Sample

2023-09-04

Source file is from kaggle(https://www.kaggle.com/datasets /jsphyg/tipping (https://www.kaggle.com /datasets/jsphyg/tipping))

```
Test<-read.csv("tips.csv")
head(Test)
```

```
##   total_bill  tip    sex smoker day   time size
## 1      16.99 1.01 Female     No Sun Dinner    2
## 2      10.34 1.66   Male     No Sun Dinner    3
## 3      21.01 3.50   Male     No Sun Dinner    3
## 4      23.68 3.31   Male     No Sun Dinner    2
## 5      24.59 3.61 Female     No Sun Dinner    4
## 6      25.29 4.71   Male     No Sun Dinner    4
```

```
summary(Test$tip)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   1.000   2.000   2.900   2.998   3.562  10.000
```

```
table(Test$sex)
```

```
##
## Female   Male
##     87    157
```

```
library(dplyr)
```

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

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

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

```
Test_filter <- filter(Test,tip>1.00)
print(Test_filter)
```

```
##      total_bill  tip    sex smoker  day   time size
## 1         16.99 1.01 Female     No  Sun Dinner    2
## 2         10.34 1.66   Male     No  Sun Dinner    3
## 3         21.01 3.50   Male     No  Sun Dinner    3
## 4         23.68 3.31   Male     No  Sun Dinner    2
## 5         24.59 3.61 Female     No  Sun Dinner    4
## 6         25.29 4.71   Male     No  Sun Dinner    4
## 7          8.77 2.00   Male     No  Sun Dinner    2
## 8         26.88 3.12   Male     No  Sun Dinner    4
## 9         15.04 1.96   Male     No  Sun Dinner    2
## 10        14.78 3.23   Male     No  Sun Dinner    2
## 11        10.27 1.71   Male     No  Sun Dinner    2
## 12        35.26 5.00 Female     No  Sun Dinner    4
## 13        15.42 1.57   Male     No  Sun Dinner    2
## 14        18.43 3.00   Male     No  Sun Dinner    4
## 15        14.83 3.02 Female     No  Sun Dinner    2
## 16        21.58 3.92   Male     No  Sun Dinner    2
## 17        10.33 1.67 Female     No  Sun Dinner    3
## 18        16.29 3.71   Male     No  Sun Dinner    3
## 19        16.97 3.50 Female     No  Sun Dinner    3
## 20        20.65 3.35   Male     No  Sat Dinner    3
## 21        17.92 4.08   Male     No  Sat Dinner    2
## 22        20.29 2.75 Female     No  Sat Dinner    2
## 23        15.77 2.23 Female     No  Sat Dinner    2
## 24        39.42 7.58   Male     No  Sat Dinner    4
## 25        19.82 3.18   Male     No  Sat Dinner    2
## 26        17.81 2.34   Male     No  Sat Dinner    4
## 27        13.37 2.00   Male     No  Sat Dinner    2
## 28        12.69 2.00   Male     No  Sat Dinner    2
## 29        21.70 4.30   Male     No  Sat Dinner    2
## 30        19.65 3.00 Female     No  Sat Dinner    2
## 31         9.55 1.45   Male     No  Sat Dinner    2
## 32        18.35 2.50   Male     No  Sat Dinner    4
## 33        15.06 3.00 Female     No  Sat Dinner    2
## 34        20.69 2.45 Female     