0 203.5	0.0
965.4 ## 662	141.3	212.0	0.0 203.5	0.0
971.8 ## 663	157.0	236.0	0.0 192.0	0.0
935.4 ## 664	133.0	200.0	0.0 192.0	0.0
927.4 ## 665	250.2	166.8	0.0 203.5	0.0
977.6 ## 666 946.8	173.0	116.0	0.0 192.0	0.0
## 667 929.8	192.0	288.0	0.0 192.0	0.0
## 668 929.8	192.0	288.0	0.0 192.0	0.0
## 670 932.0	288.0	192.0	0.0 192.0	0.0
## 671 965.4	305.3	203.5	0.0 203.5	0.0
## 672 972.6	236.0	157.0	0.0 192.0	0.0
## 673 946.8	173.0	116.0	0.0 192.0	0.0
## 674 973.4	212.0	141.3	0.0 203.5	0.0
## 675 972.6	236.0	157.0	0.0 192.0	0.0
## 677 975.6	166.8	250.2	0.0 203.5	0.0
## 679	288.0	192.0	0.0 192.0	0.0

932.0 ## 680	212.0	141.3	0.0 203.5	0.0
973.4				
## 682 946.8	173.0	116.0	0.0 192.0	0.0
## 683 959.2	183.9	122.6	0.0 203.5	0.0
## 686 927.4	133.0	200.0	0.0 192.0	0.0
## 687 965.4	305.3	203.5	0.0 203.5	0.0
## 689 938.2	108.3	162.4	0.0 203.5	0.0
## 690	157.0	236.0	0.0 192.0	0.0
935.4 ## 691 932.0	288.0	192.0	0.0 192.0	0.0
## 692 973.4	212.0	141.3	0.0 203.5	0.0
## 695 972.6	236.0	157.0	0.0 192.0	0.0
## 696 909.8	116.0	173.0	0.0 192.0	0.0
## 697 959.2	183.9	122.6	0.0 203.5	0.0
## 698 938.2	108.3	162.4	0.0 203.5	0.0
## 701 927.4	133.0	200.0	0.0 192.0	0.0
## 703 965.4	200.0	133.0	0.0 192.0	0.0
## 704 965.4	200.0	133.0	0.0 192.0	0.0
## 705 977.6	250.2	166.8	0.0 203.5	0.0
## 706 958.2	122.6	183.9	0.0 203.5	0.0
## 709 909.8	116.0	173.0	0.0 192.0	0.0
## 711 977.6	250.2	166.8	0.0 203.5	0.0
## 713 929.8	192.0	288.0	0.0 192.0	0.0
## 714 935.4	157.0	236.0	0.0 192.0	0.0
## 717 909.8	116.0	173.0	0.0 192.0	0.0
## 718 971.8	141.3	212.0	0.0 203.5	0.0
## 719	122.6	183.9	0.0 203.5	0.0

958.2 ## 722	310.0	0.0	0.0 192.0	0.0
1012.0	310.0	0.0	0.0 132.0	0.0
## 723 1012.0	310.0	0.0	0.0 192.0	0.0
## 724 1012.0	310.0	0.0	0.0 192.0	0.0
## 727 1025.0	331.0	0.0	0.0 192.0	0.0
## 728	331.0	0.0	0.0 192.0	0.0
1025.0 ## 729	331.0	0.0	0.0 192.0	0.0
1025.0 ## 732	349.0	0.0	0.0 192.0	0.0
1056.0 ## 733	349.0	0.0	0.0 192.0	0.0
1056.0 ## 734	349.0	0.0	0.0 192.0	0.0
1056.0 ## 737	238.0	0.0	0.0 186.0	0.0
1119.0				
## 738 1119.0	238.0	0.0	0.0 186.0	0.0
## 739 1090.0	296.0	0.0	0.0 186.0	0.0
## 740 1090.0	296.0	0.0	0.0 186.0	0.0
## 741 1040.0	297.0	0.0	0.0 186.0	0.0
## 742 936.0	480.0	0.0	0.0 192.0	0.0
## 744 1040.0	397.0	0.0	0.0 186.0	0.0
## 745	281.0	0.0	0.0 186.0	0.0
1104.0 ## 746	281.0	0.0	0.0 185.0	0.0
1104.0 ## 758	350.0	0.0	0.0 203.0	0.0
974.0 ## 759	350.0	0.0	0.0 203.0	0.0
974.0 ## 760	350.0	0.0	0.0 203.0	0.0
974.0 ## 761	350.0	0.0	0.0 203.0	0.0
974.0 ## 764	385.0	0.0	0.0 186.0	0.0
966.0 ## 765	385.0	0.0	0.0 186.0	0.0
966.0 ## 766	385.0	0.0	0.0 186.0	0.0

966.0 ## 767	385.0	0.0	0.0 186.0	0.0
966.0				
## 768 966.0	385.0	0.0	0.0 186.0	0.0
## 771 1047.0	349.0	0.0	0.0 192.0	0.0
## 772 978.0	331.0	0.0	0.0 192.0	0.0
## 773 1047.0	382.0	0.0	0.0 186.0	0.0
## 774 1047.0	382.0	0.0	0.0 186.0	0.0
## 775 1111.0	382.0	0.0	0.0 186.0	0.0
## 776 1104.0	281.0	0.0	0.0 186.0	0.0
## 777 1069.0	339.0	0.0	0.0 185.0	0.0
## 778 1069.0	339.0	0.0	0.0 185.0	0.0
## 779 1069.0	295.0	0.0	0.0 185.0	0.0
## 780 1069.0	295.0	0.0	0.0 185.0	0.0
## 781 1118.0	238.0	0.0	0.0 185.0	0.0
## 782 1085.0	296.0	0.0	0.0 192.0	0.0
## 783 1085.0	296.0	0.0	0.0 192.0	0.0
## 785 879.0	331.0	0.0	0.0 192.0	0.0
## 786 978.0	331.0	0.0	0.0 192.0	0.0
## 787 978.0	331.0	0.0	0.0 192.0	0.0
## 789 1047.0	349.0	0.0	0.0 192.0	0.0
## 790 1047.0	349.0	0.0	0.0 192.0	0.0
## 794 974.0	302.0	0.0	0.0 203.0	0.0
## 801 1111.0	252.0	0.0	0.0 185.0	0.0
## 802 1111.0	252.0	0.0	0.0 185.0	0.0
## 803 1060.0	339.0	0.0	0.0 185.0	0.0
## 804	393.0	0.0	0.0 192.0	0.0

940.0 ## 805	393.0	0.0	0.0 192.0	0.0
940.0	393.0	0.0	0.0 192.0	0.0
## 807 1047.0	382.0	0.0	0.0 185.0	0.0
## 808 1047.0	382.0	0.0	0.0 185.0	0.0
## 809 1111.0	252.0	0.0	0.0 186.0	0.0
## 810 1111.0	252.0	0.0	0.0 185.0	0.0
## 811 970.0	310.0	0.0	0.0 192.0	0.0
## 812 970.0	310.0	0.0	0.0 192.0	0.0
## 822 974.0	322.0	0.0	0.0 203.0	0.0
## 823 974.0	322.0	0.0	0.0 203.0	0.0
## 825 974.0	302.0	0.0	0.0 203.0	0.0
## 826 1040.0	397.0	0.0	0.0 185.0	0.0
## 827 936.0	480.0	0.0	0.0 192.0	0.0
## 828 896.0	522.0	0.0	0.0 146.0	0.0
## 830 904.0	273.0	105.0	82.0 210.0	9.0
## 831 838.0	162.0	190.0	148.0 179.0	19.0
## 832 923.0	154.0	144.0	112.0 220.0	10.0
## 833 860.0	147.0	115.0	89.0 202.0	9.0
## 834 944.0	152.0	178.0	139.0 168.0	18.0
## 835 914.0	310.0	143.0	111.0 168.0	22.0
## 836 943.0	144.0	0.0	175.0 158.0	18.0
## 837 895.0	304.0	140.0	0.0 214.0	6.0
## 838 1013.0	374.0	0.0	0.0 190.0	7.0
## 839 953.0	159.0	149.0	116.0 175.0	15.0
## 840 1002.0	153.0	239.0	0.0 200.0	6.0
## 841	310.0	143.0	0.0 168.0	10.0

914.0 ## 842	305.0	0.0	100 0	196 0	10.0
959.0	303.0	0.0	100.0	150.0	10.0
## 843	151.0	0.0	184.0	167.0	12.0
991.0 ## 844	142.0	167.0	130.0	174.0	11.0
883.0					
## 845	298.0	137.0	107.0	201.0	6.0
878.0	224 0	164.0	0.0	100.0	F 0
## 846 870.0	321.0	164.0	0.0	190.0	5.0
## 847	366.0	187.0	0.0	191.0	7.0
824.0		_0, , ,			
## 848	280.0	129.0	100.0	172.0	9.0
825.0					
## 849	252.0	97.0	76.0	194.0	8.0
835.0	165.0	0.0	150.0	182.0	12.0
## 850 1023.0	165.0	0.0	150.0	182.0	12.0
## 851	156.0	243.0	0.0	180.0	11.0
1022.0					
## 852	160.0	188.0	146.0	203.0	11.0
829.0					
## 853	298.0	0.0	107.0	186.0	6.0
879.0 ## 854	318.0	0.0	126 0	210.0	6.0
861.0	318.0	0.0	120.0	210.0	0.0
## 855	287.0	121.0	94.0	188.0	9.0
904.0					
## 856	326.0	166.0	0.0	174.0	9.0
882.0	256.0	0.0	442.0	102.0	44.0
## 857 801.0	356.0	0.0	142.0	193.0	11.0
## 858	132.0	207.0	161.0	179.0	5.0
867.0	132.0	207.0	101.0	173.0	3.0
## 859	322.0	149.0	0.0	186.0	8.0
951.0					
## 860	164.0	0.0	200.0	181.0	13.0
849.0 ## 861	214 0	0.0	112 0	170 0	10.0
925.0	314.0	0.0	113.0	170.0	10.0
## 862	321.0	0.0	128.0	182.0	11.0
870.0					
## 864	288.0	121.0	0.0	177.0	7.0
908.0	200 0	0.0	107.0	210.0	11 0
## 865 880.0	298.0	0.0	107.0	210.0	11.0
## 866	265.0	111.0	86.0	195.0	6.0
833.0			20.0		
## 867	160.0	250.0	0.0	168.0	12.0

1049.0 ## 868	166.0	260 0	0.0 183.0	13.0
859.0	100.0	200.0	0.0 103.0	13.0
## 869 870.0	276.0	116.0	90.0 180.0	9.0
## 870 818.0	322.0	0.0	116.0 196.0	10.0
## 871	149.0	139.0	109.0 193.0	6.0
892.0 ## 872	159.0	187.0	0.0 176.0	11.0
990.0 ## 873	261.0	100.0	78.0 201.0	9.0
864.0 ## 875	313.0	0.0	113.0 178.0	8.0
1002.0	155.0	183.0	0.0 193.0	9.0
1047.0 ## 877	146.0	230.0	0.0 202.0	3.0
827.0 ## 878	296.0	0.0	107.0 221.0	11.0
819.0 ## 879	133.0	210.0	0.0 196.0	3.0
949.0 ## 880	313.0	145.0	0.0 178.0	8.0
867.0 ## 881	152.0	0.0	112.0 184.0	8.0
992.0 ## 882	153.0	145.0	113.0 178.0	8.0
1002.0	140.0	133.0	103.0 200.0	7.0
916.0 ## 884	149.0	236.0	0.0 176.0	13.0
847.0 ## 885	300.0	0.0	120.0 212.0	10.0
878.0 ## 886	153.0	145.0	113.0 178.0	8.0
867.0 ## 887	148.0	0.0	137.0 158.0	16.0
1002.0	326.0	0.0	138.0 199.0	11.0
801.0 ## 889	153.0	145.0	0.0 178.0	8.0
1000.0 ## 890	262.0	111.0	86.0 195.0	5.0
895.0 ## 891	158.0	0.0	195.0 220.0	11.0
898.0 ## 892	151.0	0.0	185.0 167.0	16.0
1074.0 ## 893	273.0	0.0	90.0 199.0	11.0

931.0 ## 894	149.0	118.0	92.0	183.0	7.0
953.0	11310	110.0	32.0	103.0	, .
## 895 967.0	143.0	169.0	143.0	191.0	8.0
## 896	260.0	101.0	78.0	171.0	10.0
936.0 ## 897	313.0	161.0	0.0	178.0	10.0
917.0 ## 898	284.0	120.0	0.0	168.0	7.0
970.0 ## 899	336.0	0.0	0.0	182.0	3.0
986.0 ## 900	145.0	0.0	134.0	181.0	11.0
979.0 ## 901	150.0	237.0	0.0	174.0	12.0
1069.0 ## 902	144.0	170.0	133.0	192.0	8.0
814.0 ## 903	331.0				8.0
811.0	332.0	27010	0.0	233.0	0.0
## 904 1047.0	155.0	0.0	143.0	193.0	9.0
## 905 877.0	155.0	183.0	0.0	193.0	9.0
## 906 961.0	135.0	0.0	166.0	180.0	10.0
## 907 910.0	266.0	112.0	87.0	178.0	10.0
## 908 869.0	314.0	145.0	113.0	179.0	8.0
## 909	313.0	145.0	0.0	127.0	8.0
1000.0	146.0	173.0	0.0	182.0	3.0
986.0 ## 911	144.0	136.0	106.0	178.0	7.0
941.0	148.0	0.0	182.0	181.0	15.0
839.0 ## 913	277.0	117.0	91.0	191.0	7.0
946.0 ## 914	298.0	0.0	107.0	164.0	13.0
953.0 ## 915	313.0	145.0	0.0	178.0	8.0
1002.0 ## 916	155.0	184.0	143.0	194.0	9.0
880.0 ## 917	289.0	134.0		195.0	6.0
924.0 ## 918	148.0	175.0		171.0	2.0
., 11 710	± 10 • 0	1,5.0	0.0	1,1.0	2.0

1000.0 ## 919	145.0	0.0	179.0 202.0	8 0
824.0	143.0	0.0	175.0 202.0	3.0
## 920 1000.0	313.0	0.0	0.0 178.0	8.0
## 921	136.0	162.0	126.0 172.0	10.0
923.0 ## 922	155.0	0.0	143.0 193.0	9.0
877.0 ## 923	255.0	99.0	77.0 189.0	6.0
919.0 ## 924	162.0	207.0	172.0 216.0	10.0
822.0 ## 925	136.0	196.0	98.0 199.0	6.0
847.0 ## 926	164.0	163.0	128.0 197.0	8.0
961.0 ## 927	162.0	214.0	164.0 202.0	10.0
820.0 ## 928	157.0	214.0	152.0 200.0	9.0
819.0 ## 930	135.0	105.0	193.0 196.0	
965.0				
## 931 848.0	159.0	209.0	161.0 201.0	7.0
## 932 1021.0	144.0	15.0	195.0 176.0	6.0
## 934 898.0	167.0	187.0	195.0 185.0	7.0
## 938 1001.9	313.3	0.0	113.0 178.5	8.0
## 939 1047.4	154.8	183.4	0.0 193.3	9.1
## 940 827.0	145.9	230.5	0.0 202.5	3.4
## 941	296.0	0.0	106.7 221.4	10.5
819.2 ## 942	133.1	210.2	0.0 195.7	3.1
949.4 ## 943	313.3	145.0	0.0 178.5	8.0
867.2 ## 944	151.6	0.0	111.9 184.4	7.9
992.0 ## 945	153.1	145.0	113.0 178.5	8.0
1001.9	139.9	132.6	103.3 200.3	7.4
916.0 ## 947	149.5	236.0	0.0 175.8	12.6
846.8 ## 948	299.8	0.0	119.8 211.5	9.9

878.2				
## 949	153.1	145.0	113.0 178.5	8.0
867.2 ## 950	148.1	0.0	136.6 158.1	16.1
1001.8	140.1	0.0	130.0 130.1	10.1
## 951	326.5	0.0	137.9 199.0	10.8
801.1	320.3	0.0	137.9 199.0	10.0
## 952	152.7	144.7	0.0 178.1	8.0
999.7				
## 953	261.9	110.5	86.1 195.4	5.0
895.2				
## 954	158.4	0.0	194.9 219.7	11.0
897.7				
## 955	150.7	0.0	185.3 166.7	15.6
1074.5				
## 956	272.6	0.0	89.6 198.7	10.6
931.3				
## 957	149.0	117.6	91.7 182.9	7.1
953.4	442.0	460.4	440 7 400 7	0.4
## 958	143.0	169.4	142.7 190.7	8.4
967.4	259.9	100 6	70 4 170 6	10.4
## 959	259.9	100.6	78.4 170.6	10.4
935.7 ## 960	312.9	160 E	0.0 177.6	9.6
916.6	312.9	100.5	0.0 1/7.0	9.0
## 961	284.0	110 7	0.0 168.3	7.2
970.4	204.0	117.7	0.0 100.5	7.2
## 962	336.5	0.0	0.0 181.9	3.4
985.8			010 20217	5. .
## 963	144.8	0.0	133.6 180.8	11.1
979.5				
## 964	150.0	236.8	0.0 173.8	11.9
1069.3				
## 965	143.7	170.2	132.6 191.6	8.5
814.1				
## 966	330.5	169.6	0.0 194.9	8.1
811.0				
## 967	154.8	0.0	142.8 193.3	9.1
1047.4				
## 968	154.8	183.4	0.0 193.3	9.1
877.2	424 7	0.0	465 7 400 0	10.0
## 969	134.7	0.0	165.7 180.2	10.0
961.0	266.2	112 2	07 F 177 O	10. 4
## 970	266.2	112.3	87.5 177.9	10.4
909.7 ## 971	314.0	145.3	113.2 178.9	8.0
## 9/1 869.1	214.0	143.3	113.2 1/0.9	0.0
## 972	312.7	144.7	0.0 127.3	8.0
999.7	J±4.1	± 	0.0 127.5	0.0
## 973	145.7	172.6	0.0 181.9	3.4
2,3		_, _, 0	0.0 101.0	J, 1

985.8 ## 974	143.8	136.3	106.2 178.1	7.5
941.5				
## 975 838.9	148.1	0.0	182.1 181.4	15.0
## 976 946.5	277.0	116.8	91.0 190.6	7.0
## 977 953.2	298.1	0.0	107.5 163.6	12.8
## 978 1001.9	313.3	145.0	0.0 178.5	8.0
## 979 879.6	155.2	183.9	143.2 193.8	9.2
## 980 924.1	289.0	133.7	0.0 194.9	5.5
## 981 1000.0	147.8	175.1	0.0 171.2	2.2
## 982 824.0	145.4	0.0	178.9 201.7	7.8
## 983 999.7	312.7	0.0	0.0 178.1	8.0
## 984 922.6	136.4	161.6	125.8 171.6	10.4
## 985 877.2	154.8	0.0	142.8 193.3	9.1
## 986 919.0	255.3	98.8	77.0 188.6	6.5
## 987 904.0	272.8	105.1	81.8 209.7	9.0
## 988 838.1	162.0	190.1	148.1 178.8	18.8
## 989 923.2	153.6	144.2	112.3 220.1	10.1
## 990 860.0	146.5	114.6	89.3 201.9	8.8
## 991 944.0	151.8	178.1	138.7 167.5	18.3
## 992 913.9	309.9	142.8	111.2 167.8	22.1
## 993 942.7	143.6	0.0	174.9 158.4	17.9
## 994 895.5	303.6	139.9	0.0 213.5	6.2
## 995 1013.2	374.3	0.0	0.0 190.2	6.7
## 996 953.3	158.6	148.9	116.0 175.1	15.0
## 997 1001.8	152.6	238.7	0.0 200.0	6.3
## 998	310.0	142.8	0.0 167.9	10.0

914.3	204.0	0.0	99.6	10 <i>6</i> 0	9.8
## 999 959.4	304.8	0.0	99.6	196.0	9.8
## 1000 991.2	150.9	0.0	183.9	166.6	11.6
## 1001 882.6	141.9	166.6	129.7	173.5	10.9
## 1002 878.4	297.8	137.2	106.9	201.3	6.0
## 1003 870.0	321.3	164.2	0.0	190.5	4.6
## 1004 824.3	366.0	187.0	0.0	191.3	6.6
## 1005 825.1	279.8	128.9	100.4	172.4	9.5
## 1006 835.5	252.1	97.1	75.6	193.8	8.3
## 1007 1023.3		0.0			11.7
## 1008 1022.0		243.5			
## 1009 828.7		188.0	146.4	203.2	11.3
## 1010 879.0	298.1	0.0	107.0	186.4	6.1
## 1011 860.5	317.9	0.0	126.5	209.7	5.7
## 1012 904.4	287.3	120.5	93.9	187.6	9.2
## 1013 881.6	325.6		0.0		8.9
## 1014 801.4		0.0			11.0
## 1015 866.9		206.5			5.5
## 1016 951.0	322.5		0.0		8.5
## 1017 849.3	164.2	0.0	200.1		12.6
## 1018 925.3	313.8	0.0	112.6		10.1
## 1019 870.1	321.4	0.0	127.9		
## 1021 907.9	288.4	121.0			7.0
## 1022 879.6	298.2	0.0	107.0		11.1
## 1023 832.6	264.5		86.5		5.9
## 1024	159.8	250.0	0.0	168.4	12.2

