Problem- prediction of the number of comments in the upcoming 24 hours on those blogs, The train data was generated from different base times that may temporally overlap. Therefore, if you simply split the train into disjoint partitions, the underlying time intervals may overlap. Therefore, the you should use the provided, temporally disjoint train and test splits to ensure that the evaluation is fair.

a. Read the dataset and identify the right features

Ans: there is no feature column in the dataset.

b. Clean dataset, impute missing values and perform exploratory data analysis.

```
summary(blogData_train)
                                                   G
               0.000
0.00
2.286
                                      0.000
                                                                 \begin{smallmatrix} 0.0000 \\ 0.000 \\ 0.0000 \end{smallmatrix}
                           Min.
                                                    Min.
                                                                               Min.
 Min.
                                                                                        0.000000
Min.
                                                   Min.
                                                                            Min.
                                      5.214
0.8916
19.353
4.1507
 1st Qu.:
                            1st Qu.:
                                                     1st Qu.:
                                                                               1st Qu.:
                                                                                             29.0
               0.00
10.631
1st Qu.:
                                                   1st Qu.:
                                                                 3.075
                                                                            1st Qu.: 0.000000
                         1st Qu.:
                                                                  0.0000
                           Median
                                                    Median:
                                                                                            162.0
 Median:
                                                                               Median
                                                                                         : 162.0
0.000000
                                                                11.051
Median:
               4.00
                         Median:
                                                   Median
                                                                            Median:
                                                          K
               X.1
0.0
Min.
                                                              X.3
0.000
                                                 Min.
0.00
                                                                          Min.
0.000
                                       0.000
                         Min.
                                                                                         0.000
 Min.
          :0
                                0.0
                                                                Min.
0.775
Min.
                                        Min.
                                                                           1st Qu.:
1.825
1st Qu.:
1st Qu.:0
                         1st Qu.:
.: 22.0
                                      0.000 1
1st Qu.:
               22.0
                                                  1st Qu.:
: 0.00
                                                                                         3.045
                                                                1st Qu.:
3.817
                1st
                     Qu.:
Median :0
 Median
                                       1.000
                                                                           Median :
9.777
                         Median
              121.0
                                                  Median:
                                                                                       11.001
                Median:
                             121.0
                                                      0.00
                                        Median:
                                                                Median
                                 X.5
                                                                                   x.7
                                                            x.6
                          x.9
Min.
                                                   X.10
                                                                            X.11
Min.
X.8
                                        0.0000
                                                    Min.
                                                                                            0.00
 Min.
               0.000
                                                             :-1256.0
                                                   Min.
Min.
          :-0.66667
                          Min.
                                        0.000
                                                                            Min.
                                                                                            0.0
1st Qu.: 4.529
1st Qu.: 0.05797
Median : 16.073
                                        0.0000
                                                                   21.0
                                                     1st
                                                          Qu.:
                                                                            1st Qu.
                                                                                            0.00
                          1st Qu.
                                                   1st Qu.: -
Median :
                                                                            1st Qu.:
Median :
                          1st Qu.:
Median :
                                        4.087
0.0000
                                                               -369.0
                                                                                          19.0
                                                                 128.0
                                                                                            3.00
                                      14.501
13
            0.22381
                                                                                         116.0
Median :
                          Median
                                                   Median:
                                                                -107.0
                                                                            Median
        X.12
                                                            X.14
                                                                                   x.15
                                                x.18
                                                                         x.19
            -138.0000
                                       :0.0000
                                                                                      :0.00000
                             Min.
                                                    Min.
                                                               :0.0000
                                                                            Min.
 Min.
          : 0.000
                       Min.
                                 : 0.0000
                                                Min.
                                                          :0.00000
                                                                         Min.
                                                                                   :0.0000
Min.
                                                1st Qu.:0.0000
1st Qu.:0.00000
Median :0.3945
Median :0.04317
                                                                         1st Qu.:0.000000
1st Qu.:0.0000
Median :0.000000
Median :0.2482
                0.0000
 1st Qu.:
                             1st Qu.:0.0000
                       1st Qu.: 0.0000
00 Median:0.1087
Median:0.0000
1st Qu.: 0.000
            0.0000
2.000 <u>M</u>e
 Median:
Median:
        X.20
                         X.21
                                                X.22
                                                                         x.23
                                                                                           X.28
Min.
:0.00000
                                        X.26
Min.
: 0.000
x.24
                                                                X.27
Min.
:0.0000
           :0
                  Min.
                              0.000