No  Sat Dinner    4
## 35        17.78 3.27   Male     No  Sat Dinner    2
## 36        24.06 3.60   Male     No  Sat Dinner    3
## 37        16.31 2.00   Male     No  Sat Dinner    3
## 38        16.93 3.07 Female     No  Sat Dinner    3
## 39        18.69 2.31   Male     No  Sat Dinner    3
## 40        31.27 5.00   Male     No  Sat Dinner    3
## 41        16.04 2.24   Male     No  Sat Dinner    3
## 42        17.46 2.54   Male     No  Sun Dinner    2
## 43        13.94 3.06   Male     No  Sun Dinner    2
## 44         9.68 1.32   Male     No  Sun Dinner    2
## 45        30.40 5.60   Male     No  Sun Dinner    4
## 46        18.29 3.00   Male     No  Sun Dinner    2
## 47        22.23 5.00   Male     No  Sun Dinner    2
## 48        32.40 6.00   Male     No  Sun Dinner    4
## 49        28.55 2.05   Male     No  Sun Dinner    3
```

```
## 50      18.04  3.00    Male    No  Sun Dinner    2
## 51      12.54  2.50    Male    No  Sun Dinner    2
## 52      10.29  2.60  Female    No  Sun Dinner    2
## 53      34.81  5.20  Female    No  Sun Dinner    4
## 54       9.94  1.56    Male    No  Sun Dinner    2
## 55      25.56  4.34    Male    No  Sun Dinner    4
## 56      19.49  3.51    Male    No  Sun Dinner    2
## 57      38.01  3.00    Male   Yes  Sat Dinner    4
## 58      26.41  1.50  Female    No  Sat Dinner    2
## 59      11.24  1.76    Male   Yes  Sat Dinner    2
## 60      48.27  6.73    Male    No  Sat Dinner    4
## 61      20.29  3.21    Male   Yes  Sat Dinner    2
## 62      13.81  2.00    Male   Yes  Sat Dinner    2
## 63      11.02  1.98    Male   Yes  Sat Dinner    2
## 64      18.29  3.76    Male   Yes  Sat Dinner    4
## 65      17.59  2.64    Male    No  Sat Dinner    3
## 66      20.08  3.15    Male    No  Sat Dinner    3
## 67      16.45  2.47  Female    No  Sat Dinner    2
## 68      20.23  2.01    Male    No  Sat Dinner    2
## 69      15.01  2.09    Male   Yes  Sat Dinner    2
## 70      12.02  1.97    Male    No  Sat Dinner    2
## 71      17.07  3.00  Female    No  Sat Dinner    3
## 72      26.86  3.14  Female   Yes  Sat Dinner    2
## 73      25.28  5.00  Female   Yes  Sat Dinner    2
## 74      14.73  2.20  Female    No  Sat Dinner    2
## 75      10.51  1.25    Male    No  Sat Dinner    2
## 76      17.92  3.08    Male   Yes  Sat Dinner    2
## 77      27.20  4.00    Male    No Thur  Lunch    4
## 78      22.76  3.00    Male    No Thur  Lunch    2
## 79      17.29  2.71    Male    No Thur  Lunch    2
## 80      19.44  3.00    Male   Yes Thur  Lunch    2
## 81      16.66  3.40    Male    No Thur  Lunch    2
## 82      10.07  1.83  Female    No Thur  Lunch    1
## 83      32.68  5.00    Male   Yes Thur  Lunch    2
## 84      15.98  2.03    Male    No Thur  Lunch    2
## 85      34.83  5.17  Female    No Thur  Lunch    4
## 86      13.03  2.00    Male    No Thur  Lunch    2
## 87      18.28  4.00    Male    No Thur  Lunch    2
## 88      