1049.3					
## 1025	166.0	259.7	0.0	183.2	12.7
858.8	276 4	116.0	00.3	170 6	2.0
## 1026	276.4	116.0	90.3	179.6	8.9
870.1	222 2	0.0	115 (106.0	10.4
## 1027 817.9	322.2	0.0	115.6	196.0	10.4
## 1028	148.5	139.4	108.6	192 7	6.1
892.4	140.5	133.4	100.0	172.7	0:1
## 1029	159.1	186.7	0.0	175 6	11.3
989.6	155.1	100.7	0.0	173.0	11.5
## 1030	260.9	100.5	78.3	200.6	8.6
864.5	_0000	_0000	, , , ,		
##	Fine_Aggregate	Age day Con	crete co	ompress	ive strength
## 2	676.0	28			61.89
## 9	670.0	28			45.85
## 12	825.5	28			28.02
## 15	670.0	28			47.81
## 22	806.9	28			28.24
## 23	806.9	3			8.06
## 47	806.9	3			15.05
## 55	806.9	7			14.59
## 56	825.5	7			14.64
## 58	825.5	3			9.13
## 63	850.6	3			9.87
## 69	670.0	28			40.86
## 70	800.0	28			71.99
## 71	756.7	3			34.40
## 73	887.1	3			33.40
## 74	803.7	3			36.30
## 76	781.5	3			37.80
## 78	887.1	3			33.40
## 79	925.7	3			28.10
## 81	887.1	3			33.40
## 82	880.4	3			25.20
## 83	852.1	3			41.10
## 84	755.8	3			35.30
## 85	659.9	3			28.30
## 87		3			
	755.8				35.30
## 88	803.7	3			24.40
## 89	755.8	3			35.30
## 90	707.9	3			39.30
## 91	755.8	3			40.60
## 92	755.8	3			35.30
## 93	755.8	3			24.10
## 94	756.7	7			46.20
## 96	887.1	7			49.20
## 97	803.7	7			46.80
## 99	781.5	7			55.60
## 101	887.1	7			49.20

##	102	925.7	7	34.90	
##	104	887.1	7	49.20	
##	105	880.4	7	33.40	
##	106	852.1	7	54.10	
##	107	755.8	7	55.90	
##	108	659.9	7	49.80	
	110	755.8	7	55.90	
	111	803.7	7	38.00	
	112	755.8	7	55.90	
	113	707.9	7	56.10	
	114	755.8	7	59.09	
	115	755.8	7	22.90	
	116	755.8	7	35.10	
	117	756.7	28	61.09	
	119	887.1	28	60.29	
	120	803.7	28	61.80	
	122	781.5	28	68.30	
	124	887.1	28	60.29	
	125	925.7	28	50.70	
	127	887.1	28	60.29	
	128	880.4	28	55.50	
	129	852.1	28	68.50	
	130	755.8	28	71.30	
	133	755.8	28	71.30	
	134	803.7	28	67.70	
	135	755.8	28	71.30	
	136	707.9	28	66.00	
	138	755.8	28	71.30	
	139	755.8	28	49.90	
	140	756.7	56	63.40	
	142	887.1	56	64.30	
	143	803.7	56	64.90	
	145	781.5	56	72.30	
	147	887.1	56	64.30	
	148	925.7	56	55.20	
	150	887.1	56	64.30	
	151	880.4	56	66.10	
	157	803.7	56	72.99	
	159	707.9	56	71.70	
	162	755.8	56	59.89	
	185	870.3	3	11.58	
	186	870.3	14	24.45	
	187	870.3	28	24.89	
	188	870.3	56	29.45	
	190	852.2	3	10.38	
	191	852.2	14	22.14	
	192	852.2	28	22.14	
	193	852.2	56	27.66	
	195	905.9	3	12.45	
	196	905.9	14	24.99	
πт	170	202.2		24.33	

##	197	905.9	28	25.72
##	198	905.9	56	33.96
##	200	804.0	3	15.04
##	201	804.0	14	21.06
##	202	804.0	28	26.40
##	203	804.0	56	35.34
##	205	779.3	3	12.47
##	206	779.3	14	20.92
##	207	779.3	28	24.90
##	208	779.3	56	34.20
##	210	758.6	3	10.03
	211	758.6	14	20.08
	212	758.6	28	24.48
	213	758.6	56	31.54
	215	802.6	3	9.45
	216	802.6	14	22.72
	217	802.6	28	28.47
	218	802.6	56	38.56
	220	780.1	3	10.76
	221	780.1	14	25.48
	222	780.1	28	21.54
	223	780.1	56	28.63
	230	785.4	3	18.00
	231	785.4	14	30.39
	232	785.4	28	45.71
	233	785.4	56	50.77
	235	785.5	3	13.18
	236	785.5	14	17.84
	237	785.5	28	40.23
	238	785.5	56	47.13
	240	757.6	3	13.36
	241	757.6	14	22.32
	242	757.6	28	24.54
	243	757.6	56	31.35
	245	847.0	3	19.93
	246 247	847.0	14	25.69
		847.0	28	30.23
	248	847.0 861.2	56 3	39.59
	250 251	861.2	14	13.82 24.92
	252	861.2	28	29.22
	253	861.2	56	38.33
	255	903.6	3	13.54
	256	903.6	14	26.31
	257	903.6	28	31.64
	258	903.6	56	42.55
	260	903.8	3	13.33
	261	903.8	14	25.37
	262	903.8	28	37.40
	263	903.8	56	44.40
11 11	_03	200.0		

##	265	799.5	3	19.52
##	266	799.5	14	31.35
##	267	799.5	28	38.50
##	268	799.5	56	45.08
##	270	778.5	3	15.44
	271	778.5	14	26.77
	272	778.5	28	33.73
	273	778.5	56	42.70
	275	757.7	3	17.22
	276	757.7	14	29.93
	277	757.7	28	29.65
	278	757.7	56	36.97
	280	757.7	3	13.12
	281	757.7	14	24.43
	282	757.7	28	32.66
	283	757.7	56	36.64
	285	777.8	3	13.62
	286	777.8	14	21.60
	287	777.8	28	27.77
	288	777.8	56	35.57
	290	780.7	3	7.32
	291	780.7	14	21.50
	292			
		780.7	28	31.27
	293	780.7	56	43.50
	295	796.2	3	7.40
	296	796.2	14	23.51
	297	796.2	28	31.12
	298	796.2	56	39.15
	300	865.0	3	22.50
	301	865.0	14	34.67
	302	865.0	28	34.74
	303	865.0	56	45.08
	305	875.6	3	23.14
	306	875.6	14	41.89
	307	875.6	28	48.28
	308	875.6	56	51.04
	310	859.2	3	22.95
	311	859.2	14	35.23
	312	859.2	28	39.94
	313	859.2	56	48.72
	315	899.8	3	21.02
	316	899.8	14	33.36
	317	899.8	28	33.94
	318	899.8	56	44.14
	320	889.0	3	15.36
	321	889.0	14	28.68
	322	889.0	28	30.85
	323	889.0	56	42.03
	325	889.0	3	21.78
##	326	889.0	14	42.29

##	327	889.0	28	50.60
##	328	889.0	56	55.83
##	330	800.9	3	23.52
##	331	800.9	14	42.22
##	332	800.9	28	52.50
##	333	800.9	56	60.32
##	335	777.5	3	23.80
##	336	777.5	14	38.77
##	337	777.5	28	51.33
##	338	777.5	56	56.85
##	340	753.5	3	21.91
##	341	753.5	14	36.99
##	342	753.5	28	47.40
##	343	753.5	56	51.96
##	345	776.4	3	17.57
##	346	776.4	14	33.73
##	347	776.4	28	40.15
##	348	776.4	56	46.64
##	350	775.5	3	17.37
##	351	775.5	14	33.70
##	352	775.5	28	45.94
##	353	775.5	56	51.43
##	355	782.5	3	30.45
##	356	782.5	14	47.71
##	357	782.5	28	63.14
##	358	782.5	56	66.82
##	360	792.7	3	27.42
##	361	792.7	14	35.96
	362	792.7	28	55.51
	363	792.7	56	61.99
	365	780.6	3	18.02
	366	780.6	14	38.60
	367	780.6	28	52.20
	368	780.6	56	53.96
	370	794.9	3	15.34
	371	794.9	14	26.05
	372	794.9	28	30.22
	373	794.9	56	37.27
	375	762.4	3	16.28
	376	762.4	14	25.62
	377	762.4	28	31.97
	378	762.4	56	36.30
	380	853.0	28	67.57
	381	641.0	28	57.23
	385	802.0	28	41.37
	386	855.0	28	60.28
	387	720.0	28	56.83
	388	805.0	28	51.02
	389	768.0	28	55.55
##	392	633.0	28	55.65

##	393	652.0	28	47.28
##	394	633.0	28	44.33
	395	695.0	28	52.30
	396	660.0	28	49.25
	397	802.0	28	41.37
	398	880.0	28	29.16
	399	879.0	28	39.40
	400	760.0	28	39.30
	401	800.0	28	67.87
	402	662.0	28	58.52
	403	685.0	28	53.58
	404	657.0	28	59.00
	406	655.0	28	69.84
	407	900.9	3	14.40
	408	746.6	3	19.42
	409	746.8	3	20.73
##	410	746.6	3	14.94
##	411	856.4	3	21.29
##	412	793.5	3	23.08
##	413	770.1	3	15.52
##	414	746.6	3	15.82
##	415	798.9	3	12.55
##	416	857.2	3	8.49
##	417	771.9	3	15.61
##	418	901.8	3	12.18
	419	754.3	3	11.98
	420	900.9	14	16.88
	421	746.6	14	33.09
	422	746.8	14	34.24
	423	746.6	14	31.81
	424	856.4	14	29.75
	425	793.5	14	33.01
	426	770.1	14	32.90
	427	746.6	14	29.55
	428	798.9	14	19.42
	429	857.2	14	24.66
	430	771.9	14	29.59
	431	901.8	14	24.28
	432	754.3	14	20.73
	433	900.9	28	26.20
	434	746.6	28	46.39
	435	746.8	28	39.16
	436	746.6	28	41.20
	437	856.4	28	33.69
	438	793.5	28	38.20
	439	770.1	28	41.41
	440	746.6	28	37.81
	441	798.9	28	24.85
	442	857.2	28	27.22
##	443	771.9	28	44.64

##	444	901.8	28	37.27
##	445	754.3	28	33.27
##	446	900.9	56	36.56
##	447	746.6	56	53.72
	448	746.8	56	48.59
	449	746.6	56	51.72
	450	856.4	56	35.85
	451	793.5	56	53.77
	452	770.1	56	53.46
	453	746.6	56	48.99
	454	798.9	56	31.72
	455	857.2	56	39.64
	456	771.9	56	51.26
	457	901.8	56	43.39
	458	754.3	56	39.27
	472	712.0	28	57.03
	473	712.0	28	44.42
	474			51.02
		712.0	28	
	475	712.0	28	53.39
	476	712.0	3	35.36
	477	712.0	3	25.02
	478	712.0	3	23.35
	479	712.0	7	52.01
	480	712.0	7	38.02
	481	712.0	7	39.30
	482	712.0	56	61.07
	483	712.0	56	56.14
	484	712.0	56	55.25
	485	712.0	56	54.77
	486	845.0	28	50.24
	487	845.0	28	46.68
	488	845.0	28	46.68
	489	845.0	3	22.75
	490	845.0	3	25.51
##	491	845.0	3	34.77
	492	845.0	7	36.84
	493	845.0	7	45.90
	494	845.0	7	41.67
	495	845.0	56	56.34
	496	845.0	56	47.97
	497	845.0	56	61.46
	498	871.0	28	44.03
	499	871.0	28	55.45
##	500	699.0	28	55.55
##	501	699.0	28	57.92
##	502	699.0	3	25.61
##	503	699.0	7	33.49
##	504	699.0	56	59.59
##	505	699.0	3	29.55
##	506	699.0	7	37.92

##	507	699.0	56	61.86
##	508	750.0	28	62.05
##	509	750.0	3	32.01
##	510	750.0	28	72.10
##	511	750.0	7	39.00
	512	750.0	56	65.70
	513	750.0	3	32.11
	514	750.0	7	40.29
	516	801.0	28	21.97
	517	801.0	3	9.85
	518	801.0	7	15.07
	519	801.0	56	23.25
	520	801.0	28	43.73
	521	801.0	3	13.40
	522	801.0	7	24.13
	523	801.0	56	44.52
	524	801.0	28	62.94
	525	801.0	28	59.49
	526	801.0	3	25.12
	527	801.0	3	23.64
	528	801.0	7	35.75
	529	801.0	7	38.61
	530	801.0	56	68.75
	531	801.0	56	66.78
	532	719.7	28	23.85
	534	895.3	3	11.65
	535	785.6	3	19.20
	537	785.6	28	39.60
##	538	712.2	28	43.94
##	539	712.2	7	34.57
##	541	712.2	3	24.40
##	542	842.6	3	15.62
##	545	895.3	7	14.60
##	547	842.6	28	31.97
##	548	842.6	7	23.40
##	549	895.3	28	25.57
##	551	785.6	7	27.74
##	553	734.3	7	9.62
##	555	734.3	7	15.69
##	556	714.3	28	27.94
##	557	704.3	28	32.63
##	558	724.3	7	17.24
##	559	714.3	7	19.77
##	561	744.3	28	25.75
##	562	734.3	28	33.08
##	563	739.3	7	24.07
##	564	689.3	7	21.82
##	565	734.3	28	21.07
##	566	769.3	7	14.84
##	567	724.3	28	32.05

##	568	759.3	7	11.96
##	569	734.3	7	25.45
	570	784.3	28	22.49
	571	769.3	28	25.22
	572	674.3	28	39.70
	573	744.3	7	13.09
	574	689.3	28	38.70
	575	759.3	7	7.51
	576	789.3	28	17.58
	577	754.3	7	21.18
	578	759.3	28	18.20
	579	704.3	7	17.20
	580	759.3	28	22.63
	581	704.3	7	21.86
	582	714.3	7	12.37
	583	724.3	28	25.73
	584	689.3	28	37.81
	585	674.3	7	21.92
	586		28	33.04
	587	704.3	7	14.54
		784.3		
	588	734.3	28	26.91
	589	764.3	7	8.00
	590	754.3	28	31.90
	591	789.3	7	10.34
	592	784.3	28	19.77
	593	739.3	28	37.44
	594	784.3	7	11.48
	595	689.3	7	24.44
	596	764.3	28	17.60
	597	724.3	7	10.73
	598	714.3	28	31.38
	599	781.0	3	13.22
	600	781.0	7	20.97
	601	781.0	14	27.04
	602	781.0	28	32.04
	606	885.0	3	6.47
	607	885.0	14	12.84
	608	885.0	28	18.42
	612	856.0	14	21.26
	613	856.0	28	25.97
	614	856.0	3	11.36
	618	863.0	3	9.31
	624	812.0	3	12.54
	625	812.0	28	27.53
	627	885.0	7	9.99
	628	845.0	7	7.84
	629	845.0	28	12.25
	630	833.0	7	11.17
	631	833.0	28	17.34
##	632	783.0	7	17.54

##	633	783.0	28	30.57
##	634	808.0	7	14.20
##	635	808.0	28	24.50
##	636	795.0	7	15.58
	637	795.0	28	26.85
	638	758.0	7	26.06
	639	758.0	28	38.21
	640	745.0	28	43.70
	641	745.0	7	30.14
	642	820.0	7	12.73
	643	820.0	28	20.87
	644	770.0	7	20.28
	645	770.0	28	34.29
	649	748.5	28	29.89
	650	692.6	3	6.90
	652	800.0	3	4.90
	655	800.1	28	24.29
	656	692.6	28	33.95
	657	806.2	3	11.41
	658	849.0	28	20.59
	659	631.0	7	25.89
	662	748.5	7	10.39
	663	781.2	28	33.66
	664	839.2	28	27.87
	665	694.1	7	19.35
##	666	856.8	7	11.39
##	667	716.1	3	12.79
##	668	716.1	28	39.32
##	670	717.8	3	16.11
##	671	631.0	28	43.38
##	672	749.1	7	20.42
##	673	856.8	3	6.94
##	674	750.0	7	15.03
##	675	749.1	3	13.57
##	677	692.6	7	15.75
##	679	717.8	28	38.80
##	680	750.0	28	33.00
##	682	856.8	28	24.28
##	683	800.0	28	24.05
	686	839.2	7	13.66
	687	631.0	3	14.14
	689	849.0	3	2.33
	690	781.2	7	16.89
	691	717.8	7	23.52
	692	750.0	3	6.81
	695	749.1	28	32.88
	696	891.9	28	22.35
	697	800.0	7	10.79
	698	849.0	7	7.72
##	701	839.2	3	6.88

##	703	806.2	7	17.17
##	704	806.2	28	30.44
##	705	694.1	3	9.73
##	706	800.1	3	3.32
##	709	891.9	3	6.28
##	711	694.1	28	36 . 96
##	713	716.1	7	21.48
##	714	781.2	3	9.69
##	717	891.9	7	10.09
##	718	748.5	3	4.83
##	719	800.1	7	10.35
##	722	830.0	3	11.85
##	723	830.0	7	17.24
##	724	830.0	28	27.83
##	727	821.0	3	14.31
##	728	821.0	7	17.44
##	729	821.0	28	31.74
##	732	809.0	3	15.87
##	733	809.0	7	9.01
##	734	809.0	28	33.61
##	737	789.0	7	12.05
##	738	789.0	28	17.54
##	739	769.0	7	18.91
##	740	769.0	28	25.18
##	741	734.0	7	30.96
##	742	721.0	28	43.89
##	744	734.0	28	36 . 94
##	745	774.0	7	14.50
##	746	774.0	28	22.44
##	758	775.0	7	18.13
##	759	775.0	14	22.53
##	760	775.0	28	27.34
##	761	775.0	56	29.98
##	764	763.0	1	6.27
##	765	763.0	3	14.70
##	766	763.0	7	23.22
##	767	763.0	14	27.92
##	768	763.0	28	31.35
##	771	806.0	3	14.99
##	772	825.0	3	13.52
##	773	739.0	7	24.00
##	774	739.0	28	37.42
##	775	784.0	7	11.47
##	776	774.0	28	22.44
##	777	754.0	7	21.16
##	778	754.0	28	31.84
##	779	769.0	7	14.80
##	780	769.0	28	25.18
##	781	789.0	28	17.54
##	782	765.0	7	14.20

##	783	765.0	28	21.65
##	785	825.0	3	13.52
##	786	825.0	7	16.26
##	787	825.0	28	31.45
##	789	806.0	7	18.13
##	790	806.0	28	32.72
##	794	817.0	14	18.13
##	801	784.0	7	13.71
##	802	784.0	28	19.69
##	803	754.0	28	31.65
##	804	758.0	3	19.11
##	805	758.0	28	39.58
##	807	739.0	7	24.00
##	808	739.0	28	37.42
##	809	784.0	7	11.47
##	810	784.0	28	19.69
##	811	850.0	7	14.99
##	812	850.0	28	27.92
##	822	800.0	14	20.77
##	823	800.0	28	25.18
	825	817.0	28	21.75
	826	734.0	28	39.09
	827	721.0	3	24.39
	828	896.0	7	50.51
	830	680.0	28	37.17
	831	741.0	28	33.76
	832	658.0	28	16.50
	833	829.0	28	19.99
	834	695.0	28	36.35
	835	651.0	28	33.69
	836	844.0	28	15.42
	837	722.0	28	33.42
	838	730.0	28	39.05
	839	720.0	28	27.68
	840	684.0	28	26.86
	841	804.0	28	45.30
	842	705.0	28	30.12
	843	772.0	28	15.57
	844	785.0	28	44.61
	845	655.0	28	53.52
	846	774.0	28	57.21
	847	757.0	28	65.91
	848	805.0	28	52.82
	849	821.0	28	33.40
	850	729.0	28	18.03
	851	698.0	28	37.36
	852	710.0	28	32.84
	853	815.0	28	42.64
	854	737.0	28	40.06 41.94
##	855	696.0	28	41.94