                                                   :0.00000
                                                                  Min.
                                                                             :0.00000
             Min. :0
1st Qu.:
                             Min.
0.000
                                         0.000 Min.
1st Qu.:0.00000
                                                                :0.0000000
                                                                                  Min.
 1st Qu.:0
                                                                  1st Qu.:0.00000
                                                                                            1st
Qu.:0.0000
                  1st Qu.:0
                                  1st Qu.: 0.000
                                                          1st
                                                               Qu.:0.0000000
Qu.:0.00000
Median :0
:0.2321
                  Median : 2.000
                                         Median :0.00000
                                                                  Median :0.03763
                                                                                           Median
                                                      Median :0.0000000
                              Median : 2.000
                                                                                  Median :0.09264
             Median :0
                                X.30
        x.29
                                                          x.31
                                                                                  x.32
                         X.34
Min.
                                                                           x.36
Min.
x.33
                                                  X.35
           :0.0000
                                   :0.00000
                                                   Min.
                                                                0.000
                                                                                       0.0000
 Min.
          :-0.05556
                          Min.
                                    :0.0000
                                                  Min.
                                                             -20,000
                                                                           Min.
                                                                                          .000
```

```
1st Qu.: 0.0000
1st Qu.: 0.000
Median : 0.0000
 1st Qu.:0.0000
                       1st Qu.:0.000000
                                                1st Qu.: 0.000
                                              1st Qu.: -7.000
Median : 2.000
Median : -2.000
X.39
1st Qu.: 0.00000
                       1st Qu.:0.0000
Median :0.000000
 Median :0.3713
                        Median :0.3277
X.38
Median:
           0.00000
                                                                      Median : 2.000
                    x.37
                                                                                  X.40
 X.41 X.42
Min. :-0.5000000
Min. : 0.0 Min.
1st Qu.: 0.00000000
x.41
                                                                                         0.00
Min.
                   0000 Ist
1st Qu.: -1.0
9000 Median : 3.
0.000
                                                                                         0.00
1st Qu.:
              0.0
 Median : 0.0000000
Median : 2.0 Med
Median:
       X.45
                                                      X.52
:-20.00000 Min. : 0.0
:0.0000 Min. :0.00e+00
X.49
                      Min.
                           n. : 0.0000
:0.000000
Min. : 0.0000 Min. : 0.0000

1st Qu.: 0.0000 1st Qu.: 0.0000

1st Qu.: 93 1st Qu.: 0.00000

Median : 0.0000 Median : 0.0000

Median : 1859 Median : 0.000000
          : 0.0000
                                                Min.
 Min.
                                                                  Min. :0.00e+00
2000 1st Qu.:14.00
                                             Min.
Min.
                                             1st Qu.: 0.00000
1st Qu.:0.0000 1st
                                                                  1st Qu.:0.00e+00
0000 Median :35.00
1st Qu.:
                                               Median : 0.00000
                                             Median :0.0000
                                                                   Median :0.00e+00
Median : 1
X.53
                                                       X.55
                                                                              X.56
                                                 X.59
Min.
Min.
                        X.58
Min.
                                                                      X.60
         :0.0000000
                                 :0.0000
                                                           :0.0000
                                                                       Min.
                                                                               :0.0000
:0.00e+00
 Min.
                        Min.
                                                           :0.000
                                                                      Min.
Min.
                        1st Qu.:0.000000
1st Qu.:0.000000
Median :0.00000
Median :0.000000
X.62
                                                                      1st Qu.:0.0000
1st Qu.:0.00e+00
Median :0.0000
Median :0.00e+00
                                                 1st Qu.:0.0000
 1st Qu.:0.0000000
1st Qu.:0.000000
Median :0.0000000
Median :0.000000
                                                 1st Qu.:0.000
Median :0.0000
Median :0.000
                        x.61
                                                          x.63
                                                                                   X.64
X.65
 Min. :0.0000000
Min. :0.000000
1st Qu.:0.0000000
Min.
Min.
1st Qu.:0.000000
Median :0.0000000
Median :0.0000000
X.69
                                                 X.75
Min. :0.0000000
:0.0000000 Min.
                       x.74
          :0.00000
                        Min. :0.000000
:0.00000 Min.
Min. :0.
                                                                           :0.00000
               Min.
                                                                                         Min.
:0.00000
1st Qu.:0.00000
Qu.:0.0000000
                    1st
                                                                     1st Qu.:0.00000
1st Qu.:0.00000
Median :0.00000 Median :0.000000 Median :0.0000000 Median :0.0000000 Median :0.000000 Median :0.000000
Median :0.00000
       X.77
                                                           X.79
                                 x.78
                                                                                      X.80
              :0.000000
 Min.
:0.000000 Min.
1st Qu.:0.0000000
Qu.:0.000000 1st
                                                                          :0.0000
                                                                     1st Qu.:0.00000
 Median :0.0000000
                                                                              Median
:0.000000
                                                                  Median :0.00000
       X.84
                                X.85
                                                          X.86
                                                                                    X.87
                                  X.90
:0.0000000 Min.
Min. :0.00000
                                                             X.91
:0.0000000
                      X.89
X.88
          :0.00e+00
Min. :0
:0.000000
:0.00000
                       Min.
                                                                              Min.
                         :0.0000
               Min.
                                                            Min.
                                                                      :0.00000
1st Qu.:0.00e+00
Qu.:0.000000 1st
                   1st Qu.:0.00000
Qu.:0.00000
 Median :0.00e+00
                         Median :0.0000000 Median :0.0000000
               Median :1.0000
                                   Median :0.00000 Median :0.00000
:0.000000
                                                                                  Median
:0.00000
       X.92
                                X.93
                                                         X.94
                                                                                 X.95
x.96
                          x.97
                                                 x.98
                                                                           x.99
```

```
Min.
                             Min.
            :0.000000
                                        :0.000000