24.71  5.85    Male    No Thur  Lunch    2
## 89      21.16  3.00    Male    No Thur  Lunch    2
## 90      28.97  3.00    Male   Yes  Fri Dinner    2
## 91      22.49  3.50    Male    No  Fri Dinner    2
## 92      16.32  4.30  Female   Yes  Fri Dinner    2
## 93      22.75  3.25  Female    No  Fri Dinner    2
## 94      40.17  4.73    Male   Yes  Fri Dinner    4
## 95      27.28  4.00    Male   Yes  Fri Dinner    2
## 96      12.03  1.50    Male   Yes  Fri Dinner    2
## 97      21.01  3.00    Male   Yes  Fri Dinner    2
## 98      12.46  1.50    Male    No  Fri Dinner    2
## 99      11.35  2.50  Female   Yes  Fri Dinner    2
## 100     15.38  3.00  Female   Yes  Fri Dinner    2
```

```
## 101    44.30  2.50  Female   Yes   Sat  Dinner    3
## 102    22.42  3.48  Female   Yes   Sat  Dinner    2
## 103    20.92  4.08  Female    No   Sat  Dinner    2
## 104    15.36  1.64    Male   Yes   Sat  Dinner    2
## 105    20.49  4.06    Male   Yes   Sat  Dinner    2
## 106    25.21  4.29    Male   Yes   Sat  Dinner    2
## 107    18.24  3.76    Male    No   Sat  Dinner    2
## 108    14.31  4.00  Female   Yes   Sat  Dinner    2
## 109    14.00  3.00    Male    No   Sat  Dinner    2
## 110    38.07  4.00    Male    No   Sun  Dinner    3
## 111    23.95  2.55    Male    No   Sun  Dinner    2
## 112    25.71  4.00  Female    No   Sun  Dinner    3
## 113    17.31  3.50  Female    No   Sun  Dinner    2
## 114    29.93  5.07    Male    No   Sun  Dinner    4
## 115    10.65  1.50  Female    No  Thur   Lunch    2
## 116    12.43  1.80  Female    No  Thur   Lunch    2
## 117    24.08  2.92  Female    No  Thur   Lunch    4
## 118    11.69  2.31    Male    No  Thur   Lunch    2
## 119    13.42  1.68  Female    No  Thur   Lunch    2
## 120    14.26  2.50    Male    No  Thur   Lunch    2
## 121    15.95  2.00    Male    No  Thur   Lunch    2
## 122    12.48  2.52  Female    No  Thur   Lunch    2
## 123    29.80  4.20  Female    No  Thur   Lunch    6
## 124     8.52  1.48    Male    No  Thur   Lunch    2
## 125    14.52  2.00  Female    No  Thur   Lunch    2
## 126    11.38  2.00  Female    No  Thur   Lunch    2
## 127    22.82  2.18    Male    No  Thur   Lunch    3
## 128    19.08  1.50    Male    No  Thur   Lunch    2
## 129    20.27  2.83  Female    No  Thur   Lunch    2
## 130    11.17  1.50  Female    No  Thur   Lunch    2
## 131    12.26  2.00  Female    No  Thur   Lunch    2
## 132    18.26  3.25  Female    No  Thur   Lunch    2
## 133     8.51  1.25  Female    No  Thur   Lunch    2
## 134    10.33  2.00  Female    No  Thur   Lunch    2
## 135    14.15  2.00  Female    No  Thur   Lunch    2
## 136    16.00  2.00    Male   Yes  Thur   Lunch    2
## 137    13.16  2.75  Female    No  Thur   Lunch    2
## 138    17.47  3.50  Female    No  Thur   Lunch    2
## 139    34.30  6.70    Male    No  Thur   Lunch    6
## 140    41.19  5.00    Male    No  Thur   Lunch    5
## 141    27.05  