##	856	790.0	28	61.23
##	857	778.0	28	40.87
	858	736.0	28	33.30
	859	709.0	28	52.42
	860	846.0	28	15.09
	861	783.0	28	38.46
	862	780.0	28	37.26
	864	829.0	28	42.13
	865	744.0	28	31.87
	866	790.0	28	41.54
	867	688.0	28	39.45
	868	827.0	28	37.91
	869	768.0	28	44.28
	870	813.0	28	31.18
	871	780.0	28	23.69
	872	789.0	28	32.76
	873	761.0	28	32.40
	875	689.0	28	36.80
	876	697.0	28	18.28
	877	872.0	28	33.06
	878	778.0	28	31.42
	879	795.0	28	31.03
	880	824.0	28	44.39
	881	816.0	28	12.18
	882	689.0	28	25.56
	883	753.0	28	36.44
	884	893.0	28	32.96
	885	728.0	28	23.84
	886	824.0	28	26.23
	887	830.0	28	17.95
	888	792.0	28	40.68
	889	822.0	28	19.01
	890	733.0	28	33.72
	891	713.0	28	8.54
	892	678.0	28	13.46
	893	762.0	28	32.24
	894	780.0	28	23.52
	895	643.0	28	29.72
	896	763.0	28	49.77
	897	759.0	28	52.44
	898	794.0	28	40.93
	899	817.0	28	44.86
	900	812.0	28	13.20
	901	675.0	28	37.43
	902	805.0	28	29.87
	903	802.0	28	56.61
	904	697.0	28	12.46
	905	868.0	28	23.79
	906	805.0	28	13.29
	907	745.0	28	39.42
##	507	7+3.0	20	JJ•+4

##	908	690.0	28	46.23
##	909	822.0	28	44.52
##	910	817.0	28	23.74
##	911	774.0	28	26.14
	912	884.0	28	15.52
	913	666.0	28	43.57
	914	784.0	28	35.86
	915	689.0	28	41.05
	916	699.0	28	28.99
	917	760.0	28	46.24
	918	828.0	28	26.92
	919	869.0	28	10.54
	920	822.0	28	25.10
	921	764.0	28	29.07
	922	868.0	28	9.74
	923	749.0	28	33.80
	924	638.0	28	39.84
	925	783.0	28	26.97
	926	641.0	28	27.23
	927	680.0	28	30.65
	928	704.0	28	33.05
	930	643.0	28	21.91
	931	669.0	28	30.88
	932	709.0	28	15.34
	934	636.0	28	23.89
	938	688.7	28	36.80
	939	696.7	28	18.29
	940	871.8	28	32.72
	941	778.4	28	31.42
	942	795.3	28	28.94
	943	824.0	28	40.93
	944	815.9	28	12.18
	945	688.7	28	25.56
	946	753.4	28	36.44
	947	892.7	28	32.96
	948	727.6	28	23.84
	949	824.0	28	26.23
	950	830.1	28	17.96
	951	792.5	28	38.63
	952	822.2	28	19.01
	953	732.6	28	33.72
	954	712.9	28	8.54
	955	678.0	28	13.46
	956	762.2	28	32.25
	957	780.3	28	23.52
	958	643.5	28	29.73
	959	762.9	28	49.77
	960	759.5	28	52.45
	961	794.2	28	40.93
	962	816.8	28	44.87
	-			

##	963	811.5	28	13.20
##	964	674.8	28	37.43
##	965	805.3	28	29.87
##	966	802.3	28	56.62
##	967	696.7	28	12.46
##	968	867.7	28	23.79
##	969	804.9	28	13.29
##	970	744.5	28	39.42
##	971	690.2	28	46.23
	972	822.2	28	44.52
	973	816.8	28	23.74
	974	774.3	28	26.15
	975	884.3	28	15.53
	976	665.6	28	43.58
	977	784.0	28	35.87
	978	688.7	28	41.05
	979	698.5	28	28.99
	980	760.1	28	46.25
	981	828.5	28	26.92
	982	868.7	28	10.54
	983	822.2	28	25.10
	984	764.4	28	29.07
	985	867.7	28	9.74
	986	749.3	28	33.80
	987	679.7	28	37.17
	988	741.4	28	33.76
	989	657.9	28	16.50
	990	829.5	28	19.99
	991	694.6	28	36.35
	992	651.2	28	38.22
	993	844.5	28	15.42
	994	722.5	28	33.42
	995	730.4	28	39.06
	996	719.7	28	27.68
	997	683.9	28	26.86
	998	804.0	28	45.30
	999	705.2	28	30.12
	1000	772.2 785.3	28	15.57
	1001		28	44.61 53.52
	1002 1003	655.3 774.0	28 28	
	1004	756.9	28	57.22 65.91
	1004		28	52.83
	1005	804.9 821.4	28	33.40
	1007	728.9	28	18.03
	1007	697.7	28	37.36
	1009	709.7	28	35.31
	1010	815.2	28	42.64
	1011	736.6	28	40.06
	1012	695.9	28	43.80
тπ	1012	000.0	20	75.00

```
## 1013
                 790.0
                             28
                                                         61.24
                 778.4
                             28
## 1014
                                                         40.87
                             28
                                                         33.31
## 1015
                 735.6
## 1016
                 709.5
                             28
                                                         52.43
## 1017
                             28
                                                         15.09
                 846.0
## 1018
                 782.9
                             28
                                                         38.46
                             28
## 1019
                 779.7
                                                         37.27
## 1021
                             28
                                                         42.14
                 829.5
## 1022
                 744.2
                             28
                                                         31.88
                                                         41.54
## 1023
                 790.4
                             28
## 1024
                             28
                 688.2
                                                         39.46
## 1025
                 826.8
                             28
                                                         37.92
## 1026
                 768.3
                             28
                                                         44.28
## 1027
                 813.4
                             28
                                                         31.18
## 1028
                 780.0
                             28
                                                         23.70
                             28
## 1029
                 788.9
                                                         32.77
## 1030
                 761.5
                             28
                                                         32.40
cleaned_data<-remove_outlier(cleaned_data_2,</pre>
c('Cement', 'Blast_Furnace_Slag', 'Fly_Ash', 'Water', 'Superplasticizer', 'Coarse_
Aggregate','Fine_Aggregate','Age_day','Concrete_compressive_strength'))
## [1] "Remove outliers"
        Cement Blast Furnace Slag Fly Ash Water Superplasticizer
##
Coarse Aggregate
                               0.0
                                                               2.5
## 2
         540.0
                                       0.0 162.0
1055.0
## 9
         266.0
                                       0.0 228.0
                                                               0.0
                             114.0
932.0
## 12
         198.6
                             132.4
                                       0.0 192.0
                                                               0.0
978.4
## 15
         304.0
                              76.0
                                       0.0 228.0
                                                               0.0
932.0
                             209.4
                                       0.0 192.0
## 22
         139.6
                                                               0.0
1047.0
                             209.4
                                       0.0 192.0
## 23
         139.6
                                                               0.0
1047.0
## 47
         349.0
                               0.0
                                       0.0 192.0
                                                               0.0
1047.0
## 55
         139.6
                             209.4
                                       0.0 192.0
                                                               0.0
1047.0
                                       0.0 192.0
                                                               0.0
## 56
         198.6
                             132.4
978.4
## 58
         198.6
                             132.4
                                       0.0 192.0
                                                               0.0
978.4
## 63
         310.0
                               0.0
                                       0.0 192.0
                                                               0.0
971.0
## 69
         190.0
                             190.0
                                       0.0 228.0
                                                               0.0
932.0
         374.0
                             189.2
                                       0.0 170.1
                                                              10.1
## 71
```

926.1 ## 73	425.0	106.3	0.0 153.5	16.5
852.1				
## 74 936.0	425.0	106.3	0.0 151.4	18.6
## 76 852.1	475.0	118.8	0.0 181.1	8.9
## 78	425.0	106.3	0.0 153.5	16.5
852.1 ## 79	388.6	97.1	0.0 157.9	12.1
852.1 ## 81	425.0	106.3	0.0 153.5	16.5
852.1 ## 82	318.8	212.5	0.0 155.7	14.3
852.1 ## 83	401.8	94.7	0.0 147.4	11.4
946.8 ## 84	362.6	189.0	0.0 164.9	11.6
944.7 ## 85	323.7	282.8	0.0 183.8	10.3
942.7 ## 87	362.6	189.0	0.0 164.9	11.6
944.7 ## 88	286.3	200.9	0.0 144.7	11.2
1004.6 ## 89	362.6	189.0	0.0 164.9	11.6
944.7 ## 90	439.0	177.0	0.0 186.0	11.1
884.9 ## 91	389.9	189.0	0.0 145.9	22.0
944.7 ## 92	362.6	189.0	0.0 164.9	11.6
944.7 ## 93	337.9		0.0 174.9	9.5
944.7	374.0	189.2	0.0 170.1	10.1
926.1 ## 96	425.0	106.3	0.0 153.5	16.5
852.1 ## 97	425.0	106.3	0.0 151.4	18.6
936.0 ## 99	475.0	118.8	0.0 181.1	8.9
852.1 ## 101	425.0	106.3	0.0 153.5	16.5
852.1				
## 102 852.1	388.6	97.1	0.0 157.9	12.1
## 104 852.1	425.0	106.3	0.0 153.5	16.5
## 105	318.8	212.5	0.0 155.7	14.3

852.1 ## 106	401.8	94.7	0.0 147.4	11.4
946.8	10210	2,	0.0 2.7.1	
## 107 944.7	362.6	189.0	0.0 164.9	11.6
## 108 942.7	323.7	282.8	0.0 183.8	10.3
## 110 944.7	362.6	189.0	0.0 164.9	11.6
## 111	286.3	200.9	0.0 144.7	11.2
1004.6	362.6	189.0	0.0 164.9	11.6
944.7 ## 113	439.0	177.0	0.0 186.0	11.1
884.9 ## 114	389.9	189.0	0.0 145.9	22.0
944.7 ## 115	362.6	189.0	0.0 164.9	11.6
944.7 ## 116	337.9	189.0	0.0 174.9	9.5
944.7 ## 117	374.0	189.2	0.0 170.1	10.1
926.1 ## 119	425.0	106.3	0.0 153.5	16.5
852.1 ## 120	425.0	106.3	0.0 151.4	18.6
936.0 ## 122	475.0	118.8	0.0 181.1	8.9
852.1 ## 124 852.1	425.0	106.3	0.0 153.5	16.5
## 125 852.1	388.6	97.1	0.0 157.9	12.1
## 127 852.1	425.0	106.3	0.0 153.5	16.5
## 128 852.1	318.8	212.5	0.0 155.7	14.3
## 129 946.8	401.8	94.7	0.0 147.4	11.4
## 130 944.7	362.6	189.0	0.0 164.9	11.6
## 133 944.7	362.6	189.0	0.0 164.9	11.6
## 134 1004.6	286.3	200.9	0.0 144.7	11.2
## 135 944.7	362.6	189.0	0.0 164.9	11.6
## 136 884.9	439.0	177.0	0.0 186.0	11.1
## 138	362.6	189.0	0.0 164.9	11.6

944.7	227 0	100.0	0 0 174 0	0.5
## 139 944.7	337.9	189.0	0.0 174.9	9.5
## 140	374.0	189.2	0.0 170.1	10.1
926.1	37.110	20312	0.0 1,011	2012
## 142	425.0	106.3	0.0 153.5	16.5
852.1				
## 143	425.0	106.3	0.0 151.4	18.6
936.0				
## 147	425.0	106.3	0.0 153.5	16.5
852.1	200 6	07.1	0.0 157.9	12 1
## 148 852.1	388.6	97.1	0.0 157.9	12.1
## 150	425.0	106.3	0.0 153.5	16.5
852.1	123.0	100.5	0.0 133.3	10.3
## 151	318.8	212.5	0.0 155.7	14.3
852.1				
## 162	337.9	189.0	0.0 174.9	9.5
944.7				
## 185	222.4	0.0	96.7 189.3	4.5
967.1	000 4		0.6 = 400 0	
## 186	222.4	0.0	96.7 189.3	4.5
967.1 ## 187	222.4	0.0	96.7 189.3	4.5
967.1	222.4	0.0	90.7 109.5	4.5
## 188	222.4	0.0	96.7 189.3	4.5
967.1				
## 190	233.8	0.0	94.6 197.9	4.6
947.0				
## 191	233.8	0.0	94.6 197.9	4.6
947.0			04 6 407 0	
## 192	233.8	0.0	94.6 197.9	4.6
947.0 ## 193	233.8	0.0	94.6 197.9	4.6
947.0	233.0	0.0	94.0 197.9	4.0
## 195	194.7	0.0	100.5 165.6	7.5
1006.4				
## 196	194.7	0.0	100.5 165.6	7.5
1006.4				
## 197	194.7	0.0	100.5 165.6	7.5
1006.4				
## 198	194.7	0.0	100.5 165.6	7.5
1006.4 ## 200	190.7	0.0	125.4 162.1	7.8
1090.0	190./	٥.٥	123.4 102.1	7.0
## 201	190.7	0.0	125.4 162.1	7.8
1090.0				
## 202	190.7	0.0	125.4 162.1	7.8
1090.0				
## 203	190.7	0.0	125.4 162.1	7.8

1090.0	212.1	0.0	121.6 180.3	5.7
## 205 1057.6	212.1	0.0	121.6 180.5	5.7
## 206	212.1	0.0	121.6 180.3	5.7
1057.6	212 1	0.0	121 6 190 2	F 7
## 207 1057.6	212.1	0.0	121.6 180.3	5.7
## 208	212.1	0.0	121.6 180.3	5.7
1057.6 ## 210	230.0	0.0	118.3 195.5	4.6
1029.4				
## 211 1029.4	230.0	0.0	118.3 195.5	4.6
## 212	230.0	0.0	118.3 195.5	4.6
1029.4				
## 213	230.0	0.0	118.3 195.5	4.6
1029.4	100.0		105 0 111 0	
## 215 1088.1	190.3	0.0	125.2 161.9	9.9
## 216	190.3	0.0	125.2 161.9	9.9
1088.1				
## 217	190.3	0.0	125.2 161.9	9.9
1088.1				
## 218 1088.1	190.3	0.0	125.2 161.9	9.9
## 220	166.1	0.0	163.3 176.5	4.5
1058.6				
## 221	166.1	0.0	163.3 176.5	4.5
1058.6				
## 222	166.1	0.0	163.3 176.5	4.5
1058.6 ## 223	166.1	0.0	163.3 176.5	4.5
1058.6	100.1	0.0	103.3 170.3	4.5
## 230	213.7	98.1	24.5 181.7	6.9
1065.8				
## 231	213.7	98.1	24.5 181.7	6.9
1065.8	212 7	00 1	24.5 181.7	6.9
## 232 1065.8	213.7	98.1	24.5 181.7	0.9
## 233	213.7	98.1	24.5 181.7	6.9
1065.8				
## 235	213.8	98.1	24.5 181.7	6.7
1066.0	212 0	00 1	24 5 101 7	c 7
## 236 1066.0	213.8	98.1	24.5 181.7	6.7
## 237	213.8	98.1	24.5 181.7	6.7
1066.0		_		
## 238	213.8	98.1	24.5 181.7	6.7
1066.0	220. 7	0.0	110 2 105 2	C 1
## 240	229.7	0.0	118.2 195.2	6.1

1028.1 ## 241	229.7	0.0	118.2 195.2	6.1
1028.1	223.7	0.0	110.2 177.2	0.1
## 242 1028.1	229.7	0.0	118.2 195.2	6.1
## 243 1028.1	229.7	0.0	118.2 195.2	6.1
## 245	238.1	0.0	94.1 186.7	7.0
949.9 ## 246 949.9	238.1	0.0	94.1 186.7	7.0
## 247 949.9	238.1	0.0	94.1 186.7	7.0
## 248 949.9	238.1	0.0	94.1 186.7	7.0
## 250 956.9	250.0	0.0	95.7 187.4	5.5
## 251 956.9	250.0	0.0	95.7 187.4	5.5
## 252 956.9	250.0	0.0	95.7 187.4	5.5
## 253 956.9	250.0	0.0	95.7 187.4	5.5
## 255 1007.8	212.5	0.0	100.4 159.3	8.7
## 256 1007.8	212.5	0.0	100.4 159.3	8.7
## 257 1007.8	212.5	0.0	100.4 159.3	8.7
## 258 1007.8	212.5	0.0	100.4 159.3	8.7
## 260 1003.8	212.6	0.0	100.4 159.4	10.4
## 261 1003.8	212.6	0.0	100.4 159.4	10.4
## 262 1003.8	212.6	0.0	100.4 159.4	10.4
## 263 1003.8	212.6	0.0	100.4 159.4	10.4
## 265 1085.4	212.0	0.0	124.8 159.0	7.8
## 266 1085.4	212.0	0.0	124.8 159.0	7.8
## 267 1085.4	212.0	0.0	124.8 159.0	7.8
## 268 1085.4	212.0	0.0	124.8 159.0	7.8
## 270 1056.4	231.8	0.0	121.6 174.0	6.7
## 271	231.8	0.0	121.6 174.0	6.7

1056.4	224		101 5 171 0	
## 272	231.8	0.0	121.6 174.0	6.7
1056.4	221 0	0.0	121.6 174.0	6.7
## 273 1056.4	231.8	0.0	121.6 1/4.0	0.7
## 275	251.4	0.0	118.3 188.5	5.8
1028.4	231.4	0.0	118.5 188.5	J.0
## 276	251.4	0.0	118.3 188.5	5.8
1028.4	231	0.0	110.3 100.3	3.0
## 277	251.4	0.0	118.3 188.5	5.8
1028.4				
## 278	251.4	0.0	118.3 188.5	5.8
1028.4				
## 280	251.4	0.0	118.3 188.5	6.4
1028.4				
## 281	251.4	0.0	118.3 188.5	6.4
1028.4				
## 282	251.4	0.0	118.3 188.5	6.4
1028.4				
## 283	251.4	0.0	118.3 188.5	6.4
1028.4	101 4	0.0	167 0 160 6	7.6
## 285	181.4	0.0	167.0 169.6	7.6
1055.6	101 4	0.0	167 0 160 6	7.6
## 286 1055.6	181.4	0.0	167.0 169.6	7.6
## 287	181.4	0.0	167.0 169.6	7.6
1055.6	101.4	0.0	107.0 105.0	7.0
## 288	181.4	0.0	167.0 169.6	7.6
1055.6				
## 290	182.0	45.2	122.0 170.2	8.2
1059.4				
## 291	182.0	45.2	122.0 170.2	8.2
1059.4				
## 292	182.0	45.2	122.0 170.2	8.2
1059.4				
## 293	182.0	45.2	122.0 170.2	8.2
1059.4				
## 295	168.9	42.2	124.3 158.3	10.8
1080.8	160.0	40.0	124 2 150 2	40.0
## 296	168.9	42.2	124.3 158.3	10.8
1080.8	168.0	42.2	124 2 150 2	10.0
## 297	168.9	42.2	124.3 158.3	10.8
1080.8 ## 298	168.9	42.2	124.3 158.3	10.8
1080.8	100.9	+4.4	124.3 130.3	10.0
## 300	290.4	0.0	96.2 168.1	9.4
961.2	2701 T	0.0	55.2 105.1	J. T
## 301	290.4	0.0	96.2 168.1	9.4
961.2		3 . 3		•
## 302	290.4	0.0	96.2 168.1	9.4

961.2 ## 303	290.4	0.0	96.2 168.1	9.4
961.2	230.4	0.0	30.2 100.1	J. T
## 305 973.9	277.1	0.0	97.4 160.6	11.8
## 306 973.9	277.1	0.0	97.4 160.6	11.8
## 307 973.9	277.1	0.0	97.4 160.6	11.8
## 308 973.9	277.1	0.0	97.4 160.6	11.8
## 310 955.1	295.7	0.0	95.6 171.5	8.9
## 311 955.1	295.7	0.0	95.6 171.5	8.9
## 312 955.1	295.7	0.0	95.6 171.5	8.9
## 313 955.1	295.7	0.0	95.6 171.5	8.9
## 315 1006.0	251.8	0.0	99.9 146.1	12.4
## 316 1006.0	251.8	0.0	99.9 146.1	12.4
## 317 1006.0	251.8	0.0	99.9 146.1	12.4
## 318 1006.0	251.8	0.0	99.9 146.1	12.4
## 320 987.8	249.1	0.0	98.8 158.1	12.8
## 321 987.8	249.1	0.0	98.8 158.1	12.8
## 322 987.8	249.1	0.0	98.8 158.1	12.8
## 323 987.8	249.1	0.0	98.8 158.1	12.8
## 325 987.8	252.3	0.0	98.8 146.3	14.2
## 326 987.8	252.3	0.0	98.8 146.3	14.2
## 327 987.8	252.3	0.0	98.8 146.3	14.2
## 328 987.8	252.3	0.0	98.8 146.3	14.2
## 330 1086.8	246.8	0.0	125.1 143.3	12.0
## 331 1086.8	246.8	0.0	125.1 143.3	12.0
## 332 1086.8	246.8	0.0	125.1 143.3	12.0
## 333	246.8	0.0	125.1 143.3	12.0