                                                         Min.
                                                                    :0.000000
                                                                                     Min.
                                                                                               :0.00000
Min. :0.0
:0.0000000
          :0.000000
                                        :0.00000
                                                                  :0.0000000
                             Min.
                                                        Min.
                                                                                     Min.
1st Qu.:0.000000
1st Qu.:0.0000000
Qu.:0.0000000
                             1st Qu.:0.000000
                                                         1st Qu.:0.000000
                                                                                     1st Qu.:0.00000
                             1st Qu.:0.00000
                                                        1st Qu.:0.0000000
                                                                                     1st
Median :0.000000
Median :0.0000000
:0.0000000
                             Median :0.000000
                                                         Median :0.000000
                                                                                     Median :0.00000
                             Median :0.00000
                                                       Median :0.0000000
                                                                                     Median
                                    X.101
                                                             X.102
                                                                                       X.103
       x.100
X.104
                                                    X.106
                                                                               X.107
                          X.105
Min. :0.0000000
Min. :0.00000 M
1st Qu.:0.0000000
1st Qu.:0.00000 1
                                                                                            :0.0000
                              Min.
                                         :0.0000
                                                       Min.
                                                                  :0.00000
                                                                                  Min.
                         Min.: :0.00000

0    1st Qu.:0.0000

1st Qu.:0.00000

0    Median :0.00000

Median :0.00000

    X.109
                                                                               Min. :0.0000
1st Qu.:0.0000
1st Qu.:0.0000
                                                              :0.00000
                                                     Min.
                                                                               Min.
                                                    1st Qu.:0.00000
1st Qu.:0.00000
Median :0.00000
                                                                               Median :0.0000
Median :0.0000
X.111
X.115
Median :0.00000
X.110
                         X.113
                                                      X.114
\overline{X.112}
                                                                                Min. :0.0000000
Min. :0.00000
1st Qu.:0.0000000
                                                               :0.000000 :0.000000
          :0.00000
:0.0000
                           Min.
                                   :0.0000:0:0.000000
                                                     Min.
 Min.
                        Min.
Min.
                                                      Min.
1st Qu.:0.0000
1st Qu.:0.0000
Median :0.00000
Median :0.0000
X.116
                        1st Qu.:0.0000
1st Qu.:0.0000000
Median :0.0000
Median :0.0000000
                                                     1st Qu.:0.000000
                                                                                1st Qu.:0.00000
Median :0.0000000
                                                    1st Qu.:0.000000
Median :0.000000
                                                      Median :0.000000
                                                                                  Median :0.00000
                                    X.117
                                                                X.118
                                                                                            X.119
                             x.121
x.120
                                                      X.122
                                                                                 x.123
            :0.0000000
 Min.
                              Min.
                                                        Min.
:0.0000
                                                                     :0.000000
                                         :0.00e+00
                                                                                    Min.
:0.00e+00
               Min.
                            :0.0000000
                                            Min.
                                                                      Min.
                                                                                  :0.00000
                                                                                                  Min.
:0.00000
1st Qu.:0.0000000
Qu.:0.00e+00 1st
Qu.:0.00000
                      1st
                                                                          1st Qu.:0.00000
                                                                                                       1st
 Median :0.0000000
                              Median :0.00e+00
                                                          Median :0.000000
:0.00e+00
                 Median :0.0000000
                                            Median :0.0000
                                                                       Median :0.00000
                                                                                                  Median
:0.00000
       X.124
                                   X.125
                                                             X.126
                                                                                      x.127
                          X.129
                                                      x.130
x.128
                                                                               x.131
                                                                               Min. :0.00000
Min. :0.000000
1st Qu.:0.00000
Median :0.00000
Median :0.00000
                                    :0.00000
                                                                :0.0000
          :0.000000
                             Min.
                                                       Min.
 Min.
                                                      Min.
Min.
                          Min.
                          1st Qu.:0.00000
1st Qu.:0.000000
1st Qu.:0.000000
1st Qu.:0.00000
                                                      1st Qu.:0.0000
1st Qu.:0.0000
                                                      Median :0.0000
Median :1.0000
X.134
Median :0.000000
Median :0.000000
X.132
                             Median :0.00000
                          Median :0.000000
                                   X.133
                                                                                           x.135
                                                                                 X.139
X.136
                            X.137
                                                        X.138
                             Min.
                                                         Min. :0.
 Min.
            :0.000000
                                       :0.000000
                                                                    :0.000000
                                                                                    Min.
:0.0000000
                              :0.00e+00
                 Min.
                                              Min.
                                                                          Min.
                                                                                     :0.0000
                                                                                                   Min.
:0.00000
1st Qu.:0.000000
Qu.:0.0000000 1s
                             1st Qu.:0.000000
                                                         1st Qu.:0.000000
                      1st Qu.:0.00e+00
                                                 1st Qu.:0.000000
                                                                             1st Qu.:0.00<u>00</u>
                                                                                                        1st