5.00  Female    No  Thur   Lunch    6
## 142    16.43  2.30  Female    No  Thur   Lunch    2
## 143     8.35  1.50  Female    No  Thur   Lunch    2
## 144    18.64  1.36  Female    No  Thur   Lunch    3
## 145    11.87  1.63  Female    No  Thur   Lunch    2
## 146     9.78  1.73    Male    No  Thur   Lunch    2
## 147     7.51  2.00    Male    No  Thur   Lunch    2
## 148    14.07  2.50    Male    No   Sun  Dinner    2
## 149    13.13  2.00    Male    No   Sun  Dinner    2
## 150    17.26  2.74    Male    No   Sun  Dinner    3
## 151    24.55  2.00    Male    No   Sun  Dinner    4
```

```
## 152      19.77  2.00    Male    No   Sun  Dinner    4
## 153      29.85  5.14  Female    No   Sun  Dinner    5
## 154      48.17  5.00    Male    No   Sun  Dinner    6
## 155      25.00  3.75  Female    No   Sun  Dinner    4
## 156      13.39  2.61  Female    No   Sun  Dinner    2
## 157      16.49  2.00    Male    No   Sun  Dinner    4
## 158      21.50  3.50    Male    No   Sun  Dinner    4
## 159      12.66  2.50    Male    No   Sun  Dinner    2
## 160      16.21  2.00  Female    No   Sun  Dinner    3
## 161      13.81  2.00    Male    No   Sun  Dinner    2
## 162      17.51  3.00  Female   Yes   Sun  Dinner    2
## 163      24.52  3.48    Male    No   Sun  Dinner    3
## 164      20.76  2.24    Male    No   Sun  Dinner    2
## 165      31.71  4.50    Male    No   Sun  Dinner    4
## 166      10.59  1.61  Female   Yes   Sat  Dinner    2
## 167      10.63  2.00  Female   Yes   Sat  Dinner    2
## 168      50.81 10.00    Male   Yes   Sat  Dinner    3
## 169      15.81  3.16    Male   Yes   Sat  Dinner    2
## 170       7.25  5.15    Male   Yes   Sun  Dinner    2
## 171      31.85  3.18    Male   Yes   Sun  Dinner    2
## 172      16.82  4.00    Male   Yes   Sun  Dinner    2
## 173      32.90  3.11    Male   Yes   Sun  Dinner    2
## 174      17.89  2.00    Male   Yes   Sun  Dinner    2
## 175      14.48  2.00    Male   Yes   Sun  Dinner    2
## 176       9.60  4.00  Female   Yes   Sun  Dinner    2
## 177      34.63  3.55    Male   Yes   Sun  Dinner    2
## 178      34.65  3.68    Male   Yes   Sun  Dinner    4
## 179      23.33  5.65    Male   Yes   Sun  Dinner    2
## 180      45.35  3.50    Male   Yes   Sun  Dinner    3
## 181      23.17  6.50    Male   Yes   Sun  Dinner    4
## 182      40.55  3.00    Male   Yes   Sun  Dinner    2
## 183      20.69  5.00    Male    No   Sun  Dinner    5
## 184      20.90  3.50  Female   Yes   Sun  Dinner    3
## 185      30.46  2.00    Male   Yes   Sun  Dinner    5
## 186      18.15  3.50  Female   Yes   Sun  Dinner    3
## 187      23.10  4.00    Male   Yes   Sun  Dinner    3
## 188      15.69  1.50    Male   Yes   Sun  Dinner    2
## 189      19.81  4.19  Female   Yes  Thur   Lunch    2
## 190      28.44  2.56    Male   Yes  Thur   Lunch    2
## 191      15.48  2.02    Male   Yes  Thur   Lunch    2
## 192      16.58  4.00    Male   Yes  Thur   