1086.8	275 4	0.0	121 4 150 5	0.0
## 335	275.1	0.0	121.4 159.5	9.9
1053.6	275 4	0.0	121 4 150 5	0.0
## 336	275.1	0.0	121.4 159.5	9.9
1053.6	275 4	0.0	121 4 150 5	0.0
## 337	275.1	0.0	121.4 159.5	9.9
1053.6	275 1	0.0	121.4 159.5	9.9
## 338 1053.6	275.1	0.0	121.4 139.3	9.9
## 340	297.2	0.0	117.5 174.8	9.5
1022.8	237.2	0.0	117.5 174.8	9.5
## 341	297.2	0.0	117.5 174.8	9.5
1022.8	237.2	0.0	117.5 174.0	J. J
## 342	297.2	0.0	117.5 174.8	9.5
1022.8	237.2	0.0	117.5 171.0	3.3
## 343	297.2	0.0	117.5 174.8	9.5
1022.8				
## 345	213.7	0.0	174.7 154.8	10.2
1053.5				
## 346	213.7	0.0	174.7 154.8	10.2
1053.5				
## 347	213.7	0.0	174.7 154.8	10.2
1053.5				
## 348	213.7	0.0	174.7 154.8	10.2
1053.5				
## 350	213.5	0.0	174.2 154.6	11.7
1052.3				
## 351	213.5	0.0	174.2 154.6	11.7
1052.3				
## 352	213.5	0.0	174.2 154.6	11.7
1052.3				
## 353	213.5	0.0	174.2 154.6	11.7
1052.3				-
## 355	277.2	97.8	24.5 160.7	11.2
1061.7		o= o	0.4 5 4.60 5	44.0
## 356	277.2	97.8	24.5 160.7	11.2
1061.7	277 2	07.0	24 5 460 7	11 2
## 357	277.2	97.8	24.5 160.7	11.2
1061.7	277 2	07.0	24 5 460 7	11 2
## 358 1061.7	277.2	97.8	24.5 160.7	11.2
## 360	218.2	54.6	123.8 140.8	11.9
1075.7	210.2	J+.0	123.0 140.0	11.7
## 361	218.2	54.6	123.8 140.8	11.9
1075.7	210.2	J -1 .0	123.0 170.0	11.7
## 362	218.2	54.6	123.8 140.8	11.9
1075.7		51.0	113.0 1.0.0	,
## 363	218.2	54.6	123.8 140.8	11.9
1075.7		20		=
## 365	214.9	53.8	121.9 155.6	9.6

1014.3 ## 366	214.9	53.8	121 9	155 6	9.6
1014.3	214.7	33.0	121.7	100.0	5.0
## 367	214.9	53.8	121.9	155.6	9.6
1014.3					
## 368	214.9	53.8	121.9	155.6	9.6
1014.3 ## 370	218.9	0.0	12/ 1	150 5	11.3
1078.7	210.9	0.0	124.1	130.3	11.5
## 371	218.9	0.0	124.1	158.5	11.3
1078.7					
## 372	218.9	0.0	124.1	158.5	11.3
1078.7	24.0	0.0	424.4	450.5	44.2
## 373 1078.7	218.9	0.0	124.1	158.5	11.3
## 375	376.0	0.0	a a	214.6	0.0
1003.5	370.0	0.0	0.0	214.0	0.0
## 376	376.0	0.0	0.0	214.6	0.0
1003.5					
## 377	376.0	0.0	0.0	214.6	0.0
1003.5					
## 378	376.0	0.0	0.0	214.6	0.0
1003.5 ## 380	500.0	0.0	0.0	1/0 O	4.0
966.0	300.0	0.0	0.0	140.0	4.0
## 381	475.0	0.0	59.0	142.0	1.9
1098.0					
## 385	516.0	0.0	0.0	162.0	8.2
801.0	F20 0	0.0	0.0	470.0	F 2
## 386 855.0	520.0	0.0	0.0	170.0	5.2
## 387	528.0	0.0	a a	185.0	6.9
920.0	320.0	0.0	0.0	105.0	0.5
## 388	520.0	0.0	0.0	175.0	5.2
870.0					
## 389	385.0	0.0	136.0	158.0	20.0
903.0					
## 393	333.0	17.5	163.0	167.0	17.9
996.0 ## 395	405.0	0.0	0 0	175.0	0.0
1120.0	405.0	0.0	0.0	1/5.0	0.0
## 396	200.0	200.0	0.0	190.0	0.0
1145.0					
## 397	516.0	0.0	0.0	162.0	8.3
801.0					
## 398	145.0	116.0	119.0	184.0	5.7
833.0	160.0	120 0	122 0	102 0	6. 1
## 399 824.0	160.0	128.0	122.0	102.0	6.4
## 400	234.0	156.0	0.0	189.0	5.9
			3.3		

981.0 ## 401	250.0	180.0	95.0 159.0	9.5
860.0				
## 402 1044.0	475.0	0.0	0.0 162.0	9.5
## 403 1031.0	285.0	190.0	0.0 163.0	7.6
## 404	356.0	119.0	0.0 160.0	9.0
1061.0 ## 406	500.0	0.0	0.0 151.0	9.0
1033.0 ## 407	165.0	0.0	143.6 163.8	0.0
1005.6 ## 408	165.0	128.5	132.1 175.1	8.1
1005.8 ## 409	178.0	129.8	118.6 179.9	3.6
1007.3				
## 410 1006.3	167.4	129.9	128.6 175.5	7.8
## 411 1006.3	172.4	13.6	172.4 156.8	4.1
## 412	173.5	50.1	173.5 164.8	6.5
1006.2 ## 413	167.0	75.4	167.0 164.0	7.9
1007.3 ## 414	173.8	93.4	159.9 172.3	9.7
1007.2 ## 415	190.3	0.0	125.2 166.6	9.9
1079.0				
## 416 948.9	250.0	0.0	95.7 191.8	5.3
## 417 1043.6	213.5	0.0	174.2 159.2	11.7
## 418 998.0	194.7	0.0	100.5 170.2	7.5
## 419 1043.6	251.4	0.0	118.3 192.9	5.8
## 420	165.0	0.0	143.6 163.8	0.0
1005.6 ## 421	165.0	128.5	132.1 175.1	8.1
1005.8 ## 422	178.0	129.8	118.6 179.9	3.6
1007.3 ## 423	167.4	129.9	128.6 175.5	7.8
1006.3 ## 424	172.4	13.6	172.4 156.8	4.1
1006.3				
## 425 1006.2	173.5	50.1	173.5 164.8	6.5
## 426	167.0	75.4	167.0 164.0	7.9

1007.3 ## 427	173.8	93.4	159 9 172 3	9.7	
1007.2	173.0	J J. 4	133.3 172.3	3.7	
## 428 1079.0	190.3	0.0	125.2 166.6	9.9	
## 429	250.0	0.0	95.7 191.8	5.3	
948.9 ## 430	213.5	0.0	174.2 159.2	11.7	
1043.6 ## 431	194.7	0.0	100.5 170.2	7.5	
998.0 ## 432	251.4	0.0	118.3 192.9	5.8	
1043.6 ## 433	165.0	0.0	143.6 163.8	0.0	
1005.6 ## 434	165.0	128.5	132.1 175.1	8.1	
1005.8 ## 435	178.0	129.8	118.6 179.9	3.6	
1007.3 ## 436	167.4	129.9	128.6 175.5	7.8	
1006.3 ## 437	172.4	13.6	172.4 156.8		
1006.3 ## 438	173.5	50.1	173.5 164.8	6.5	
1006.2					
## 439 1007.3	167.0	75.4	167.0 164.0	7.9	
## 440 1007.2	173.8	93.4	159.9 172.3	9.7	
## 441 1079.0	190.3	0.0	125.2 166.6	9.9	
## 442 948.9	250.0	0.0	95.7 191.8	5.3	
## 443 1043.6	213.5	0.0	174.2 159.2	11.7	
## 444 998.0	194.7	0.0	100.5 170.2	7.5	
## 445 1043.6	251.4	0.0	118.3 192.9	5.8	
## 446 1005.6	165.0	0.0	143.6 163.8	0.0	
## 447 1005.8	165.0	128.5	132.1 175.1	8.1	
## 448	178.0	129.8	118.6 179.9	3.6	
1007.3 ## 449	167.4	129.9	128.6 175.5	7.8	
1006.3 ## 450	172.4	13.6	172.4 156.8	4.1	
1006.3 ## 451	173.5	50.1	173.5 164.8	6.5	

1006.2 ## 452	167.0	75.4	167.0 164.0	7.9
1007.3	107.0	75.4	107.0 104.0	7.9
## 453 1007.2	173.8	93.4	159.9 172.3	9.7
## 454 1079.0	190.3	0.0	125.2 166.6	9.9
## 455 948.9	250.0	0.0	95.7 191.8	5.3
## 456 1043.6	213.5	0.0	174.2 159.2	11.7
## 457 998.0	194.7	0.0	100.5 170.2	7.5
## 458 1043.6	251.4	0.0	118.3 192.9	5.8
## 472 967.0	446.0	24.0	79.0 162.0	11.6
## 473 967.0	446.0	24.0	79.0 162.0	11.6
## 474 967.0	446.0	24.0	79.0 162.0	11.6
## 475 967.0	446.0	24.0	79.0 162.0	10.3
## 476 967.0	446.0	24.0	79.0 162.0	11.6
## 477 967.0	446.0	24.0	79.0 162.0	11.6
## 478 967.0	446.0	24.0	79.0 162.0	11.6
## 479 967.0	446.0	24.0	79.0 162.0	11.6
## 480 967.0	446.0	24.0	79.0 162.0	11.6
## 481 967.0	446.0	24.0	79.0 162.0	11.6
## 482 967.0	446.0	24.0	79.0 162.0	11.6
## 483 967.0	446.0	24.0	79.0 162.0	11.6
## 484 967.0	446.0	24.0	79.0 162.0	11.6
## 485 967.0	446.0	24.0	79.0 162.0	10.3
## 486 938.0	387.0	20.0	94.0 157.0	14.3
## 487 938.0	387.0	20.0	94.0 157.0	13.9
## 488 938.0	387.0	20.0	94.0 157.0	11.6
## 489	387.0	20.0	94.0 157.0	14.3

938.0 ## 490	387.0	20.0	94.0 157.0	13.9
938.0				
## 491 938.0	387.0	20.0	94.0 157.0	11.6
## 492 938.0	387.0	20.0	94.0 157.0	14.3
## 493	387.0	20.0	94.0 157.0	13.9
938.0 ## 494	387.0	20.0	94.0 157.0	11.6
938.0 ## 495	387.0	20.0	94.0 157.0	14.3
938.0 ## 496	387.0	20.0	94.0 157.0	13.9
938.0 ## 497	387.0	20.0	94.0 157.0	11.6
938.0 ## 498	355.0	19.0	97.0 145.0	13.1
967.0 ## 499	355.0	19.0	97.0 145.0	12.3
967.0 ## 500	491.0	26.0	123.0 210.0	3.9
882.0 ## 501	491.0	26.0	123.0 201.0	3.9
822.0 ## 502	491.0	26.0	123.0 210.0	3.9
882.0 ## 503	491.0	26.0	123.0 210.0	3.9
882.0				
## 504 882.0	491.0	26.0	123.0 210.0	3.9
## 505 822.0	491.0	26.0	123.0 201.0	3.9
## 506 822.0	491.0	26.0	123.0 201.0	3.9
## 507 822.0	491.0	26.0	123.0 201.0	3.9
## 508 822.0	424.0	22.0	132.0 178.0	8.5
## 509 882.0	424.0	22.0	132.0 178.0	8.5
## 511 822.0	424.0	22.0	132.0 178.0	8.5
## 512 822.0	424.0	22.0	132.0 178.0	8.5
## 513 822.0	424.0	22.0	132.0 168.0	8.9
## 514 822.0	424.0	22.0	132.0 168.0	8.9
## 516	202.0	11.0	141.0 206.0	1.7

942.0 ## 517	202.0	11.0	141.0 206.0	1.7
942.0	202.0	11.0	141.0 200.0	1.7
## 518 942.0	202.0	11.0	141.0 206.0	1.7
## 519 942.0	202.0	11.0	141.0 206.0	1.7
## 520 842.0	284.0	15.0	141.0 179.0	5.5
## 521 842.0	284.0	15.0	141.0 179.0	5.5
## 522 842.0	284.0	15.0	141.0 179.0	5.5
## 523 842.0	284.0	15.0	141.0 179.0	5.5
## 524 942.0	359.0	19.0	141.0 154.0	10.9
## 525 942.0	359.0	19.0	141.0 154.0	10.9
## 526 942.0	359.0	19.0	141.0 154.0	10.9
## 527 942.0	359.0	19.0	141.0 154.0	10.9
## 528 942.0	359.0	19.0	141.0 154.0	10.9
## 529 942.0	359.0	19.0	141.0 154.0	10.9
## 530 942.0	359.0	19.0	141.0 154.0	10.9
## 531 942.0	359.0	19.0	141.0 154.0	10.9
## 532 838.4	436.0	0.0	0.0 218.0	0.0
## 534 913.2	289.0	0.0	0.0 192.0	0.0
## 535 940.6	393.0	0.0	0.0 192.0	0.0
## 537 940.6	393.0	0.0	0.0 192.0	0.0
## 538 936.2	480.0	0.0	0.0 192.0	0.0
## 539 936.2	480.0	0.0	0.0 192.0	0.0
## 541 936.2	480.0	0.0	0.0 192.0	0.0
## 542 931.2	333.0	0.0	0.0 192.0	0.0
## 545 913.2	289.0	0.0	0.0 192.0	0.0
## 547	333.0	0.0	0.0 192.0	0.0

931.2 ## 548	333.0	0.0	0.0 192.0	0.0
931.2	333.0	0.0	0.0 132.0	0.0
## 549 913.2	289.0	0.0	0.0 192.0	0.0
## 551	393.0	0.0	0.0 192.0	0.0
940.6 ## 553	158.8	238.2	0.0 185.7	0.0
1040.6 ## 555	238.2	158.8	0.0 185.7	0.0
1040.6				
## 556 1012.4	181.9	2/2.8	0.0 185.7	0.0
## 557 998.2	193.5	290.2	0.0 185.7	0.0
## 558	255.5	170.3	0.0 185.7	0.0
1026.6 ## 559	272.8	181.9	0.0 185.7	0.0
1012.4 ## 561	220.8	147.2	0.0 185.7	0.0
1055.0				
## 562 1040.6	397.0	0.0	0.0 185.7	0.0
## 563 1047.8	382.5	0.0	0.0 185.7	0.0
## 564	210.7	316.1	0.0 185.7	0.0
977.0	150 0	120 1	0 0 195 7	0.0
## 565 1040.6	158.8	238.2	0.0 185.7	0.0
## 566 1091.4	295.8	0.0	0.0 185.7	0.0
## 567 1026.6	255.5	170.3	0.0 185.7	0.0
## 568	203.5	135.7	0.0 185.7	0.0
1076.2 ## 569	397.0	0.0	0.0 185.7	0.0
1040.6 ## 570	381.4	0.0	0.0 185.7	0.0
1104.6				
## 571 1091.4	295.8	0.0	0.0 185.7	0.0
## 572 955.8	228.0	342.1	0.0 185.7	0.0
## 573	220.8	147.2	0.0 185.7	0.0
1055.0 ## 574	316.1	210.7	0.0 185.7	0.0
977.0 ## 575	135.7	203.5	0.0 185.7	0.0
1076.2				
## 576	238.1	0.0	0.0 185.7	0.0

1118.8 ## 577	339.2	0.0	0.0 185.7	0.0
1069.2	333.2	0.0	0.0 183.7	0.0
## 578 1076.2	135.7	203.5	0.0 185.7	0.0
## 579 998.2	193.5	290.2	0.0 185.7	0.0
## 580 1076.2	203.5	135.7	0.0 185.7	0.0
## 581 998.2	290.2	193.5	0.0 185.7	0.0
## 582 1012.4	181.9	272.8	0.0 185.7	0.0
## 583 1026.6	170.3	155.5	0.0 185.7	0.0
## 584 977.0	210.7	316.1	0.0 185.7	0.0
## 585 955.8	228.0	342.1	0.0 185.7	0.0
## 586 998.2	290.2	193.5	0.0 185.7	0.0
## 587 1104.6	381.4	0.0	0.0 185.7	0.0
## 588 1040.6	238.2	158.8	0.0 185.7	0.0
## 589 1083.4	186.2	124.1	0.0 185.7	0.0
## 590 1069.2	339.2	0.0	0.0 185.7	0.0
## 591 1118.8	238.1	0.0	0.0 185.7	0.0
## 592 1111.6	252.5	0.0	0.0 185.7	0.0
## 593 1047.8	382.5	0.0	0.0 185.7	0.0
## 594 1111.6	252.5	0.0	0.0 185.7	0.0
## 595 977.0	316.1	210.7	0.0 185.7	0.0
## 596 1083.4	186.2	124.1	0.0 185.7	0.0
## 597 1026.6	170.3	155.5	0.0 185.7	0.0
## 598 1012.4	272.8	181.9	0.0 185.7	0.0
## 599 968.0	339.0	0.0	0.0 197.0	0.0
## 600 968.0	339.0	0.0	0.0 197.0	0.0
## 601	339.0	0.0	0.0 197.0	0.0

968.0 ## 602	339.0	0.0	0.0 197.0	0.0
968.0				
## 606 968.0	236.0	0.0	0.0 194.0	0.0
## 607 968.0	236.0	0.0	0.0 194.0	0.0
## 608 968.0	236.0	0.0	0.0 194.0	0.0
## 612	277.0	0.0	0.0 191.0	0.0
968.0 ## 613	277.0	0.0	0.0 191.0	0.0
968.0 ## 614	277.0	0.0	0.0 191.0	0.0
968.0 ## 618	254.0	0.0	0.0 198.0	0.0
968.0 ## 624	307.0	0.0	0.0 193.0	0.0
968.0 ## 625	307.0	0.0	0.0 193.0	0.0
968.0 ## 627	236.0	0.0	0.0 193.0	0.0
968.0 ## 628	200.0	0.0	0.0 180.0	0.0
1125.0 ## 629	200.0	0.0	0.0 180.0	0.0
1125.0 ## 630	225.0	0.0	0.0 181.0	0.0
1113.0 ## 631	225.0	0.0	0.0 181.0	0.0
1113.0 ## 632	325.0	0.0	0.0 184.0	0.0
1063.0 ## 633	325.0	0.0	0.0 184.0	0.0
1063.0 ## 634	275.0	0.0	0.0 183.0	0.0
1088.0 ## 635	275.0	0.0	0.0 183.0	0.0
1088.0 ## 636	300.0	0.0	0.0 184.0	0.0
1075.0 ## 637	300.0	0.0	0.0 184.0	0.0
1075.0 ## 638	375.0	0.0	0.0 186.0	0.0
1038.0 ## 639	375.0	0.0	0.0 186.0	0.0
1038.0 ## 640	400.0	0.0	0.0 187.0	0.0
1025.0 ## 641	400.0	0.0	0.0 187.0	0.0

1025.0 ## 642	250.0	0.0	0.0 182.0	0.0
1100.0	230.0	0.0	0.0 102.0	0.0
## 643 1100.0	250.0	0.0	0.0 182.0	0.0
## 644 1050.0	350.0	0.0	0.0 186.0	0.0
## 645 1050.0	350.0	0.0	0.0 186.0	0.0
## 649 971.8	141.3	212.0	0.0 203.5	0.0
## 650	166.8	250.2	0.0 203.5	0.0
975.6 ## 652	183.9	122.6	0.0 203.5	0.0
959.2 ## 655	122.6	183.9	0.0 203.5	0.0
958.2 ## 656	166.8	250.2	0.0 203.5	0.0
975.6 ## 657	200.0	133.0	0.0 192.0	0.0
965.4 ## 658	108.3	162.4	0.0 203.5	0.0
938.2 ## 662 971.8	141.3	212.0	0.0 203.5	0.0
## 663 935.4	157.0	236.0	0.0 192.0	0.0
## 664 927.4	133.0	200.0	0.0 192.0	0.0
## 665 977.6	250.2	166.8	0.0 203.5	0.0
## 666 946.8	173.0	116.0	0.0 192.0	0.0
## 667 929.8	192.0	288.0	0.0 192.0	0.0
## 668 929.8	192.0	288.0	0.0 192.0	0.0
## 670 932.0	288.0	192.0	0.0 192.0	0.0
## 672 972.6	236.0	157.0	0.0 192.0	0.0
## 673 946.8	173.0	116.0	0.0 192.0	0.0
## 674 973.4	212.0	141.3	0.0 203.5	0.0
## 675 972.6	236.0	157.0	0.0 192.0	0.0
## 677 975.6	166.8	250.2	0.0 203.5	0.0
## 679	288.0	192.0	0.0 192.0	0.0