ou.:0.00000
 Median :0.000000
                            Median :0.000000
                                                         Median :0.000000
                                                                                     Median
:0.0000000
                  Median :0.00e+00 Median :0.000000 Median :0.0000
                                                                                                   Median
:0.00000
                           X.141
X.145
Min. :0
       X.140
                                                                                         X.143
                                                            X.142
X.144
                                                    X.146
                                                                             X.\overline{147}
Min. :0.00000
Min. :0.000000
1st Qu.:0.000000
1st Qu.:0.000000
                                                      Min.
                                                                :0.0000000
                                                                                  Min.
                                      :0.00000
                                                                                             :0.00e+00
                                                                            Min. :0.0000
1st Qu.:0.00000
                                                     Min. :0.0000 Min.
1st Qu.:0.0000000
1st Qu.:0.0000 1st
                           1st Qu.:0.0000
Median :0.00000
Median :0.0000
X.149
Median :0.00000
Median :0.000000
X.148
                                                    Median :0.00000000
Median :0.0000 Med
_____X.150
                            x.153
Min.
                                                       x.154
Min.
X.152
                                                                                Min.
Min.
                            Min. :0.00000
Min. :0.00e+00
1st Qu.:0.00000
1st Qu.:0.00e+00
                                                                                         :0.000000
 Min.
            :0.00e+00
                                                                  :0.0000
                                                        Min. :0.000000
1st Qu.:0.0000
1st Qu.:0.000000
                                                                                Min. :0.0000000
1st Qu.:0.000000
1st Qu.:0.0000000
          :0.000000
                                                       Min.
Min.
                           Min.
1st Qu.:0.00e+00
1st Qu.:0.000000
```

```
Median :0.00000
                                                             Median :0.0000
  Median :0.00e+00
                                                                                        Median :0.000000
Median :0.000000
X.156
                               Median :0.00e+00
X.157
                                                                                            Median :0.0000000
X.159
                                                             Median :0.000000
                                                                  X.158
                                X.161
Min.
Min.
x.160
                                                          x.162
                                                                                         x.163
                                                                     :0.0000000
           :0.00e+00
:0.0000000
                                            :0.0000
                                                                                                    :0.00e+00
:0.000000
  Min.
                                                           Min.
                                                                                            Min.
Min.
                                            :0.000
                                                          Min.
                                                                                         Min.
1st Qu.:0.00e+00
1st Qu.:0.0000000
Median :0.00e+00
Median :0.0000000
                                                                                        1st Qu.:0.00e+00
1st Qu.:0.000000
Median :0.00e+00
Median :0.000000
                                 1st Qu.:0.0000
                                                            1st Qu.:0.0000000
                                                          1st Qu.:0.000000
Median :0.0000000
Median :0.000000
                                1st Qu.:0.000
Median :0.0000
Median :0.000
        x.164
                                       x.165
                                                                       x.166
                                                                                                     x.167
                             X.169
X.168
                                                            X.170
                                                                                         X.\overline{171}
                                        :0.0000000
           :0.000000
                                                                       :0.00e+00
:0.00000 Mi
                                                                                              Min.
                                                                Min.
 Min.
                                Min.
                                                                                                           :0.00000
                                                           Min. :0.00000 MTN. .0.0000
1st Qu.:0.00e+00 1st Qu.:0.00000
                                                                                                   :0.0000
Min.
                             Min.
1st Qu.:0.000000
1st Qu.:0.00000
                                1st Qu.:0.0000000
                                                           1st Qd..0.00e+00
1st Qu.:0.00000 1st
) Median :0.00e+00
Median :0.00000 Med
X.174
                                                                                        1st Qu.:0.0000
00 Median :0.00000
Median :0.0000
x.175
                             1st Qu.:0.000000
                             Median :0.0000000
Median :0.0000000
X.173
  Median :0.000000
Median :0.00000
X.172
                                                            X.178
                                                                                       X.179
x.176
                             x.177
           :0.0000000
:0.00000
                                                                                           Min.
                                                               Min.
                                 Min.
                                                                          :0.00000
                                                                                                       :0.000000
  Min.
                                              :0.00000
                                                                                      Min. :0.00000

0    1st Qu.:0.000000

1st Qu.:0.00000

0    Median :0.000000
                             Min. :0.00e+00
1st Qu.:0.00000
1st Qu.:0.00e+00
Median :0.00000
                                                                       :0.0000
Min.
                                                            Min.
1st Qu.:0.0000000
1st Qu.:0.00000
                                                            1st Qu.:0.00000
1st Qu.:0.0000
Median :0.0000000
Median :0.000000
X.180
                                                               Median :0.00000
                                                           Median :0.0000
X.182
X.186
                             Median :0.00e+00
X.181
                                                                                       Median :0.00000
X.183
                             X.185
Min.
X.184
                                                                                            x.187
                                                        Min:
 Min.
             :0.0000
                                         :0.0000
                                                                   :0.00000
                                                                                     Min.
                                                                                                :0.00000
                                                                                     0 Min. :0.00
1st Qu.:0.00000
                                         :0.00e+00
                                                                      :0.0000000
                                                                                                       :0.00e+00
            :0.00000
Min.
                             Min.
                                                            Min.
1st Qu.:0.0000
Qu.:0.00000 1s
Median :0.0000
Median :0.00000
X.188