Lunch    2
## 193       7.56  1.44    Male    No  Thur   Lunch    2
## 194      10.34  2.00    Male   Yes  Thur   Lunch    2
## 195      43.11  5.00  Female   Yes  Thur   Lunch    4
## 196      13.00  2.00  Female   Yes  Thur   Lunch    2
## 197      13.51  2.00    Male   Yes  Thur   Lunch    2
## 198      18.71  4.00    Male   Yes  Thur   Lunch    3
## 199      12.74  2.01  Female   Yes  Thur   Lunch    2
## 200      13.00  2.00  Female   Yes  Thur   Lunch    2
## 201      16.40  2.50  Female   Yes  Thur   Lunch    2
## 202      20.53  4.00    Male   Yes  Thur   Lunch    4
```

```
## 203     16.47  3.23 Female    Yes Thur  Lunch    3
## 204     26.59  3.41   Male    Yes  Sat Dinner    3
## 205     38.73  3.00   Male    Yes  Sat Dinner    4
## 206     24.27  2.03   Male    Yes  Sat Dinner    2
## 207     12.76  2.23 Female    Yes  Sat Dinner    2
## 208     30.06  2.00   Male    Yes  Sat Dinner    3
## 209     25.89  5.16   Male    Yes  Sat Dinner    4
## 210     48.33  9.00   Male     No  Sat Dinner    4
## 211     13.27  2.50 Female    Yes  Sat Dinner    2
## 212     28.17  6.50 Female    Yes  Sat Dinner    3
## 213     12.90  1.10 Female    Yes  Sat Dinner    2
## 214     28.15  3.00   Male    Yes  Sat Dinner    5
## 215     11.59  1.50   Male    Yes  Sat Dinner    2
## 216      7.74  1.44   Male    Yes  Sat Dinner    2
## 217     30.14  3.09 Female    Yes  Sat Dinner    4
## 218     12.16  2.20   Male    Yes  Fri  Lunch    2
## 219     13.42  3.48 Female    Yes  Fri  Lunch    2
## 220      8.58  1.92   Male    Yes  Fri  Lunch    1
## 221     15.98  3.00 Female     No  Fri  Lunch    3
## 222     13.42  1.58   Male    Yes  Fri  Lunch    2
## 223     16.27  2.50 Female    Yes  Fri  Lunch    2
## 224     10.09  2.00 Female    Yes  Fri  Lunch    2
## 225     20.45  3.00   Male     No  Sat Dinner    4
## 226     13.28  2.72   Male     No  Sat Dinner    2
## 227     22.12  2.88 Female    Yes  Sat Dinner    2
## 228     24.01  2.00   Male    Yes  Sat Dinner    4
## 229     15.69  3.00   Male    Yes  Sat Dinner    3
## 230     11.61  3.39   Male     No  Sat Dinner    2
## 231     10.77  1.47   Male     No  Sat Dinner    2
## 232     15.53  3.00   Male    Yes  Sat Dinner    2
## 233     10.07  1.25   Male     No  Sat Dinner    2
## 234     32.83  1.17   Male    Yes  Sat Dinner    2
## 235     35.83  4.67 Female     No  Sat Dinner    3
## 236     29.03  5.92   Male     No  Sat Dinner    3
## 237     27.18  2.00 Female    Yes  Sat Dinner    2
## 238     22.67  2.00   Male    Yes  Sat Dinner    2
## 239     17.82  1.75   Male     No  Sat Dinner    2
## 240     18.78  3.00 Female     No Thur Dinner    2
```

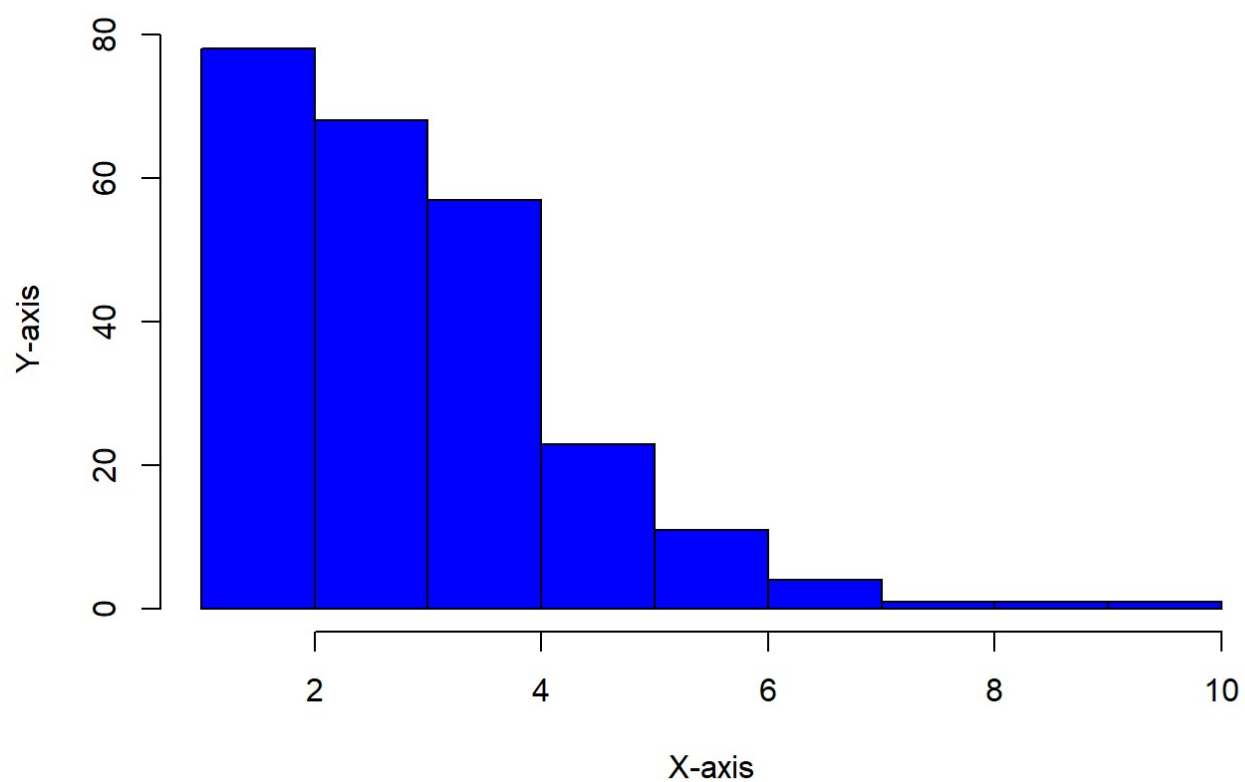```
Test_Square <- Test$tip^2
print(Test_Square)
```

```