932.0 ## 680	212.0	141.3	0.0 203.5	0.0
973.4	212.0	141.5	0.0 203.3	0.0
## 682 946.8	173.0	116.0	0.0 192.0	0.0
## 683 959.2	183.9	122.6	0.0 203.5	0.0
## 686 927.4	133.0	200.0	0.0 192.0	0.0
## 689 938.2	108.3	162.4	0.0 203.5	0.0
## 690 935.4	157.0	236.0	0.0 192.0	0.0
## 691	288.0	192.0	0.0 192.0	0.0
932.0 ## 692	212.0	141.3	0.0 203.5	0.0
973.4 ## 695	236.0	157.0	0.0 192.0	0.0
972.6 ## 696	116.0	173.0	0.0 192.0	0.0
909.8 ## 697	183.9	122.6	0.0 203.5	0.0
959.2 ## 698	108.3	162.4	0.0 203.5	0.0
938.2 ## 701 927.4	133.0	200.0	0.0 192.0	0.0
## 703 965.4	200.0	133.0	0.0 192.0	0.0
## 704 965.4	200.0	133.0	0.0 192.0	0.0
## 705 977.6	250.2	166.8	0.0 203.5	0.0
## 706 958.2	122.6	183.9	0.0 203.5	0.0
## 709 909.8	116.0	173.0	0.0 192.0	0.0
## 711 977.6	250.2	166.8	0.0 203.5	0.0
## 713 929.8	192.0	288.0	0.0 192.0	0.0
## 714 935.4	157.0	236.0	0.0 192.0	0.0
## 717 909.8	116.0	173.0	0.0 192.0	0.0
## 718 971.8	141.3	212.0	0.0 203.5	0.0
## 719 958.2	122.6	183.9	0.0 203.5	0.0
## 722	310.0	0.0	0.0 192.0	0.0

1012.0	210.0	0.0	0 0 102 0	0.0
## 723	310.0	0.0	0.0 192.0	0.0
1012.0 ## 724	210 0	0.0	0.0 192.0	0.0
	310.0	0.0	0.0 192.0	0.0
1012.0 ## 727	221 0	0.0	0.0 192.0	0.0
1025.0	331.0	0.0	0.0 192.0	0.0
## 728	331.0	0.0	0.0 192.0	0.0
1025.0	331.0	0.0	0.0 192.0	0.0
## 729	331.0	0.0	0.0 192.0	0.0
1025.0	331.0	0.0	0.0 192.0	0.0
## 732	349.0	0.0	0.0 192.0	0.0
1056.0	343.0	0.0	0.0 132.0	0.0
## 733	349.0	0.0	0.0 192.0	0.0
1056.0	343.0	0.0	0.0 132.0	0.0
## 734	349.0	0.0	0.0 192.0	0.0
1056.0	343.0	0.0	0.0 132.0	0.0
## 737	238.0	0.0	0.0 186.0	0.0
1119.0	230.0	0.0	0.0 100.0	0.0
## 738	238.0	0.0	0.0 186.0	0.0
1119.0	230.0	0.0	0.0 100.0	0.0
## 739	296.0	0.0	0.0 186.0	0.0
1090.0	230.0	•••	0.0 200.0	
## 740	296.0	0.0	0.0 186.0	0.0
1090.0			2000	
## 741	297.0	0.0	0.0 186.0	0.0
1040.0				
## 742	480.0	0.0	0.0 192.0	0.0
936.0				
## 744	397.0	0.0	0.0 186.0	0.0
1040.0				
## 745	281.0	0.0	0.0 186.0	0.0
1104.0				
## 746	281.0	0.0	0.0 185.0	0.0
1104.0				
## 758	350.0	0.0	0.0 203.0	0.0
974.0				
## 759	350.0	0.0	0.0 203.0	0.0
974.0				
## 760	350.0	0.0	0.0 203.0	0.0
974.0				
## 761	350.0	0.0	0.0 203.0	0.0
974.0				
## 764	385.0	0.0	0.0 186.0	0.0
966.0				
## 765	385.0	0.0	0.0 186.0	0.0
966.0				
## 766	385.0	0.0	0.0 186.0	0.0
966.0				
## 767	385.0	0.0	0.0 186.0	0.0

966.0 ## 768	385.0	0.0	0.0 186.0	0.0
966.0	303.0	0.0	0.0 100.0	0.0
## 771 1047.0	349.0	0.0	0.0 192.0	0.0
## 772 978.0	331.0	0.0	0.0 192.0	0.0
## 773	382.0	0.0	0.0 186.0	0.0
1047.0 ## 774	382.0	0.0	0.0 186.0	0.0
1047.0 ## 775	382.0	0.0	0.0 186.0	0.0
1111.0 ## 776	281.0	0.0	0.0 186.0	0.0
1104.0 ## 777	339.0	0.0	0.0 185.0	0.0
1069.0 ## 778	339.0	0.0	0.0 185.0	0.0
1069.0 ## 779	295.0	0.0	0.0 185.0	0.0
1069.0 ## 780	295.0	0.0	0.0 185.0	0.0
1069.0 ## 781	238.0	0.0	0.0 185.0	0.0
1118.0 ## 782	296.0	0.0	0.0 192.0	0.0
1085.0 ## 783	296.0	0.0	0.0 192.0	0.0
1085.0 ## 785	331.0	0.0	0.0 192.0	0.0
879.0 ## 786	331.0	0.0	0.0 192.0	0.0
978.0 ## 787	331.0	0.0	0.0 192.0	0.0
978.0 ## 789	349.0	0.0	0.0 192.0	0.0
1047.0 ## 790	349.0	0.0	0.0 192.0	0.0
1047.0 ## 794	302.0	0.0	0.0 203.0	0.0
974.0 ## 801	252.0	0.0	0.0 185.0	0.0
1111.0 ## 802	252.0	0.0	0.0 185.0	0.0
1111.0 ## 803	339.0	0.0	0.0 185.0	0.0
1060.0 ## 804	393.0	0.0	0.0 192.0	0.0
940.0 ## 805	393.0	0.0	0.0 192.0	0.0

940.0 ## 807	382.0	0.0	0.0	185.0	0.0
1047.0	302.0		0.0	203.0	
## 808 1047.0	382.0	0.0	0.0	185.0	0.0
## 809 1111.0	252.0	0.0	0.0	186.0	0.0
## 810 1111.0	252.0	0.0	0.0	185.0	0.0
## 811 970.0	310.0	0.0	0.0	192.0	0.0
## 812 970.0	310.0	0.0	0.0	192.0	0.0
## 822 974.0	322.0	0.0	0.0	203.0	0.0
## 823 974.0	322.0	0.0	0.0	203.0	0.0
## 825 974.0	302.0	0.0	0.0	203.0	0.0
## 826 1040.0	397.0	0.0	0.0	185.0	0.0
## 827 936.0	480.0	0.0	0.0	192.0	0.0
## 828 896.0	522.0	0.0	0.0	146.0	0.0
## 830 904.0	273.0	105.0	82.0	210.0	9.0
## 831 838.0	162.0	190.0	148.0	179.0	19.0
## 832 923.0	154.0	144.0	112.0	220.0	10.0
## 833 860.0	147.0	115.0	89.0	202.0	9.0
## 834 944.0	152.0	178.0	139.0	168.0	18.0
## 835 914.0	310.0	143.0	111.0	168.0	22.0
## 836 943.0	144.0	0.0	175.0	158.0	18.0
## 837 895.0	304.0	140.0	0.0	214.0	6.0
## 838 1013.0	374.0	0.0	0.0	190.0	7.0
## 839 953.0	159.0	149.0	116.0	175.0	15.0
## 840 1002.0	153.0	239.0	0.0	200.0	6.0
## 841 914.0	310.0	143.0	0.0	168.0	10.0
## 842	305.0	0.0	100.0	196.0	10.0

959.0 ## 843	151.0	0.0	184.0 167.0	12.0
991.0				
## 844 883.0	142.0	167.0	130.0 174.0	11.0
## 845 878.0	298.0	137.0	107.0 201.0	6.0
## 846 870.0	321.0	164.0	0.0 190.0	5.0
## 847 824.0	366.0	187.0	0.0 191.0	7.0
## 848 825.0	280.0	129.0	100.0 172.0	9.0
## 849 835.0	252.0	97.0	76.0 194.0	8.0
## 850 1023.0	165.0	0.0	150.0 182.0	12.0
## 851 1022.0	156.0	243.0	0.0 180.0	11.0
## 852 829.0	160.0	188.0	146.0 203.0	11.0
## 853 879.0	298.0	0.0	107.0 186.0	6.0
## 854 861.0	318.0	0.0	126.0 210.0	6.0
## 855 904.0	287.0	121.0	94.0 188.0	9.0
## 856 882.0	326.0	166.0	0.0 174.0	9.0
## 857 801.0	356.0	0.0	142.0 193.0	11.0
## 858 867.0	132.0	207.0	161.0 179.0	5.0
	322.0	149.0	0.0 186.0	8.0
## 860 849.0	164.0	0.0	200.0 181.0	13.0
## 861 925.0	314.0	0.0	113.0 170.0	10.0
## 862 870.0	321.0	0.0	128.0 182.0	11.0
## 864 908.0	288.0	121.0	0.0 177.0	7.0
## 865 880.0	298.0	0.0	107.0 210.0	11.0
## 866 833.0	265.0	111.0	86.0 195.0	6.0
## 867 1049.0	160.0	250.0	0.0 168.0	12.0
## 868	166.0	260.0	0.0 183.0	13.0

859.0 ## 869	276.0	116.0	90.0	180.0	9.0
870.0			2000		
## 870 818.0	322.0	0.0	116.0	196.0	10.0
## 871 892.0	149.0	139.0	109.0	193.0	6.0
## 872 990.0	159.0	187.0	0.0	176.0	11.0
## 873	261.0	100.0	78.0	201.0	9.0
864.0 ## 875	313.0	0.0	113.0	178.0	8.0
1002.0 ## 876	155.0	183.0	0.0	193.0	9.0
1047.0 ## 877	146.0	230.0	0.0	202.0	3.0
827.0 ## 878	296.0	0.0	107.0	221.0	11.0
819.0 ## 879	133.0	210.0	0.0	196.0	3.0
949.0 ## 880	313.0	145.0	0.0	178.0	8.0
867.0 ## 881	152.0	0.0	112.0	184.0	8.0
992.0 ## 882	153.0	145.0	113.0	178.0	8.0
1002.0	140.0	133.0	103.0	200.0	7.0
916.0 ## 884 847.0	149.0	236.0	0.0	176.0	13.0
## 885 878.0	300.0	0.0	120.0	212.0	10.0
## 886 867.0	153.0	145.0	113.0	178.0	8.0
## 887 1002.0	148.0	0.0	137.0	158.0	16.0
## 888 801.0	326.0	0.0	138.0	199.0	11.0
## 889 1000.0	153.0	145.0	0.0	178.0	8.0
## 890 895.0	262.0	111.0	86.0	195.0	5.0
## 891 898.0	158.0	0.0	195.0	220.0	11.0
## 892 1074.0	151.0	0.0	185.0	167.0	16.0
## 893 931.0	273.0	0.0	90.0	199.0	11.0
## 894	149.0	118.0	92.0	183.0	7.0

953.0 ## 895	143.0	169.0	143.0 191.0	8.0
967.0	21310	200.0	1.510 15110	0.0
## 896 936.0	260.0	101.0	78.0 171.0	10.0
## 897 917.0	313.0	161.0	0.0 178.0	10.0
## 898 970.0	284.0	120.0	0.0 168.0	7.0
## 899 986.0	336.0	0.0	0.0 182.0	3.0
## 900 979.0	145.0	0.0	134.0 181.0	11.0
## 901 1069.0	150.0	237.0	0.0 174.0	12.0
## 902 814.0	144.0	170.0	133.0 192.0	8.0
## 903 811.0	331.0	170.0	0.0 195.0	8.0
## 904 1047.0	155.0	0.0	143.0 193.0	9.0
## 905 877.0	155.0	183.0	0.0 193.0	9.0
## 906 961.0	135.0	0.0	166.0 180.0	10.0
## 907 910.0	266.0	112.0	87.0 178.0	10.0
## 908 869.0	314.0	145.0	113.0 179.0	8.0
## 909 1000.0	313.0	145.0	0.0 127.0	8.0
## 910 986.0	146.0	173.0	0.0 182.0	3.0
## 911 941.0	144.0	136.0	106.0 178.0	7.0
## 912 839.0	148.0	0.0	182.0 181.0	15.0
## 913 946.0	277.0	117.0	91.0 191.0	7.0
## 914 953.0	298.0	0.0	107.0 164.0	13.0
## 915 1002.0	313.0	145.0	0.0 178.0	8.0
## 916 880.0	155.0	184.0	143.0 194.0	9.0
## 917 924.0	289.0	134.0	0.0 195.0	6.0
## 918 1000.0	148.0	175.0	0.0 171.0	2.0
## 919	145.0	0.0	179.0 202.0	8.0

824.0 ## 920	313.0	0.0	0 0 179 (8.0	
1000.0	313.0	0.0	0.0 1/0.0	0.0	
## 921	136.0	162.0	126 0 172 (10.0	
	130.0	102.0	120.0 1/2.0	10.0	
923.0	455.0	0.0	442 0 402 /		
## 922	155.0	0.0	143.0 193.0	9.0	
877.0		20.0	== 0 100 1		
## 923	255.0	99.0	77.0 189.0	6.0	
919.0					
## 924	162.0	207.0	172.0 216.0	10.0	
822.0					
## 925	136.0	196.0	98.0 199.0	6.0	
847.0					
## 926	164.0	163.0	128.0 197.0	8.0	
961.0					
## 927	162.0	214.0	164.0 202.0	10.0	
820.0					
## 928	157.0	214.0	152.0 200.0	9.0	
819.0					
## 930	135.0	105.0	193.0 196.0	6.0	
965.0					
## 931	159.0	209.0	161.0 201.0	7.0	
848.0					
## 932	144.0	15.0	195.0 176.0	6.0	
1021.0					
## 934	167.0	187.0	195.0 185.0	7.0	
898.0	_0, 00				
## 938	313.3	0.0	113.0 178.	8.0	
1001.9	5-575				
## 939	154.8	183 4	0.0 193.3	9.1	
1047.4	154.0	103.4	0.0 195.	J. 1	
## 940	145.9	230 5	0.0 202.	3.4	
827.0	143.5	250.5	0.0 202.	J	
## 941	296.0	0.0	106 7 221 /	10.5	
819.2	290.0	0.0	100.7 221.2	+ 10.5	
## 942	133.1	210.2	0.0 195.7	7 3.1	
949.4	133.1	210.2	0.0 193.	7 3.1	
	212 2	145 0	0 0 170 1	- o o	
## 943	313.3	145.0	0.0 178.	8.0	
867.2	454 6	0.0	111 0 101		
## 944	151.6	0.0	111.9 184.4	7.9	
992.0	452.4	445.0	442 0 470 1		
## 945	153.1	145.0	113.0 178.	8.0	
1001.9	430.0	400	402 2 222		
## 946	139.9	132.6	103.3 200.3	7.4	
916.0					
## 947	149.5	236.0	0.0 175.8	12.6	
846.8					
## 948	299.8	0.0	119.8 211.	9.9	
878.2					
## 949	153.1	145.0	113.0 178.	8.0	

867.2 ## 950	148.1	0.0	136.6 158.1	16.1	
1001.8	140.1	0.0	130.0 130.1	10.1	
## 951 801.1	326.5	0.0	137.9 199.0	10.8	
## 952 999.7	152.7	144.7	0.0 178.1	8.0	
## 953 895.2	261.9	110.5	86.1 195.4	5.0	
## 954 897.7	158.4	0.0	194.9 219.7	11.0	
## 955 1074.5	150.7	0.0	185.3 166.7	15.6	
## 956 931.3	272.6	0.0	89.6 198.7	10.6	
## 957 953.4	149.0	117.6	91.7 182.9	7.1	
## 958 967.4	143.0	169.4	142.7 190.7	8.4	
## 959 935.7	259.9	100.6	78.4 170.6	10.4	
## 960 916.6	312.9	160.5	0.0 177.6	9.6	
## 961 970.4	284.0	119.7	0.0 168.3	7.2	
## 962 985.8	336.5	0.0	0.0 181.9		
## 963 979.5	144.8	0.0	133.6 180.8		
## 964 1069.3	150.0		0.0 173.8		
## 965 814.1	143.7	170.2			
## 966 811.0			0.0 194.9		
## 967 1047.4	154.8	0.0		9.1	
## 968 877.2	154.8	183.4		9.1	
## 969 961.0	134.7	0.0	165.7 180.2		
## 970 909.7	266.2	112.3		10.4	
## 971 869.1	314.0	145.3	113.2 178.9	8.0	
## 972 999.7	312.7	144.7		8.0	
## 973 985.8	145.7	172.6		3.4	
## 974	143.8	136.3	106.2 178.1	7.5	

941.5	440.4		100 1 101 1	45.0
## 975	148.1	0.0	182.1 181.4	15.0
838.9 ## 976	277.0	116 0	91.0 190.6	7.0
946.5	2//.0	110.0	91.0 190.0	7.0
## 977	298.1	0.0	107.5 163.6	12.8
953.2	250.1	0.0	107.5 105.0	12.0
## 978	313.3	145.0	0.0 178.5	8.0
1001.9				
## 979	155.2	183.9	143.2 193.8	9.2
879.6				
## 980	289.0	133.7	0.0 194.9	5.5
924.1				
## 981	147.8	175.1	0.0 171.2	2.2
1000.0				
## 982	145.4	0.0	178.9 201.7	7.8
824.0	242 7	0.0	0.0 178.1	8.0
## 983 999.7	312.7	0.0	0.0 1/8.1	8.0
## 984	136.4	161.6	125.8 171.6	10.4
922.6	130.4	101.0	123.8 171.0	10.4
## 985	154.8	0.0	142.8 193.3	9.1
877.2	23.10	0.0	1.2.0 255.5	5 .1
## 986	255.3	98.8	77.0 188.6	6.5
919.0				
## 987	272.8	105.1	81.8 209.7	9.0
904.0				
## 988	162.0	190.1	148.1 178.8	18.8
838.1				
## 989	153.6	144.2	112.3 220.1	10.1
923.2	446.5		00 0 001 0	
## 990	146.5	114.6	89.3 201.9	8.8
860.0 ## 991	151.8	170 1	138.7 167.5	19 3
944.0	151.8	1/8.1	138./ 10/.3	18.3
## 992	309.9	142.8	111.2 167.8	22.1
913.9	303.3	142.0	111.2 107.0	22.1
## 993	143.6	0.0	174.9 158.4	17.9
942.7				
## 994	303.6	139.9	0.0 213.5	6.2
895.5				
## 995	374.3	0.0	0.0 190.2	6.7
1013.2				
## 996	158.6	148.9	116.0 175.1	15.0
953.3				
## 997	152.6	238.7	0.0 200.0	6.3
1001.8	210.0	142.0	0.0.467.0	10.0
## 998	310.0	142.8	0.0 167.9	10.0
914.3 ## 999	304.8	0.0	99.6 196.0	9.8
## ブブブ	JU4.0	٥.٥	99.0 190.0	9.0

959.4 ## 1000	150 9	0.0	183.9 166.6	11.6
991.2	150.5	0.0	100.0	11.0
## 1001 882.6	141.9	166.6	129.7 173.5	10.9
## 1002 878.4	297.8	137.2	106.9 201.3	6.0
## 1003 870.0	321.3	164.2	0.0 190.5	4.6
## 1004 824.3	366.0	187.0	0.0 191.3	6.6
## 1005 825.1	279.8	128.9	100.4 172.4	9.5
## 1006 835.5	252.1	97.1	75.6 193.8	8.3
## 1007 1023.3	164.6	0.0	150.4 181.6	11.7
## 1008 1022.0	155.6	243.5	0.0 180.3	10.7
## 1009 828.7	160.2	188.0	146.4 203.2	11.3
## 1010 879.0	298.1	0.0	107.0 186.4	6.1
## 1011 860.5	317.9	0.0	126.5 209.7	5.7
## 1012 904.4	287.3	120.5	93.9 187.6	9.2
## 1013 881.6	325.6	166.4	0.0 174.0	8.9
## 1014 801.4	355.9	0.0	141.6 193.3	
	132.0	206.5	160.9 178.9	5.5
## 1016 951.0	322.5	148.6	0.0 185.8	8.5
## 1017 849.3	164.2	0.0	200.1 181.2	12.6
## 1018 925.3	313.8	0.0	112.6 169.9	10.1
## 1019 870.1	321.4	0.0	127.9 182.5	11.5
## 1021 907.9	288.4	121.0	0.0 177.4	7.0
## 1022 879.6	298.2	0.0	107.0 209.7	11.1
## 1023 832.6	264.5	111.0	86.5 195.5	5.9
## 1024 1049.3	159.8	250.0	0.0 168.4	12.2
## 1025	166.0	259.7	0.0 183.2	12.7