                                                     1st Qu.:0.00000
1st Qu.:0.0000000
Median :0.00000
                       1st Qu.:0.0000
1st Qu.:0.00e+00
00 Median :0.0000
                                                                                     1st Qu.:0.00e+00
Median :0.00000
00 Median :0.00e+00
X.191
                             Median :0.00e+00
                                                            Median :0.0000000
                                       X.189
                                                                  X.190
                                                            x.194
Min.
X.192
                             X.193
                                                                                         x.195
                                                                       :0.0000000
                                                                                                        :0.000000
 Min.
                                Min.
                                                                                            Min.
             :0.000000
                                            :0.0000
           :0.00000
                                        :0.000000
                                                            Min.
                                                                       :0.00000
                                                                                                    :0.00000
Min.
                             Min.
                                                                                         Min.
                                                                                        1st Qu.:0.00000
1st Qu.:0.00000
Median :0.000000
Median :0.000000
X.199
                             1st Qu.:0.00000
1st Qu.:0.0000000
Median :0.000000
Median :0.0000000
                                                            1st Qu.:0.0000000
  1st Qu.:0.000000
                                                           1st Qu.:0.00000
Median :0.0000000
Median :0.00000
 1st Qu.:0.00000
Median :0.000000
Median :0.00000
        x.196
                                       x.197
                                                                  X.198
                                                                                          X.203
Min.
                                                            X.202
Min.
X.200
                           X.201
            :0.000000
:0.0000
                                                                       :0.000000
                                      Min.
                                                                                                      :0.00e+00
:0.00000
  Min.
                           Min. :0.0000000
) 1st Qu.:0.0000
Min.
                                                            Min.
                                                                                          Min.
  1st Qu.:0.000000
                                                            1st Qu.:0.000000
                                                                                           1st Qu.:0.00e+00
                                                                                          1st Qu.:0.00000
1st Qu.:0.00000
Median :0.000+00
Median :0.00000
                           1st Qu.:0.0000000
) Median:0.0000
Median:0.0000000
1st Qu.:0.0000
                                                            1st Qu.:0.000000
                                                            Median :0.000000
Median :0.000000
  Median :0.000000
Median :0.0000
X.204
                                                                       X.206
                                        X.205
                                                                                                    X.207
                             X.209
                                                            X.210
                                                                                            X.211
x.208
             :0.0000000
                                              :0.000000
                                                                            :0.00000
                                                                                             Min.
                                 Min.
                                                                Min.
                                                                                                       :0.000000:0:0.000000
  Min.
                             Min.
                                        :0.000000
                                                           Min.
            :0.00000
                                                                       :0.0000000
Min.
                                                                                            Min.
                             1st Qu.:0.000000
1st Qu.:0.000000 1
Median :0.000000
Median :0.000000 N
  1st Qu.:0.0000000
                                                                1st Qu.:0.00000
                                                                                              1st Qu.:0.000000
                                                                                            1st Qu.:0.0000000
                                                           1st Qu.:0.0000000
Median :0.00000
1st Qu.:0.00000
  Median :0.0000000
                                                                                             Median :0.000000
                                                           Median :0.0000000
X.214
Median :0.00000
                                                                                            Median :0.0000000
        x.212
                                                                                                 X.215
                                       x.213
                               x.217
Min.
                                                          X.218
                                                                                         X.219
X.216
                                                           Min.
                                                                       :0.000000
 Min.
                                                                                          Min.
             :0.000000
                                            :0.0000
                                                                                                      :0.000
                                                          Min. :0.000000
1st Qu.:0.000000
1st Qu.:0.000000
Median :0.000000
Median :0.000000
                                                                                          in. :0.0000
1st Qu.:0.000
                                          :0.0000
            :0.000000
Min.
                               Min.
                                                                                         Min.
                              1st Qu.:0.0000
1st Qu.:0.0000
Median :0.0000
Median :0.0000
  1st Qu.:0.000000
                                                                                         1st Qu.:0.0000
Median :0.000
1st Qu.:0.000000
Median :0.000000
Median :0.000000
X.220
                                                                                         Median :0.0000
X.223
X.227
                                                             X.222
X.226
                               X.221
X.225
X.224
```

```
Min.
 Min.
            :0.0000
                                     :0.00000
                                                               :0.000000
                                                                                Min.
                                                                                          :0.00e+00
                          Min.
Min.
                                                       Min.
                                                                  :0.000000
                                                                                    Min.
          :0.000000
                           Min.
                                      :0.000000
                                                                                               :0.000000
                                                                                1st Qu.:0.00e+00
 1st Qu.:0.0000
                          1st Qu.:0.00000
                                                     1st Qu.:0.000000
                                                                                1st Qu.:0.000000
Median :0.00e+00
1st Qu.:0.000000
Median :0.0000
Median :0.000000
X.228
                                                    1st Qu.:0.0000000
Median :0.000000 Median :0.0000000
                          1st Qu.:0.000000
Median :0.00000
                                                                                    Median :0.000000