##    [1]    1.0201    2.7556   12.2500   10.9561   13.0321   22.1841    4.0000    9.7344
##    [9]    3.8416   10.4329    2.9241   25.0000    2.4649    9.0000    9.1204   15.3664
##   [17]    2.7889   13.7641   12.2500   11.2225   16.6464    7.5625    4.9729   57.4564
##   [25]   10.1124    5.4756    4.0000    4.0000   18.4900    9.0000    2.1025    6.2500
##   [33]    9.0000    6.0025   10.6929   12.9600    4.0000    9.4249    5.3361   25.0000
##   [41]    5.0176    6.4516    9.3636    1.7424   31.3600    9.0000   25.0000   36.0000
##   [49]    4.2025    9.0000    6.2500    6.7600   27.0400    2.4336   18.8356   12.3201
##   [57]    9.0000    2.2500    3.0976   45.2929   10.3041    4.0000    3.9204   14.1376
##   [65]    6.9696    9.9225    6.1009    1.0000    4.0401    4.3681    3.8809    9.0000
##   [73]    9.8596   25.0000    4.8400    1.5625    9.4864   16.0000    9.0000    7.3441
##   [81]    9.0000   11.5600    3.3489   25.0000    4.1209   26.7289    4.0000   16.0000
##   [89]   34.2225    9.0000    9.0000   12.2500    1.0000   18.4900   10.5625   22.3729
##   [97]   16.0000    2.2500    9.0000    2.2500    6.2500    9.0000    6.2500   12.1104
##  [105]   16.6464    2.6896   16.4836   18.4041   14.1376   16.0000    9.0000    1.0000
##  [113]   16.0000    6.5025   16.0000   12.2500   25.7049    2.2500    3.2400    8.5264
##  [121]    5.3361    2.8224    6.2500    4.0000    6.3504   17.6400    2.1904    4.0000
##  [129]    4.0000    4.7524    2.2500    8.0089    2.2500    4.0000   10.5625    1.5625
##  [137]    4.0000    4.0000    4.0000    7.5625   12.2500   44.8900   25.0000   25.0000
##  [145]    5.2900    2.2500    1.8496    2.6569    2.9929    4.0000    6.2500    4.0000
##  [153]    7.5076    4.0000    4.0000   26.4196   25.0000   14.0625    6.8121    4.0000
##  [161]   12.2500    6.2500    4.0000    4.0000    9.0000   12.1104    5.0176   20.2500
##  [169]    2.5921    4.0000  100.0000    9.9856   26.5225   10.1124   16.0000    9.6721
##  [177]    4.0000    4.0000   16.0000   12.6025   13.5424   31.9225   12.2500   42.2500
##  [185]    9.0000   25.0000   12.2500    4.0000   12.2500   16.0000    2.2500   17.5561
##  [193]    6.5536    4.0804   16.0000    2.0736    4.0000   25.0000    4.0000    4.0000
##  [201]   16.0000    4.0401    4.0000    6.2500   16.0000   10.4329   11.6281    9.0000
##  [209]    4.1209    4.9729    4.0000   26.6256   81.0000    6.2500   42.2500    1.2100
##  [217]    9.0000    2.2500    2.0736    9.5481    4.8400   12.1104    3.6864    9.0000
##  [225]    2.4964    6.2500    4.0000    9.0000    7.3984    8.2944    4.0000    9.0000
##  [233]   11.4921    2.1609    9.0000    1.5625    1.0000    1.3689   21.8089   35.0464
##  [241]    4.0000    4.0000    3.0625    9.0000
```

```
hist(Test$tip, main="Plot of One quantitative variable", xlab="X-axis", ylab="Y-axis",
col="Blue")
```

Plot of One quantitative variable


```
plot(Test$size, Test$total_bill, main="Scatterplot of shipping time v/s shipping cos
t", xlab="X-axis", ylab="Y-axis", pch=5, col="Blue")
```

Scatterplot of shipping time v/s shipping cost