858.8					
## 1026	276.4	116.0	90.3 179.6	8.9	
870.1					
## 1027	322.2	0.0	115.6 196.0	10.4	
817.9					
## 1028	148.5	139.4	108.6 192.7	6.1	
892.4					
## 1029	159.1	186.7	0.0 175.6	11.3	
989.6	133.1	100.7	0.0 1/5.0	11.5	
	260.0	100 5	70 2 200 6	9.6	
## 1030	260.9	100.5	78.3 200.6	8.6	
864.5					
##			crete_compressive_	_	
## 2	676.0	28		61.89	
## 9	670.0	28		45.85	
## 12	825.5	28		28.02	
## 15	670.0	28		47.81	
## 22	806.9	28		28.24	
## 23	806.9	3		8.06	
## 47	806.9	3		15.05	
## 55	806.9	7		14.59	
## 56	825.5	7		14.64	
## 58	825.5	3		9.13	
## 63	850.6	3		9.87	
## 69	670.0	28		40.86	
## 71	756.7	3		34.40	
## 73	887.1	3		33.40	
## 74	803.7	3		36.30	
## 76	781.5	3		37.80	
## 78	887.1	3		33.40	
## 79	925.7	3		28.10	
## 81	887.1	3		33.40	
## 82	880.4	3		25.20	
## 83	852.1	3		41.10	
## 84	755.8	3		35.30	
## 85	659.9	3		28.30	
## 87	755.8	3		35.30	
## 88	803.7	3		24.40	
## 89	755.8	3		35.30	
## 90	707.9	3		39.30	
## 91	755.8	3		40.60	
## 92	755.8	3		35.30	
## 93	755.8	3		24.10	
## 94	756.7	7		46.20	
## 96	887.1	7		49.20	
## 97	803.7	7		46.80	
## 99	781.5	7		55.60	
## 101	887.1	7		49.20	
## 102	925.7	7		34.90	
## 104	887.1	7		49.20	
## 105	880.4	7		33.40	

##	106	852.1	7	54.10
##	107	755.8	7	55.90
##	108	659.9	7	49.80
##	110	755.8	7	55.90
##	111	803.7	7	38.00
##	112	755.8	7	55.90
##	113	707.9	7	56.10
##	114	755.8	7	59.09
	115	755.8	7	22.90
##	116	755.8	7	35.10
	117	756.7	28	61.09
	119	887.1	28	60.29
	120	803.7	28	61.80
	122	781.5	28	68.30
	124	887.1	28	60.29
	125	925.7	28	50.70
	127	887.1	28	60.29
	128	880.4	28	55.50
	129	852.1	28	68.50
	130	755.8	28	71.30
	133	755.8	28	71.30
	134	803.7	28	67.70
	135	755.8	28	71.30
	136	707.9	28	66.00
	138	755.8	28	71.30
	139	755.8	28	49.90
	140	756.7	56	63.40
	142	887.1	56	64.30
	143	803.7	56	64.90
	147	887.1	56	64.30
	148	925.7	56	55.20
	150	887.1	56	64.30
	151	880.4	56	66.10
	162	755.8	56	59.89
	185	870.3	3	11.58
	186	870.3	14	24.45
	187	870.3	28	24.89
	188	870.3	56	29.45
	190	852.2	3	10.38
	191	852.2	14	22.14
	192	852.2	28	22.84
	193	852.2	56	27.66
	195	905.9	3	12.45
	196	905.9	14	24.99
	197	905.9	28	25.72
	198	905.9	56	33.96
	200	804.0	3	15.04
	201	804.0	14 28	21.06 26.40
	202 203	804.0 804.0	56	
##	203	004.0	טע	35.34

##	205	779.3	3	12.47
##	206	779.3	14	20.92
	207	779.3	28	24.90
	208	779.3	56	34.20
	210	758.6	3	10.03
	211	758.6	14	20.08
	212	758.6	28	24.48
	213	758.6	56	31.54
	215	802.6	3	9.45
	216	802.6	14	22.72
	217	802.6	28	28.47
	218	802.6	56	38.56
	220	780.1	3	10.76
	221	780.1	14	25.48
	222	780.1	28	21.54
	223	780.1	56	28.63
	230	785.4	3	18.00
	231	785.4	14	30.39
	232	785.4	28	45.71
	233	785.4	56	50.77
	235	785.5	3	13.18
	236	785.5	14	17.84
	237	785.5	28	40.23
	238	785.5	56	47.13
	240	757.6	3	13.36
	241	757.6	14	22.32
##	242	757.6	28	24.54
##	243	757.6	56	31.35
##	245	847.0	3	19.93
##	246	847.0	14	25.69
##	247	847.0	28	30.23
##	248	847.0	56	39.59
##	250	861.2	3	13.82
##	251	861.2	14	24.92
##	252	861.2	28	29.22
##	253	861.2	56	38.33
##	255	903.6	3	13.54
##	256	903.6	14	26.31
##	257	903.6	28	31.64
##	258	903.6	56	42.55
##	260	903.8	3	13.33
	261	903.8	14	25.37
	262	903.8	28	37.40
	263	903.8	56	44.40
	265	799.5	3	19.52
	266	799.5	14	31.35
	267	799.5	28	38.50
	268	799.5	56	45.08
	270	778.5	3	15.44
	271	778.5	14	26.77
11 11	_, _			_0.77

##	272	778.5	28	33.73
##	273	778.5	56	42.70
##	275	757.7	3	17.22
##	276	757.7	14	29.93
##	277	757.7	28	29.65
##	278	757.7	56	36.97
##	280	757.7	3	13.12
##	281	757.7	14	24.43
##	282	757.7	28	32.66
##	283	757.7	56	36.64
##	285	777.8	3	13.62
##	286	777.8	14	21.60
##	287	777.8	28	27.77
##	288	777.8	56	35.57
##	290	780.7	3	7.32
##	291	780.7	14	21.50
##	292	780.7	28	31.27
##	293	780.7	56	43.50
##	295	796.2	3	7.40
##	296	796.2	14	23.51
##	297	796.2	28	31.12
##	298	796.2	56	39.15
##	300	865.0	3	22.50
##	301	865.0	14	34.67
##	302	865.0	28	34.74
##	303	865.0	56	45.08
##	305	875.6	3	23.14
##	306	875.6	14	41.89
##	307	875.6	28	48.28
##	308	875.6	56	51.04
##	310	859.2	3	22.95
##	311	859.2	14	35.23
##	312	859.2	28	39.94
##	313	859.2	56	48.72
##	315	899.8	3	21.02
##	316	899.8	14	33.36
##	317	899.8	28	33.94
##	318	899.8	56	44.14
##	320	889.0	3	15.36
##	321	889.0	14	28.68
##	322	889.0	28	30.85
##	323	889.0	56	42.03
##	325	889.0	3	21.78
##	326	889.0	14	42.29
##	327	889.0	28	50.60
##	328	889.0	56	55.83
##	330	800.9	3	23.52
##	331	800.9	14	42.22
	332	800.9	28	52.50
##	333	800.9	56	60.32

##	335	777.5	3	23.80
##	336	777.5	14	38.77
##	337	777.5	28	51.33
##	338	777.5	56	56.85
##	340	753.5	3	21.91
##	341	753.5	14	36.99
##	342	753.5	28	47.40
##	343	753.5	56	51.96
##	345	776.4	3	17.57
##	346	776.4	14	33.73
##	347	776.4	28	40.15
##	348	776.4	56	46.64
	350	775.5	3	17.37
##	351	775.5	14	33.70
##	352	775.5	28	45.94
##	353	775.5	56	51.43
##	355	782.5	3	30.45
##	356	782.5	14	47.71
	357	782.5	28	63.14
	358	782.5	56	66.82
	360	792.7	3	27.42
##	361	792.7	14	35.96
	362	792.7	28	55.51
	363	792.7	56	61.99
	365	780.6	3	18.02
	366	780.6	14	38.60
	367	780.6	28	52.20
	368	780.6	56	53.96
	370	794.9	3	15.34
	371	794.9	14	26.05
	372	794.9	28	30.22
	373	794.9	56	37.27
	375	762.4	3	16.28
	376	762.4	14	25.62
	377	762.4	28	31.97
	378	762.4	56	36.30
	380	853.0	28	67.57
	381	641.0	28	57.23
	385	802.0	28	41.37
	386	855.0	28	60.28
	387	720.0	28	56.83
	388	805.0	28	51.02
	389	768.0	28	55.55
	393	652.0	28	47.28
	395	695.0	28	52.30
	396	660.0	28	49.25
	397	802.0	28	41.37
	398	880.0	28	29.16
	399	879.0	28	39.40
##	400	760.0	28	39.30

## 401 800.0 28 67.87	
## 402 662.0 28 58.52	
## 403 685.0 28 53.58	
## 404 657.0 28 59.00	
## 406 655.0 28 69.84	
## 407	
## 408	
## 409 746.8 3 20.73	
## 410 746.6 3 14.94	
## 411 856.4 3 21.29	
## 412	
## 413 770.1 3 15.52	
## 414	
## 415	
## 416	
## 417 771.9 3 15.61	
## 418	
## 419	
## 420	
## 421 746.6 14 33.09	
## 422	
## 423 746.6 14 31.81	
## 424 856.4 14 29.75	
## 425 793.5 14 33.01	
## 426 770.1 14 32.90	
## 427 746.6 14 29.55	
## 428	
## 429 857.2 14 24.66	
## 430	
## 431	
## 432	
## 433 900.9 28 26.20	
## 434 746.6 28 46.39	
## 435	
## 436	
## 437 856.4 28 33.69	
## 438	
## 439 770.1 28 41.41	
## 440	
## 441 798.9 28 24.85	
## 442 857.2 28 27.22	
## 443	
## 444 901.8 28 37.27	
## 445	
## 445 754.3 28 33.27 ## 446 900.9 56 36.56	
## 445 754.3 28 33.27 ## 446 900.9 56 36.56 ## 447 746.6 56 53.72	
## 445 754.3 28 33.27 ## 446 900.9 56 36.56 ## 447 746.6 56 53.72 ## 448 746.8 56 48.59	
## 445 754.3 28 33.27 ## 446 900.9 56 36.56 ## 447 746.6 56 53.72 ## 448 746.8 56 48.59 ## 449 746.6 56 51.72	
## 445 754.3 28 33.27 ## 446 900.9 56 36.56 ## 447 746.6 56 53.72 ## 448 746.8 56 48.59	

##	452	770.1	56	53.46
##	453	746.6	56	48.99
##	454	798.9	56	31.72
##	455	857.2	56	39.64
	456	771.9	56	51.26
	457	901.8	56	43.39
	458	754.3	56	39.27
	472	712.0	28	57.03
	473	712.0	28	44.42
	474	712.0	28	51.02
	475	712.0	28	53.39
	476	712.0	3	35.36
	477	712.0	3	25.02
	478	712.0	3	23.35
	479	712.0	7	52.01
	480	712.0	7	38.02
	481	712.0	7	39.30
	482	712.0	56	61.07
	483	712.0	56	56.14
	484	712.0	56	55.25
	485	712.0	56	54.77
	486	845.0	28	50.24
	487	845.0	28	46.68
	488	845.0	28	46.68
	489	845.0	3	22.75
	490	845.0	3	25.51
	491	845.0	3	34.77
	492	845.0	7	36.84
	493	845.0	7	45.90
	494	845.0	7	41.67
	495	845.0	56	56.34
	496	845.0	56	47.97
	497	845.0	56	61.46
	498	871.0	28	44.03
	499	871.0	28	55.45
	500	699.0	28	55.55
	501	699.0	28	57.92
	502	699.0	3	25.61
##	503	699.0	7	33.49
##	504	699.0	56	59.59
	505	699.0	3	29.55
	506	699.0	7	37.92
	507	699.0	56	61.86
	508	750.0	28	62.05
	509	750.0	3	32.01
	511	750.0	7	39.00
	512	750.0	56	65.70
	513	750.0	3	32.11
	514	750.0	7	40.29
	516	801.0	28	21.97

##	517	801.0	3	9.85
##	518	801.0	7	15.07
##	519	801.0	56	23.25
##	520	801.0	28	43.73
##	521	801.0	3	13.40
##	522	801.0	7	24.13
##	523	801.0	56	44.52
##	524	801.0	28	62.94
##	525	801.0	28	59.49
##	526	801.0	3	25.12
##	527	801.0	3	23.64
##	528	801.0	7	35.75
##	529	801.0	7	38.61
##	530	801.0	56	68.75
##	531	801.0	56	66.78
##	532	719.7	28	23.85
##	534	895.3	3	11.65
##	535	785.6	3	19.20
##	537	785.6	28	39.60
##	538	712.2	28	43.94
##	539	712.2	7	34.57
##	541	712.2	3	24.40
##	542	842.6	3	15.62
##	545	895.3	7	14.60
##	547	842.6	28	31.97
##	548	842.6	7	23.40
##	549	895.3	28	25.57
##	551	785.6	7	27.74
##	553	734.3	7	9.62
##	555	734.3	7	15.69
##	556	714.3	28	27.94
##	557	704.3	28	32.63
##	558	724.3	7	17.24
##	559	714.3	7	19.77
##	561	744.3	28	25.75
##	562	734.3	28	33.08
##	563	739.3	7	24.07
##	564	689.3	7	21.82
##	565	734.3	28	21.07
##	566	769.3	7	14.84
	567	724.3	28	32.05
##	568	759.3	7	11.96
	569	734.3	7	25.45
	570	784.3	28	22.49
	571	769.3	28	25.22
	572	674.3	28	39.70
	573	744.3	7	13.09
	574	689.3	28	38.70
	575	759.3	7	7.51
##	576	789.3	28	17.58

##	577	754.3	7	21.18
##	578	759.3	28	18.20
##	579	704.3	7	17.20
##	580	759.3	28	22.63
##	581	704.3	7	21.86
##	582	714.3	7	12.37
	583	724.3	28	25.73
##	584	689.3	28	37.81
##	585	674.3	7	21.92
##	586	704.3	28	33.04
	587	784.3	7	14.54
##	588	734.3	28	26.91
##	589	764.3	7	8.00
##	590	754.3	28	31.90
##	591	789.3	7	10.34
	592	784.3	28	19.77
##	593	739.3	28	37.44
##	594	784.3	7	11.48
	595	689.3	7	24.44
##	596	764.3	28	17.60
##	597	724.3	7	10.73
##	598	714.3	28	31.38
##	599	781.0	3	13.22
##	600	781.0	7	20.97
##	601	781.0	14	27.04
##	602	781.0	28	32.04
##	606	885.0	3	6.47
##	607	885.0	14	12.84
##	608	885.0	28	18.42
##	612	856.0	14	21.26
##	613	856.0	28	25.97
##	614	856.0	3	11.36
##	618	863.0	3	9.31
##	624	812.0	3	12.54
##	625	812.0	28	27.53
##	627	885.0	7	9.99
##	628	845.0	7	7.84
##	629	845.0	28	12.25
##	630	833.0	7	11.17
##	631	833.0	28	17.34
##	632	783.0	7	17.54
##	633	783.0	28	30.57
	634	808.0	7	14.20
	635	808.0	28	24.50
##	636	795.0	7	15.58
##	637	795.0	28	26.85
##	638	758.0	7	26.06
##	639	758.0	28	38.21
	640	745.0	28	43.70
##	641	745.0	7	30.14

##	642	820.0	7	12.73
##	643	820.0	28	20.87
##	644	770.0	7	20.28
##	645	770.0	28	34.29
##	649	748.5	28	29.89
##	650	692.6	3	6.90
	652	800.0	3	4.90
##	655	800.1	28	24.29
##	656	692.6	28	33.95
	657	806.2	3	11.41
##	658	849.0	28	20.59
##	662	748.5	7	10.39
##	663	781.2	28	33.66
##	664	839.2	28	27.87
##	665	694.1	7	19.35
	666	856.8	7	11.39
##	667	716.1	3	12.79
##	668	716.1	28	39.32
##	670	717.8	3	16.11
##	672	749.1	7	20.42
##	673	856.8	3	6.94
##	674	750.0	7	15.03
##	675	749.1	3	13.57
##	677	692.6	7	15.75
##	679	717.8	28	38.80
##	680	750.0	28	33.00
##	682	856.8	28	24.28
##	683	800.0	28	24.05
##	686	839.2	7	13.66
##	689	849.0	3	2.33
##	690	781.2	7	16.89
##	691	717.8	7	23.52
##	692	750.0	3	6.81
##	695	749.1	28	32.88
##	696	891.9	28	22.35
##	697	800.0	7	10.79
##	698	849.0	7	7.72
##	701	839.2	3	6.88
##	703	806.2	7	17.17
##	704	806.2	28	30.44
##	705	694.1	3	9.73
##	706	800.1	3	3.32
##	709	891.9	3	6.28
##	711	694.1	28	36.96
##	713	716.1	7	21.48
##	714	781.2	3	9.69
	717	891.9	7	10.09
	718	748.5	3	4.83
	719	800.1	7	10.35
##	722	830.0	3	11.85

##	723	830.0	7	17.24
##	724	830.0	28	27.83
##	727	821.0	3	14.31
##	728	821.0	7	17.44
	729	821.0	28	31.74
	732	809.0	3	15.87
	733	809.0	7	9.01
	734	809.0	28	33.61
	737	789.0	7	12.05
	737	789.0		
			28 7	17.54
	739	769.0		18.91
	740	769.0	28	25.18
	741	734.0	7	30.96
	742	721.0	28	43.89
	744	734.0	28	36.94
	745	774.0	7	14.50
	746	774.0	28	22.44
	758	775.0	7	18.13
	759	775.0	14	22.53
##	760	775.0	28	27.34
##	761	775.0	56	29.98
##	764	763.0	1	6.27
##	765	763.0	3	14.70
##	766	763.0	7	23.22
##	767	763.0	14	27.92
##	768	763.0	28	31.35
	771	806.0	3	14.99
##	772	825.0	3	13.52
	773	739.0	7	24.00
	774	739.0	28	37.42
	775	784.0	7	11.47
	776	774.0	28	22.44
	777	754.0	7	21.16
	778	754.0	28	31.84
	779	769.0	7	14.80
	780	769.0	28	25.18
	781	789.0	28	17.54
	782	765.0	7	14.20
	782 783	765.0	28	21.65
		825.0		
	785		3	13.52
	786	825.0	7	16.26
	787	825.0	28	31.45
	789	806.0	7	18.13
	790	806.0	28	32.72
	794	817.0	14	18.13
	801	784.0	7	13.71
	802	784.0	28	19.69
	803	754.0	28	31.65
	804	758.0	3	19.11
##	805	758.0	28	39.58

##	807	739.0	7	24.00
##	808	739.0	28	37.42
##	809	784.0	7	11.47
##	810	784.0	28	19.69
##	811	850.0	7	14.99
##	812	850.0	28	27.92
##	822	800.0	14	20.77
##	823	800.0	28	25.18
##	825	817.0	28	21.75
##	826	734.0	28	39.09
##	827	721.0	3	24.39
##	828	896.0	7	50.51
##	830	680.0	28	37.17
##	831	741.0	28	33.76
##	832	658.0	28	16.50
##	833	829.0	28	19.99
##	834	695.0	28	36.35
##	835	651.0	28	33.69
##	836	844.0	28	15.42
##	837	722.0	28	33.42
##	838	730.0	28	39.05
##	839	720.0	28	27.68
##	840	684.0	28	26.86
##	841	804.0	28	45.30
##	842	705.0	28	30.12
##	843	772.0	28	15.57
##	844	785.0	28	44.61
##	845	655.0	28	53.52
##	846	774.0	28	57.21
##	847	757.0	28	65.91
##	848	805.0	28	52.82
##	849	821.0	28	33.40
##	850	729.0	28	18.03
##	851	698.0	28	37.36
##	852	710.0	28	32.84
##	853	815.0	28	42.64
##	854	737.0	28	40.06
##	855	696.0	28	41.94
##	856	790.0	28	61.23
##	857	778.0	28	40.87
##	858	736.0	28	33.30
##	859	709.0	28	52.42
##	860	846.0	28	15.09
##	861	783.0	28	38.46
##	862	780.0	28	37.26
##	864	829.0	28	42.13
##	865	744.0	28	31.87
##	866	790.0	28	41.54
##	867	688.0	28	39.45
##	868	827.0	28	37.91