                           Median :0.000000
X.229
                                                                                       X.231
                                                            x.230
X.232
                          X.233
                                                   x.234
                                                                            X.235
                                                                                Min. .0.0000
:0.0000
                                                                :0.00e+00
            :0.0000
                                      :0.00000
 Min.
                           Min.
                                                     Min.
                                                                                            :0.0000000
                                                                          Min. :0.0000

Min. :0.0000

00    1st Qu.:0.0000000

1st Qu.:0.0000

00    Median :0.0000000

Median :0.0000
Min.
          :0.00000
                                    :0.0000
                                                   Min.
                                                             :0.0000
                          Min.
                          1st Qu.:0.00000
1st Qu.:0.0000
                                                   1st Qu.:0.00e+00
1st Qu.:0.0000 1
1st Qu.:0.00000
1st Qu.:0.00000
                                                  Median :0.00e+00
Median :0.0000 Me
X.238
Median :0.00000
Median :0.00000
X.236
                          Median :0.00000
Median :1.0000
X.237
                                                                                       X.239
                                                       X.242
Min.
                                                                                 X.243
Min.
X.240
                           X.241
Min.
          :0.000000:0.000000
                                                                  :0.00000
                                                                                            :0.000000
:0.0000000
 Min.
                                      :0.00e+00
                                       :0.00000
                                                       Min.
Min.
                             Min.
                                                                                 Min.
 1st Qu.:0.00000
                            1st Qu.:0.00e+00
                                                       1st Qu.:0.00000
                                                                                  1st Qu.:0.000000
                                                       1st Qu.:0.00000
Median :0.00000
Median :0.00000
1st Qu.:0.0000000
                           1st Qu.:0.00000
Median :0.00e+00
                                                                                 1st Qu.:0.0000000
Median :0.000000
 Median :0.00000
Median :0.0000000
X.244
                                                                                x.247
X.251
Min.
Mip
                           Median :0.00000

X.245

X.249

Min. :0.00000
                                                                                 Median :0.0000000
                                                        X.246
X.250
x.248
                                                     Min.
Min.
            :0.00000
                                                                :0.00000
 Min.
                                                                                            :0.000000
                                                                                 Min. :0.0000
1st Qu.:0.000000
1st Qu.:0.0000
Min.
          :0.00000
                           Min.
                                      :0.0000000
                                                                   :0.0000
1st Qu.:0.000000
1st Qu.:0.000000
Median :0.000000
Median :0.0000000
X.252
                                                      1st Qu.:0.000000
                            1st Qu.:0.00000
                           1st Qu.:0.0000000
Median :0.00000
Median :0.0000000
                                                         1st Qu.:0.0000
                                                                                 Median :0.000000
Median :0.0000
                                                     Median :0.000000
Median :0.0000
                                X.253
                                                         x.254
                                                                                 X.255
                        x.257
Min.
x.256
                                                 x.258
                                                                          x.259
                                                                                                   X.260
                                    :0.0000
                                                             :0.0000
 Min.
            :0.0000
                                                  Min.
                                                                                      :0.0000
                                                                           Min.
                                                                                                    Min.
:0.0000
                         :0.0000
                                                  :0.0000
                                                                          :0.0000
              Min.
                                       Min.
                                                                Min.
                                                                                         Min.
:0.0000
1st Qu.:0.0000
Qu.:0.0000 1s
                   1st Qu.:0.0000
                                                                            1st Qu.:0.0000
                                                                                                    1st
                                           1st Qu.:0.0000
                                                                    1st Qu.:0.0000
                                                                                             1st
Qu.:0.0000
 Median :0.0000
                          Median :0.0000
                                                   Median :0.0000
                                                                           Median :0.0000
Median :0.0000
                        Median :0.0000
                                                 Median :0.0000
                                                                          Median :0.0000
                                                                                                   Median
:0.0000
       X.261
                                                                                    X.264
                                x.262
                                                          x.263
                                    X.267
:0.00000
            x.266
:0.0000
x.265
                                                                          Target
                                                         . :0.00000
0.0000 N
Qu.:0.00000
0.0000 1
 Min.
                          Min.
                                                    Min.
                                                                              Йiп.
                                                                                            0.0000
                                                                          Min. :
1st Qu.:
                                 0.000
                                                                                          0.000
          :0
                                            Min.
Min.
                 Min.
1st Qu.:0.0000
1st Qu.:0 1st
                                                    1st
                          1st Qu.:0.00000
                                                                                             0.0000
                                 0.000
                                             1st Qu.:
                                                                          1st Qu.:
                                                                                          0.000
                 1st Qu.:
                          Median :0.00000
1 : 0.000 Med
 Median :0.0000
                                                    Median :0.00000
                                                                                             0.0000
                                                                              Median:
    dian :0 Median : 0.000 Median : 0.0000 N
reached getOption("max.print") -- omitted 3 rows
                                                                                          0.000
Median :0
                                                                          Median:
```

c. Visualize the dataset and make inferences from that?

Ans: answer is same as que e.

d. Perform any 3 hypothesis tests using columns of your choice, make conclusions

According to t-test, p value is 0.0128 which is less than 0.05. hence there is correlation

```
38.76668 40.12165
sample estimates:
mean of x
39.44417
```

According to chi square test, p value is 1 which is more than 0.05. hence there is no correlation

According to Anova test, p value is 0.000 which is less than 0.05. hence there is correlation

e. Create a linear regression model to predict the no.of comments in the next 24hrs (relative to basetime)

```
> summary(mod)
lm(formula = blogData_train$A ~ blogData_train$Target)
Residuals:
                         Median
                                       3Q
6.08
      Min
                                                   Max
              -30.97
                                               1089.09
-1311.76
                         -21.92
Coefficients:
                            32.553104
                                                                  <2e-16
(Intercept)
blogData_train$Target
                   0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Signif. codes:
Residual standard error: 69.17 on 52395 degrees of freedom
Multiple R-squared: 0.2357, Adjusted R-squared: 0.2357
F-statistic: 1.616e+04 on 1 and 52395 DF, p-value: < 2.2e-
Multiple R-squared:
```

For 1 unit increase there will be 1.01 unit of increase in no.of comments

These 3 terms, t-statistics (127.1), Std Error of regression coefficient (0.008014) and Probability (of committing Type I Error) is 2e-06 [2/1000000 = 0.00000200 = almost 0] are associated with a t test which tests following Null Hypothesis:

Ho: The slope of no.of comments is not significant

Ha: The slope of no.of comments is significant

0.008014 = standard error of regression co-efficient

As p value is 0.000 which is less than 0.05, Reject the Ho (and accept Ha) and conclude that "slope is significant"

Multiple R-squared = 0.2357

| > pred<- | predict(lm | (blogData_1 | train\$A~blo | ogData_tra | in\$Target)) | |
|--|------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|--|
| > pred 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 33.57178 | 9 32.55310 | 10 1 32.55310 | L1 33.57178 | 12 60.05738 | | |
| 16 23 | 24 35.60913 | 18 25 47.83326 35.60913 | 19 26 45.79590 35.60913 | 20 27 33.57178 35.60913 | 21 28 53.94532 35.60913 | 22 29 30 33.57178 34.59046 |
| 34.59046 31 38 37.64649 35.60913 | 39 37.64649 | 33 40 32.55310 32.55310 | 41 32.55310 | 35 42 53.94532 34 59046 | 36 43 32.55310 32.55310 | 37 44 45 32.55310 |
| 32.55310 46 53 32.55310 | 47 54 46.81458 | 48 55 44.77723 | 49 56 39.68384 | 50 57 32.55310 | 51 58 | 52 59 60 32.55310 |
| 35.60913 61 68 33.57178 | 62 69 33.57178 | 63 70 33.57178 | 64 71 34.59046 | 65 72 34.59046 | 66 73 32.55310 32.55310 | 67 74 75 32.55310 |
| 32.55310 76 83 | 77 | 78 85 | 79 86 | 80 | 81 88 33.57178 36.62781 | 82 89 90 |
| 33.57178 91 98 33.57178 | 92 99 35.60913 | 93 | 94 101 34.59046 | 95 102 34.59046 | 96 103 33.57178 | 97 104 105 33.57178 59.03870 |
| 34.59046 106 113 33.57178 | 107 114 37.64649 | 108 115 33.57178 | 109 116 35.60913 | 110 117 34.59046 | 111 118 35.60913 104.87916 | 112 119 120 57.00135 |
| 57.00135 32.55310 121 128 36.62781 | 122 129 | 123 130 | 124 131 | 125 132 | 126 133 36.62781 40.70252 | 127 134 135 |
| 32.55310 136 143 32.55310 | 137 144 36.62781 | 138 145 36.62781 | 139 146 39.68384 | 140 147 32.55310 | 141 148 32.55310 | 142 149 150 32.55310 |
| 32.55310 36.62781 151 158 33.57178 | | 32.55310 153 160 32.55310 | 44.77723 154 161 38.66517 | 32.55310 155 162 32.55310 | | 33.57178 157 164 34.59046 |
| 34.59046 33.57178 166 173 33.57178 | 167 174 33.57178 | 168 175 32.55310 | | 170 177 32.55310 | | 36.62781 172 179 180 52.92664 |
| 52.92664 40.70252 | 37.64649 | 37.04043 | 50.88929 | 30.00323 | 33.57178 | 33.57178 |