##	869	768.0	28	44.28
##	870	813.0	28	31.18
##	871	780.0	28	23.69
##	872	789.0	28	32.76
	873	761.0	28	32.40
	875	689.0	28	36.80
	876	697.0	28	18.28
	877	872.0	28	33.06
	878	778.0	28	31.42
	879	795.0	28	31.03
	880	824.0	28	44.39
	881	816.0	28	12.18
	882	689.0	28	25.56
	883	753.0	28	36.44
	884	893.0	28	32.96
	885	728.0	28	23.84
	886	824.0	28	26.23
	887	830.0	28	17.95
	888	792.0	28	40.68
	889	822.0	28	19.01
	890	733.0	28	33.72
	891	713.0	28	8.54
	892	678.0	28	13.46
	893	762.0	28	32.24
	894	780.0	28	23.52
	895	643.0	28	29.72
	896	763.0	28	49.77
	897	759.0	28	52.44
	898	794.0	28	40.93
	899	817.0	28	44.86
	900	812.0	28	13.20
	901	675.0	28	37.43
	902	805.0	28	29.87
	903	802.0	28	56.61
	904	697.0	28	12.46
	905	868.0	28	23.79
	906	805.0	28	13.29
	907	745.0	28	39.42
	908	690.0	28	46.23
	909	822.0	28	44.52
	910	817.0	28	23.74
	911	774.0	28	26.14
	912	884.0	28	15.52
	913	666.0	28	43.57
	914	784.0	28	35.86
	915	689.0	28	41.05
	916	699.0	28	28.99
	917	760.0	28	46.24
	918	828.0	28	26.92
	919	869.0	28	10.54

##	920	822.0	28	25.10
##	921	764.0	28	29.07
	922	868.0	28	9.74
	923	749.0	28	33.80
	924	638.0	28	39.84
	925	783.0	28	26.97
	926	641.0	28	27.23
	927	680.0	28	30.65
	928	704.0	28	33.05
	930	643.0	28	21.91
	931	669.0	28	30.88
	932	709.0	28	15.34
	934	636.0	28	23.89
	938	688.7	28	36.80
	939	696.7	28	18.29
	940	871.8	28	32.72
	941	778.4	28	31.42
	942	795.3	28	28.94
	943	824.0	28	40.93
	944	815.9	28	12.18
	945	688.7	28	25.56
	946	753.4	28	36.44
	947	892.7	28	32.96
	948	727.6	28	23.84
	949	824.0	28	26.23
	950	830.1	28	17.96
	951	792.5	28	38.63
	952	822.2	28	19.01
	953	732.6	28	33.72
	954	712.9	28	8.54
	955	678.0	28	13.46
	956	762.2	28	32.25
	957	780.3	28	23.52
	958	643.5	28	29.73
	959	762.9	28	49.77
	960	759.5	28	52.45
	961	794.2	28	40.93
	962	816.8	28	44.87
	963	811.5	28	13.20
	964	674.8	28	37.43
	965	805.3	28	29.87
	966	802.3	28	56.62
	967	696.7	28	12.46
	968	867.7	28	23.79
	969	804.9	28	13.29
	970	744.5	28	39.42
	970 971	690.2	28	46.23
	971	822.2	28	44.52
	973	816.8	28	23.74
	974	774.3	28	26.15
##	3/4	//4.3	20	20.13

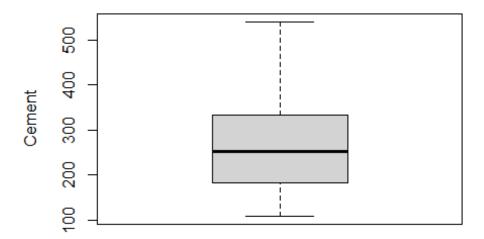
##	975	884.3	28	15.53
##	976	665.6	28	43.58
##	977	784.0	28	35.87
##	978	688.7	28	41.05
##	979	698.5	28	28.99
##	980	760.1	28	46.25
##	981	828.5	28	26.92
##	982	868.7	28	10.54
	983	822.2	28	25.10
##	984	764.4	28	29.07
##	985	867.7	28	9.74
	986	749.3	28	33.80
	987	679.7	28	37.17
	988	741.4	28	33.76
	989	657.9	28	16.50
	990	829.5	28	19.99
	991	694.6	28	36.35
	992	651.2	28	38.22
	993	844.5	28	15.42
	994	722.5	28	33.42
	995	730.4	28	39.06
	996	719.7	28	27.68
	997	683.9	28	26.86
	998	804.0	28	45.30
	999	705.2	28	30.12
	1000	772.2	28	15.57
	1001	785.3	28	44.61
	1002	655.3	28	53.52
	1003	774.0	28	57.22
	1004	756.9	28	65.91
	1005	804.9	28	52.83
	1006	821.4	28	33.40
	1007	728.9	28	18.03
	1008	697.7	28	37.36
	1009	709.7	28	35.31
	1010	815.2	28	42.64
	1011	736.6	28	40.06
	1012	695.9	28	43.80
	1013	790.0	28	61.24 40.87
	1014 1015	778.4	28 28	
	1016	735.6 709.5	28	33.31 52.43
	1017		28	
	1018	846.0 782.9	28	15.09 38.46
	1019	779.7	28	37.27
	1021	829.5	28	42.14
	1021	744.2	28	31.88
	1023	790.4	28	41.54
	1024	688.2	28	39.46
	1025	826.8	28	37.92
11 11		020.0		5, 1,52

```
768.3
                             28
## 1026
                                                          44.28
                             28
## 1027
                 813.4
                                                          31.18
## 1028
                 780.0
                             28
                                                          23.70
                 788.9
                             28
                                                          32.77
## 1029
## 1030
                 761.5
                             28
                                                          32.40
nrow(cleaned_data)
## [1] 743
```

#######Boxplots after removing Outliers

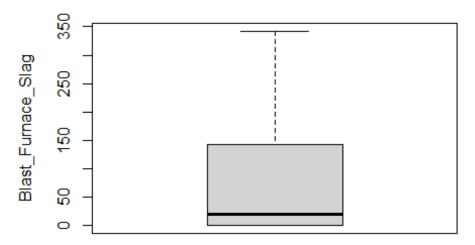
```
#Cement
##Boxplot
boxplot(cleaned_data$Cement,ylab="Cement",main="Boxplot of Cement")
```

Boxplot of Cement



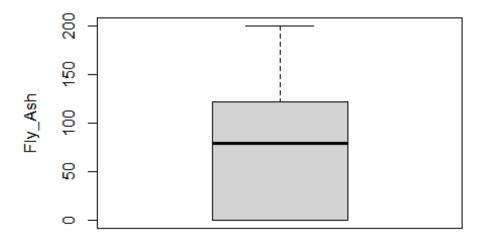
```
#Blast_Furnace_Slag
##Boxplot
boxplot(cleaned_data$Blast_Furnace_Slag,ylab="Blast_Furnace_Slag",main="Boxpl
ot of Blast_Furnace_Slag")
```

Boxplot of Blast_Furnace_Slag



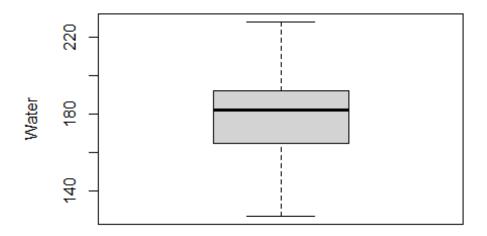
##Fly_Ash
##Boxplot
boxplot(cleaned_data\$Fly_Ash,ylab="Fly_Ash",main="Boxplot of Fly_Ash")

Boxplot of Fly_Ash



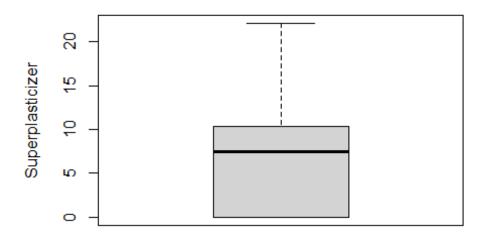
```
#Water
##Boxplot
boxplot(cleaned_data$Water,ylab="Water",main="Boxplot of Water")
```

Boxplot of Water



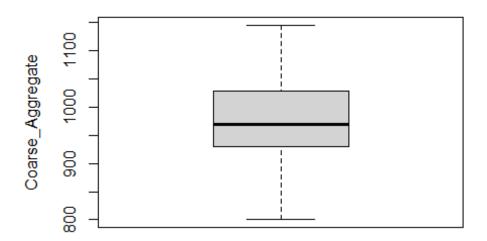
#Superplasticizer
##Boxplot
boxplot(cleaned_data\$Superplasticizer,ylab="Superplasticizer",main="Boxplot
of Superplasticizer")

Boxplot of Superplasticizer



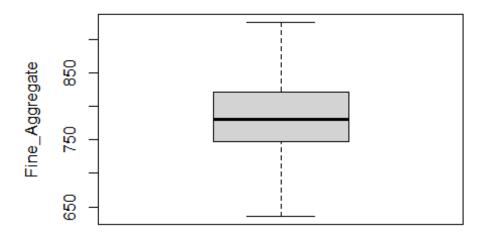
```
##Coarse_Aggregate
##Boxplot
boxplot(cleaned_data$Coarse_Aggregate,ylab="Coarse_Aggregate",main="Boxplot
of Coarse_Aggregate")
```

Boxplot of Coarse_Aggregate



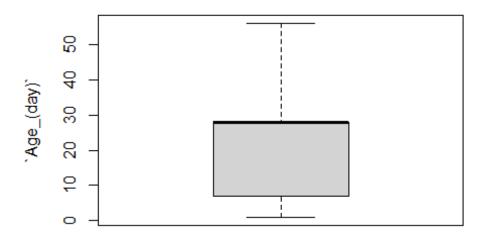
##Fine_Aggregate
##Boxplot
boxplot(cleaned_data\$Fine_Aggregate,ylab="Fine_Aggregate",main="Boxplot of
Fine_Aggregate")

Boxplot of Fine_Aggregate



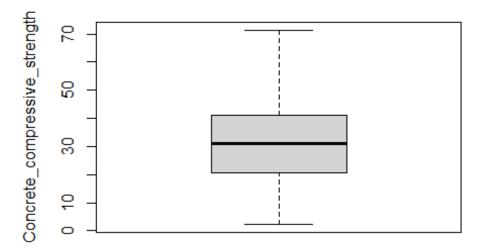
```
#Age_(day)
##BoxpLot
boxplot(cleaned_data$Age_day,ylab="`Age_(day)`",main="Boxplot of
`Age_(day)`")
```

Boxplot of 'Age_(day)'



#Concrete_compressive_strength
##Boxplot
boxplot(cleaned_data\$Concrete_compressive_strength,ylab="Concrete_compressive
_strength",main="Boxplot of Concrete_compressive_strength")

Boxplot of Concrete_compressive_strength



All the boxplots seems like no including outliers. Now we can consider the cleaned dataset.(After removing outliers)

###This is our cleaned dataset											
head(cleaned_data)											
## Cement Blast_Furnace_Slag Fly_Ash Water Superplasticizer											
Coarse_Aggregate											
	540.0		0.0	0	162	2	2.5				
1055.0											
## 9	266.0		114.0	0	228	6	0.0				
932.0	100 6		122 4	0	100		2.0				
## 12 978.4	198.6		132.4	0	192	(0.0				
	304.0		76.0	0	228	a	0.0				
932.0	304.0		70.0	O	220	•	J. 0				
## 22	139.6		209.4	0	192	6	0.0				
1047.0											
## 23	139.6		209.4	0	192	6	0.0				
1047.0											
## Fine_Aggregate Age_day Concrete_compressive_strength											
## 2		676.0	28			61.89					
## 9		670.0	28			45.85					
## 12		825.5	28			28.02					
## 15		670.0	28			47.81					

```
## 22  806.9  28  28.24
## 23  806.9  3  8.06

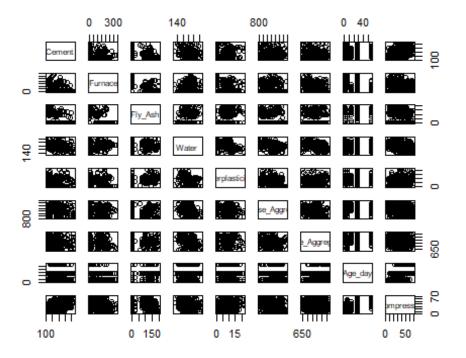
nrow(cleaned_data)
## [1] 743
```

Now cleaned datset has 743 data.

```
#####Install packages######
library(dplyr)
## Warning: package 'dplyr' was built under R version 4.3.3
##
## 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
library(tidyr)
## Warning: package 'tidyr' was built under R version 4.3.3
library(MASS)
##
## Attaching package: 'MASS'
## The following object is masked from 'package:dplyr':
##
##
       select
library(Metrics)
## Warning: package 'Metrics' was built under R version 4.3.3
#install.packages("ISLR")
library(ISLR)
## Warning: package 'ISLR' was built under R version 4.3.3
library(leaps)
## Warning: package 'leaps' was built under R version 4.3.3
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.3.3
#install.packages("quantmod")
library(quantmod)
## Warning: package 'quantmod' was built under R version 4.3.3
## Loading required package: xts
## Warning: package 'xts' was built under R version 4.3.3
## Loading required package: zoo
## Warning: package 'zoo' was built under R version 4.3.3
##
## Attaching package: 'zoo'
## The following objects are masked from 'package:base':
##
##
      as.Date, as.Date.numeric
## ################### Warning from 'xts' package
#####################################
## #
#
## # The dplyr lag() function breaks how base R's lag() function is supposed
## # work, which breaks lag(my_xts). Calls to lag(my_xts) that you type or
## # source() into this session won't work correctly.
#
## #
## # Use stats::lag() to make sure you're not using dplyr::lag(), or you can
add #
## # conflictRules('dplyr', exclude = 'lag') to your .Rprofile to stop
## # dplyr from breaking base R's lag() function.
#
## #
## # Code in packages is not affected. It's protected by R's namespace
mechanism #
## # Set `options(xts.warn_dplyr_breaks_lag = FALSE)` to suppress this
warning. #
## #
#
##
```

```
##
## Attaching package: 'xts'
## The following objects are masked from 'package:dplyr':
##
##
       first, last
## Loading required package: TTR
## Warning: package 'TTR' was built under R version 4.3.3
## Registered S3 method overwritten by 'quantmod':
     method
##
     as.zoo.data.frame zoo
##
#install.packages("corrplot")
library(corrplot)
## Warning: package 'corrplot' was built under R version 4.3.3
## corrplot 0.94 loaded
#install.packages("caTools")
library(caTools)
## Warning: package 'caTools' was built under R version 4.3.3
#install.packages("car")
library(car)
## Warning: package 'car' was built under R version 4.3.3
## Loading required package: carData
## Warning: package 'carData' was built under R version 4.3.2
##
## Attaching package: 'car'
## The following object is masked from 'package:dplyr':
##
##
       recode
###Scatter plots
pairs(cleaned_data)
```



###Correlations

Blast_Furnace_Slag

Fly Ash

cor(cleaned_data) ## Cement Blast_Furnace_Slag Fly_Ash ## Cement 1.00000000 -0.27971623 -0.341415172 ## Blast_Furnace_Slag -0.27971623 1.00000000 -0.352544258 ## Fly Ash -0.34141517 -0.35254426 1.000000000 ## Water -0.14702287 0.11739039 -0.217805378 0.02875183 ## Superplasticizer 0.06113094 0.463677653 ## Coarse_Aggregate -0.28929599 -0.060590839 -0.22552072 ## Fine_Aggregate -0.08050495 -0.32084239 -0.010749873 -0.07425523 -0.04530860 ## Age day 0.220933560 ## Concrete_compressive_strength 0.47695750 0.13352622 -0.003269246 ## Water Superplasticizer Coarse_Aggregate -0.1470229 ## Cement 0.06113094 -0.22552072 ## Blast_Furnace_Slag 0.1173904 0.02875183 -0.28929599 ## Fly_Ash 0.46367765 -0.06059084 -0.2178054 1.0000000 ## Water -0.59876227 -0.21052294 ## Superplasticizer -0.5987623 1.00000000 -0.28823582 -0.28823582 1.00000000 ## Coarse_Aggregate -0.2105229 ## Fine_Aggregate 0.08901256 -0.09515077 -0.3205256 ## Age_day -0.0664858 0.20628051 -0.05946750 ## Concrete_compressive_strength -0.3907891 0.44095203 -0.28596944 ## Fine_Aggregate Age_day ## Cement -0.08050495 -0.07425523

-0.32084239 -0.04530860

-0.01074987 0.22093356

```
## Water
                                    -0.32052562 -0.06648580
## Superplasticizer
                                     0.08901256 0.20628051
## Coarse_Aggregate
                                    -0.09515077 -0.05946750
## Fine_Aggregate
                                     1.00000000 -0.02005979
## Age_day
                                    -0.02005979 1.00000000
## Concrete_compressive_strength
                                    -0.11498959 0.55002463
##
                                 Concrete compressive strength
## Cement
                                                   0.476957501
## Blast_Furnace_Slag
                                                   0.133526216
## Fly Ash
                                                  -0.003269246
## Water
                                                  -0.390789073
## Superplasticizer
                                                   0.440952027
## Coarse Aggregate
                                                  -0.285969442
## Fine_Aggregate
                                                  -0.114989585
## Age_day
                                                   0.550024634
## Concrete_compressive_strength
                                                   1.000000000
###All predictors
lm 0<-lm(Concrete compressive strength~.,data = cleaned data)</pre>
summary(lm_0)
##
## Call:
## lm(formula = Concrete_compressive_strength ~ ., data = cleaned_data)
##
## Residuals:
       Min
                 10
                      Median
                                    3Q
                                            Max
## -20.3813 -4.1641 -0.2573
                                3.5924
                                       22.8379
##
## Coefficients:
##
                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)
                      9.190936 21.489112
                                             0.428
                                                      0.669
                                0.006802 15.667 < 2e-16 ***
## Cement
                      0.106565
## Blast Furnace Slag 0.081090
                                 0.008091 10.022 < 2e-16 ***
                                 0.009799 4.743 2.53e-06 ***
## Fly Ash
                      0.046481
## Water
                     -0.195457
                                  0.033283 -5.873 6.50e-09 ***
## Superplasticizer
                      0.133636
                                 0.083426 1.602
                                                      0.110
                                            0.332
## Coarse_Aggregate
                      0.002577
                                 0.007773
                                                      0.740
## Fine_Aggregate
                      0.005990
                                 0.008563
                                            0.700
                                                      0.484
## Age day
                      0.548990
                                 0.017257 31.813 < 2e-16 ***
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 6.877 on 734 degrees of freedom
## Multiple R-squared: 0.7927, Adjusted R-squared: 0.7904
## F-statistic: 350.8 on 8 and 734 DF, p-value: < 2.2e-16
```

##Interpretation *The model is highly significant with a p-value < 2.2e16, indicating that the predictors jointly have a significant effect on the concrete compressive strength.

The model explains about 79.04% of the variability in concrete compressive strength (Rsquared = 0.7904). The significant predictors include cement, blast furnace slag, fly ash, water and age of the concrete superplasticizer, Coarse and fine aggregates were not significant predictors in this model. The model's overall F-test indicates it is a good fit for the data.

```
###Anova test
anova(lm_0)
## Analysis of Variance Table
##
## Response: Concrete compressive strength
##
                     Df Sum Sq Mean Sq
                                      F value
                                                 Pr(>F)
## Cement
                     1 38081
                               38081 805.3194 < 2.2e-16 ***
## Blast Furnace Slag 1 12941 12941 273.6626 < 2.2e-16
                               21051 445.1727 < 2.2e-16
## Fly Ash
                     1 21051
                              11025 233.1594 < 2.2e-16 ***
## Water
                     1 11025
## Superplasticizer 1 1699
                                1699 35.9398 3.191e-09 ***
                    1
## Coarse_Aggregate
                           2
                                  2
                                        0.0448
                                                 0.8324
## Fine Aggregate
                    1
                           31
                                  31
                                        0.6569
                                                 0.4179
                     1 47859
                                47859 1012.0896 < 2.2e-16 ***
## Age day
## Residuals
                    734 34709
                                  47
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
```

##Interpretation *.Cement, Blast Furnace Slag, Fly Ash, Water, Superplasticizers, and Age are all statistically significant contributors to compressive strength, with Age and Cement having the most substantial effects.

*.Coarse and Fine Aggregates do not have a statistically significant impact on compressive strength, as indicated by their low F values and high p-values.

This ANOVA analysis shows that the mix components related to binders (Cement, Fly Ash, Blast Furnace Slag) and curing time (Age) play key roles in determining compressive strength, while aggregates do not significantly affect the outcome in this dataset.

```
########Model Selection#########

######Forward stepwise Selection#######

fit_frwd<-regsubsets(Concrete_compressive_strength~ .,data =
    cleaned_data,nvmax = 8,method = "forward")

frwd_summary<-summary(fit_frwd)

frwd_summary

## Subset selection object

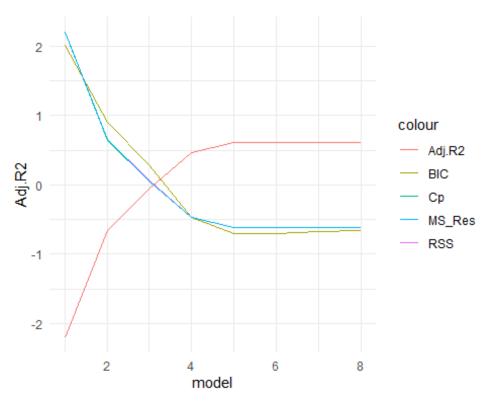
## Call: regsubsets.formula(Concrete_compressive_strength ~ ., data =
    cleaned_data,

## nvmax = 8, method = "forward")

## 8 Variables (and intercept)</pre>
```

```
##
                       Forced in Forced out
                           FALSE
## Cement
                                       FALSE
## Blast_Furnace_Slag
                           FALSE
                                       FALSE
                           FALSE
## Fly Ash
                                       FALSE
## Water
                           FALSE
                                       FALSE
## Superplasticizer
                           FALSE
                                       FALSE
## Coarse_Aggregate
                                       FALSE
                           FALSE
## Fine_Aggregate
                           FALSE
                                       FALSE
## Age_day
                           FALSE
                                       FALSE
## 1 subsets of each size up to 8
## Selection Algorithm: forward
##
            Cement Blast_Furnace_Slag Fly_Ash Water Superplasticizer
## 1 (1)""
## 2 ( 1 ) "*"
                                        .. ..
            "*"
## 3 (1)
## 4 ( 1 ) "*"
## 5 ( 1 ) "*"
            "*"
                    "*"
                                        "*"
                                                "*"
                                                      "*"
## 6 (1)
                   "*"
                                       "*"
                                                "*"
                                                      "*"
            "*"
## 7 (1)
                                                "*"
                                       11 * 11
                                                      "*"
            "*"
## 8 (1)
##
            Coarse_Aggregate Fine_Aggregate Age_day
                              11 11
## 1 ( 1 ) " "
## 2 (1)""
                                              "*"
## 3 (1)
            " "
                              .. ..
## 4 ( 1 )
            ......
                                              "*"
## 5 (1)
                              .. ..
## 6 (1)
            " "
                                              "*"
            " "
                              "*"
                                              "*"
## 7 (1)
                              "*"
## 8 (1)
                                              "*"
########Find Adj R^2,Cp,BIC,RSS values
criterion<-data.frame(model=1:8,</pre>
                       Adj.R2=(frwd summary$adjr2),
                       Cp=(frwd summary$cp),
                       BIC=(frwd summary$bic),
                       RSS=(frwd_summary$rss))
##Add MS_Res
n<-nrow(cleaned_data)</pre>
criterion$MS_Res<-criterion$RSS/(n-criterion$model-1)</pre>
##Standardize
criterion std<-cbind(model=criterion$model,scale(criterion[,-1]))</pre>
criterion_std<-as.data.frame(criterion_std)</pre>
###Values
criterion std
```

```
##
     model
                Adi.R2
                                          BIC
                                                      RSS
                                                                MS Res
                                Cp
## 1
         1 -2.20245417 2.20479801
                                   2.0077826
                                              2.20174188
                                                           2.20245417
                                               0.65206390
## 2
         2 -0.65123557
                        0.64818529
                                    0.8975572
                                                           0.65123557
## 3
         3 -0.06506217
                        0.06151346 0.2882098
                                               0.06598221
                                                           0.06506217
           0.46704407 -0.46953799 -0.4622504 -0.46484293 -0.46704407
## 4
           0.61116284 -0.61193242 -0.7056092 -0.60955334 -0.61116284
## 5
## 6
         6 0.61452834 -0.61365379 -0.6946173 -0.61451087 -0.61452834
           0.61373915 -0.61123086 -0.6756582 -0.61535120 -0.61373915
## 7
## 8
           0.61227751 -0.60814169 -0.6554146 -0.61552965 -0.61227751
###Graphically
ggplot(criterion std, aes(model))+
  geom_line(aes(y=Adj.R2,colour="Adj.R2"))+
  geom_line(aes(y=Cp,colour="Cp"))+
  geom_line(aes(y=BIC,colour="BIC"))+
  geom line(aes(y=RSS,colour="RSS"))+
  geom line(aes(y=MS Res,colour="MS Res"))+
  theme minimal()
```

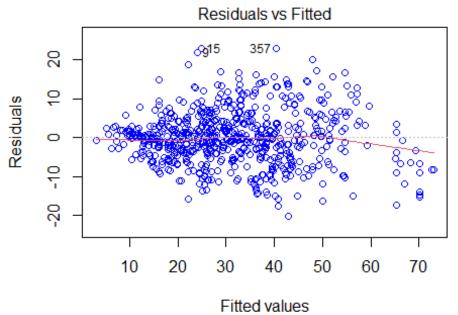


###Interpretation

• There are two methods to find the better model 1) Formal model: Using the values of above criteria, the better model should have maximum value for adjusted R^2 and minimum values for Cp, BIC, RSS and MS_Res. Therefore according to the above values 5th model is the better model. 2) Graphical method According to the plot, 5th model has maximum value for adjusted R^2 and minimum values for Cp, BIC, RSS and MS_Res. Therefore 5th model seems a better model.

```
##coefficients
coef(fit frwd,5)
                                 Cement Blast_Furnace_Slag
##
          (Intercept)
Fly_Ash
##
                             0.10563515
                                                0.08023026
         23.08477042
0.04831116
##
               Water
                                Age_day
##
         -0.22719997
                             0.55235730
model 1<-
lm(Concrete compressive strength~Cement+Blast Furnace Slag+Fly Ash+Water+Age
day,data = cleaned_data)
summary(model 1)
##
## Call:
## lm(formula = Concrete compressive strength ~ Cement + Blast Furnace Slag +
      Fly_Ash + Water + Age_day, data = cleaned_data)
##
##
## Residuals:
##
       Min
                 1Q
                      Median
                                   3Q
                                           Max
## -20.0528 -4.1168 -0.1946
                               3.7212 22.8502
##
## Coefficients:
                      Estimate Std. Error t value Pr(>|t|)
##
                     23.084770 3.340424 6.911 1.04e-11 ***
## (Intercept)
                                 0.003238 32.629 < 2e-16 ***
## Cement
                      0.105635
## Blast_Furnace_Slag 0.080230 0.003596 22.309 < 2e-16 ***
## Fly Ash
                      0.048311 0.005120 9.436 < 2e-16 ***
                     -0.227200 0.015429 -14.726 < 2e-16 ***
## Water
## Age_day
                      0.552357
                                 0.017094 32.312 < 2e-16 ***
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 6.88 on 737 degrees of freedom
## Multiple R-squared: 0.7916, Adjusted R-squared: 0.7902
## F-statistic: 560 on 5 and 737 DF, p-value: < 2.2e-16
##Interpretation ############With Leverage points
```

```
##With Leverage points
##Check for Homoscedasticity using residuals vs fitted values plot.
plot(model_1,which = 1,col=c("blue"))
```

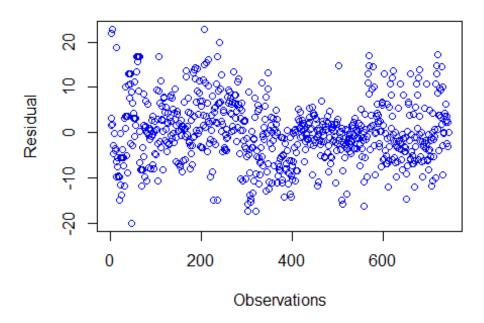


oncrete_compressive_strength ~ Cement + Blast_Furnace_Slag + Fly

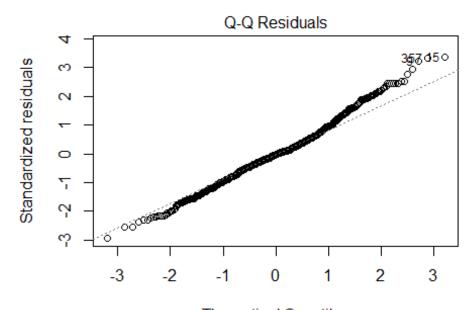
```
##With Leverage points
##Check for Independent or dependent using residuals vs Observation value
plot.

res <- data.frame(res = resid(model_1))
avp <- cbind(cleaned_data, res)
plot(1:nrow(avp), avp$res,
    main = "Residuals vs. Observation",
    xlab = "Observations",
    ylab = "Residual",
    col = "blue")</pre>
```

Residuals vs. Observation

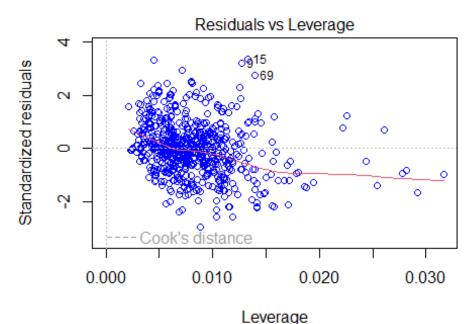


##With Leverage points
###Check the normality of residuals.(using QQ plot)
plot(model_1,which = 2,col=c("black"))



Theoretical Quantiles oncrete_compressive_strength ~ Cement + Blast_Furnace_Slag + Fly

```
##With Leverage points
###Check the residual vs Leverage.
plot(model_1,which = 5,col=c("blue"))
```



oncrete_compressive_strength ~ Cement + Blast_Furnace_Slag + Fly

############Without Leverage points

```
##Check the Leverage points

leverage<-hatvalues(model_1)
high_leverage<-which(leverage>2*(6+1)/nrow(cleaned_data))
high_leverage

## 378 500 501 502 503 504 505 506 507 924
## 224 324 325 326 327 328 329 330 331 643

cleaned_dataset <- cleaned_data[-high_leverage, ]

nrow(cleaned_dataset)

## [1] 733</pre>
```

##Removing Leverage points

```
better_model<-
lm(Concrete_compressive_strength~Cement+Blast_Furnace_Slag+Fly_Ash+Water+Age_</pre>
```

```
day,data = cleaned dataset)
summary(better model)
##
## Call:
## lm(formula = Concrete compressive strength ~ Cement + Blast Furnace Slag +
##
      Fly_Ash + Water + Age_day, data = cleaned_dataset)
##
## Residuals:
       Min
                 10
                      Median
                                   3Q
##
                                          Max
                               3.7504 22.9424
## -20.1263 -4.0706 -0.2408
##
## Coefficients:
##
                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)
                     20.769914
                                3.615727 5.744 1.36e-08 ***
                                0.003508 30.813 < 2e-16 ***
## Cement
                      0.108082
## Blast_Furnace_Slag 0.080753
                                0.003657 22.082 < 2e-16 ***
## Fly Ash
                                0.005417
                                          9.340 < 2e-16 ***
                      0.050592
## Water
                                0.016234 -13.473 < 2e-16 ***
                     -0.218714
## Age_day
                      0.552769
                                0.017342 31.875 < 2e-16 ***
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
## Residual standard error: 6.87 on 727 degrees of freedom
## Multiple R-squared: 0.7912, Adjusted R-squared: 0.7897
## F-statistic: 550.8 on 5 and 727 DF, p-value: < 2.2e-16
```

###Interpretation

###Interpretation Now all are the significant. *Residual Standard Error (RSE) This indicates that the average distance of the observed values from the predicted values is about 6.87 units of Concrete Compressive Strength. A lower RSE suggests a better fit of the model to the data.* R-Squared Approximately 79.12% of the variability in Concrete Compressive Strength can be explained by the model that includes cement, Blast furnace slag, fly ash, water,age day. *Adjusted R-Squared An adjusted R-Squared of 78.97% indicates that the model still explains a substantial amount of variance in Concrete Compressive Strength consider the number of predictors.

H0: The regression model is not significant. H1: The regression model is significant.

p-value: < 2.2e-16<0.05 We have sufficient evidence to reject the null hypothesis. Concluding that at least one of the predictors in the model significantly contributes to explaining the variability the variability in Concrete Compressive Strength.

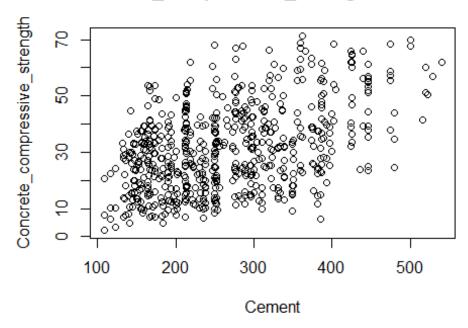
```
###Model diagnostics

##Without Leverage points
##Check the linearity using scatter plots.

#Concrete_compressive_strength vs Cement
```

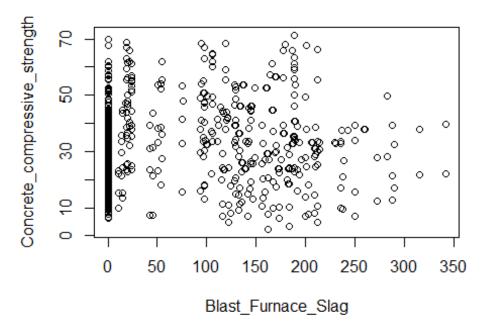
```
plot(Concrete_compressive_strength~Cement,data =
cleaned_dataset,main="Concrete_compressive_strength vs Cement")
```

Concrete_compressive_strength vs Cement



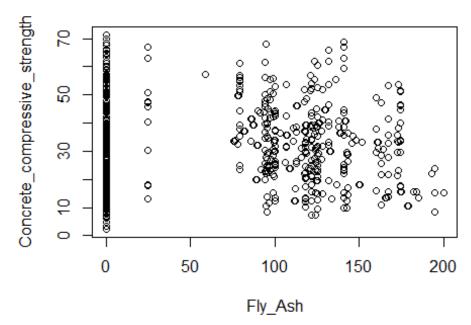
#Concrete_compressive_strength vs Blast_Furnace_Slag
plot(Concrete_compressive_strength~Blast_Furnace_Slag,data
=cleaned_dataset,main="Concrete_compressive_strength vs Blast_Furnace_Slag")

Concrete_compressive_strength vs Blast_Furnace_



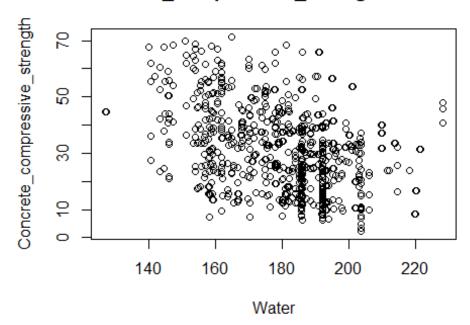
#Concrete_compressive_strength vs Fly_Ash
plot(Concrete_compressive_strength~Fly_Ash,data =
cleaned_dataset,main="Concrete_compressive_strength vs Fly_Ash")

Concrete_compressive_strength vs Fly_Ash



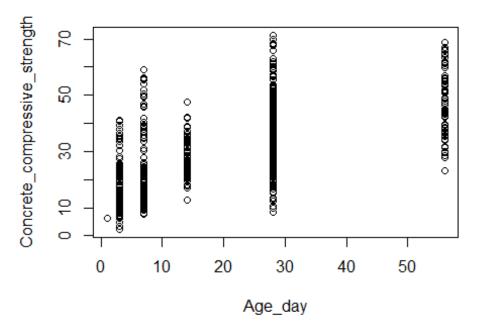
```
#Concrete_compressive_strength vs Water
plot(Concrete_compressive_strength~Water,data =
cleaned_dataset,main="Concrete_compressive_strength vs Water")
```

Concrete_compressive_strength vs Water

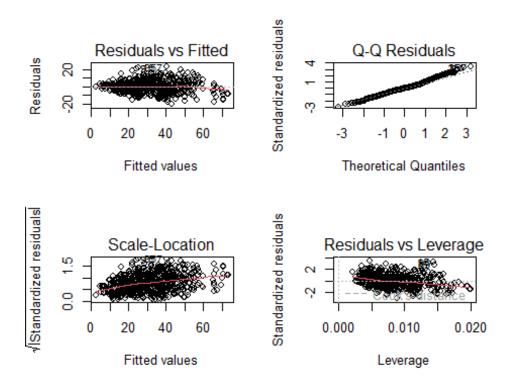


```
#Concrete_compressive_strength vs Age_day
plot(Concrete_compressive_strength~Age_day,data =
cleaned_dataset,main="Concrete_compressive_strength vs Age_day")
```

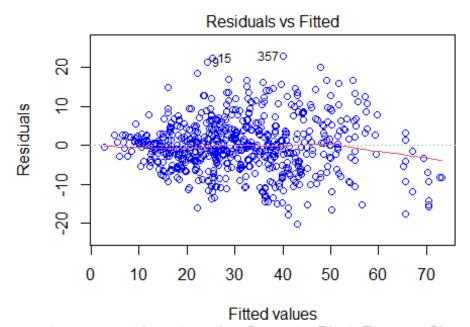
Concrete_compressive_strength vs Age_day



par(mfrow=c(2,2))
plot(better_model)



```
##Without Leverage points
##Check for Homoscedasticity using residuals vs fitted values plot.
plot(better_model,which = 1,col=c("blue"))
```

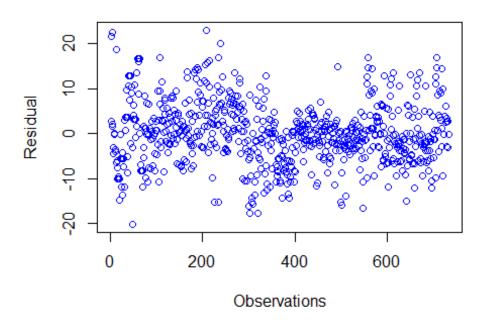


oncrete_compressive_strength ~ Cement + Blast_Furnace_Slag + Fly ###Interpretation The residuals appear to be scattered randomly around 0, which suggests that the relationship is likely linear. However, there seems to be some minor clustering, indicating potential non-constant variance (heteroscedasticity), though it's not severe. It seems that the fitted values are contain the constant variance. Then the homoscedasticity property hold.

```
##Without Leverage points
##Check for Independent or dependent using residuals vs Observation value
plot.

res <- data.frame(res = resid(better_model))
avp <- cbind(cleaned_dataset, res)
plot(1:nrow(avp), avp$res,
    main = "Residuals vs. Observation",
    xlab = "Observations",
    ylab = "Residual",
    col = "blue")</pre>
```

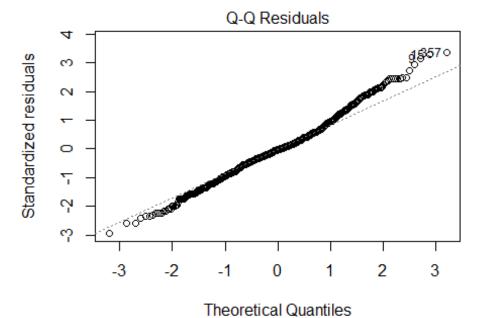
Residuals vs. Observation



It seems that the

errors are uncorrelated.

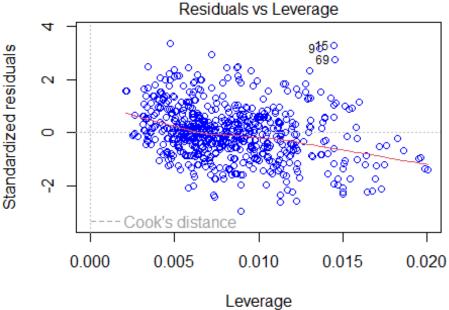
```
##Without Leverage points
###Check the normality of residuals.(using QQ plot)
plot(better_model,which = 2,col=c("black"))
```



oncrete_compressive_strength ~ Cement + Blast_Furnace_Slag + Fly The maximum points fall approximately along the reference line. Therefore the residuals are normally distributed

##Interpretation

```
##Without Leverage points
###Check the residual vs Leverage.
plot(better_model,which = 5,col=c("blue"))
```



oncrete_compressive_strength ~ Cement + Blast_Furnace_Slag + Fly

##Interpretation Most points are clustered near the bottom, indicating that no data points exert an undue amount of leverage on the model. However, some points like 915 and 835 might be influential as they are close to the Cook's distance line.

```
##########Multicollinearity###########
vif_values<-vif(better_model)</pre>
vif_values
##
                Cement Blast_Furnace_Slag
                                                       Fly_Ash
Water
              1.680260
                                  1.492459
                                                      1.877983
##
1.199101
##
               Age_day
              1.057169
##
```