| 181 | 182 | | 184 | 185 | 186 | 187 | |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|-----|
| | | 190 34.59046 34.59046 | | | | 194 32.55310 32.55310 | 195 |
| 196 203 33.57178 | 197 204 33.57178 | 198 205 32.55310 | 199 206 32.55310 | 207 32.55310 | 201 208 32.55310 | 202 209 32.55310 | 210 |
| 32.55310 37.64649 211 218 | 32.55310 212 219 | 32.55310 213 | 32.55310 214 221 | | 216 223 | 40.70252 217 224 | 225 |
| | 36.62781 | 36.62781 36.62781 | 36.62781 | 32.55310 | 35.60913 | 32.55310 80.43091 | 223 |
| 226 | 227 | 228 | 229 236 | 230 | 231 | 232 | |
| 233 36.62781 33.57178 41.72120 | 234 33.57178 32.55310 | 235 33.57178 32.55310 | 36.62781 32.55310 | 112.00989 | 238 112.00989 41.72120 | 239 112.00989 41.72120 | 240 |
| 241 | 242 | 243 | 244 251 | 245 252 | 246 | 247 | |
| 248 32.55310 33.57178 35.60913 | 249 32.55310 33.57178 | 250 32.55310 33.57178 | 35.60913 35.60913 | 35.60913 32.55310 | 253 35.60913 32.55310 | 254 33.57178 35.60913 | 255 |
| 256 263 | 257 264 33.57178 | 258 265 33.57178 | 259 266 32.55310 | 260 267 32.55310 | 261 268 32.55310 | 262 269 32.55310 | 270 |
| 32.55310 36.62781 271 | 32.55310 | 39.68384 | 39.68384 | 39.68384 | 36.62781 | 36.62781 | |
| 278 39.68384 | 279 39.68384 | 280 39.68384 32.55310 | 281 35.60913 | 282 35.60913 | 283 33.57178 | 284 33.57178 36.62781 | 285 |
| 286 | 287 | 288 | 289 | 290 | 291 | 292 | |
| 32.55310 | 35.60913 | 295 38.66517 36.62781 | 33.57178 36.62781 | 35.60913 | 35.60913 | 299 35.60913 32.55310 | 300 |
| 301 | 302 309 | 303 310 | 304 311 | 305 312 | 306 313 | 307 | 215 |
| 308 34.59046 35.60913 34.59046 | 34.59046 34.59046 | 34.59046 34.59046 | 43.75855 32.55310 | 43.75855 | 35.60913 | 314 35.60913 34.59046 | 315 |
| 316 | | 318 | 319 | 320 | | 322 | 220 |
| 323 35.60913 41.72120 69.22547 | 324 35.60913 41.72120 | 325 33.57178 39.68384 | 326 33.57178 39.68384 | 327 32.55310 41.72120 | 328 32.55310 34.59046 | 329 41.72120 69.22547 | 330 |
| 331 | 332 | 333 | 334 | 335 | 336 | 337 | |
| 40.70252 | 34.59046 | 340 34.59046 32.55310 | | 34.59046 | 41.72120 | 344 40.70252 41.72120 | 345 |
| 346 | 347 | 348 | 349 | 350 | 351 | 352 | 200 |
| 353 39.68384 32.55310 35.60913 | 33.57178 | 355 40.70252 33.57178 | 32.55310 | 32.55310 | 33.57178 | 32.55310 | 360 |
| 361 368 | 362 369 | 363 370 | 364 371 | 365 372 | 366 373 | 367 374 | 375 |
| 32.55310 32.55310 32.55310 | 35.60913 32.55310 | 33.57178 40.70252 | 88.58033 | 88.58033 | 46.81458 | 46.81458 | 373 |
| 376 383 | 377 384 | 378 385 | 379 386 | 380 387 | 381 388 | 382 389 | 390 |

| 32.55310 | 34.59046 32.55310 | 42.73987 | 42.73987 | 42.73987 | 42.73987 | 51.90796 | |
|---|------------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------|
| 391 | 392 | 393 | 394 | 395 | 396 | 397 | 405 |
| 51.90796 36.62781 35.60913 | 392 399 47.83326 38.66517 | | | | | 36.62781 38.66517 | 403 |
| 406 413 | 407 | 408 | 409 | 410 417 | 411 | 412 419 | 420 |
| 33.57178 | 40.70252 | 40.70252 33.57178 | 42.73987 32.55310 | 33.57178 36.62781 | 32.55310 32.55310 | 32.55310 36.62781 | 120 |
| 421 428 | 422 | 423 | 424 | 425 432 | 426 | 427 | 435 |
| 37.64649 32.55310 51.90796 | 35.60913 32.55310 | 42.73987 34.59046 | 32.55310 34.59046 | 32.55310 40.70252 | 32.55310 51.90796 | 32.55310 40.70252 | |
| 436 | 437 | 438 | 439 | 440 | 441 | 442 | 450 |
| 34 59046 | 437 444 36.62781 38.66517 | | | | | | 730 |
| 451 | 452 459 | 453 | 454 | 455 | 456 | 457 | 465 |
| 34.59046 50.88929 38.66517 | 50.88929 | 35.60913 | 92.65503 32.55310 | 92.65503 32.55310 | 36.62781 | 32.55310 | |
| 466 473 | 467 474 | 468 | 469 | 470 | 471 | 472 | 480 |
| 38.66517 35.60913 | 36.62781 37.64649 | 39.68384 35.60913 | 32.55310 38.66517 | 32.55310 38.66517 | 36.62781 158.86902 | 37.64649 158.86902 | |
| 481 | 482 | 483 | 484 | 485 | 486 | 487 | 495 |
| | 482 489 88.58033 53.94532 | | | | | | 433 |
| 496 503 | 497 504 | 498 | 499 | 500 | 501 | 502 | 510 |
| 64.13208 | 64.13208 32.55310 | 39.68384 | 39.68384 | 35.60913 | 35.60913 | 34.59046 | 310 |
| 511 | 512 519 | 513 | 514 | 515 | 516 | 517 | 525 |
| 41.72120 32.55310 32.55310 | 41.72120 | 41.72120 | 35.60913 | 35.60913 40.70252 | 35.60913 | 32.55310 | 323 |
| 526 533 | 527 534 | 528 535 | 529 536 | 530 537 | 531 538 | 532 539 | 540 |
| 32.55310 | | 32.55310 | 32.55310 | 32.55310 | 32.55310 | 41.72120 | 340 |
| 541 | 542 | 543 | 544 | 545 | 546 | 547 | |
| 548 37.64649 35.60913 73.30018 | 549 37.64649 72.28150 | 550 37.64649 72.28150 | 551 35.60913 73.30018 | 552 35.60913 38.66517 | 553 72.28150 38.66517 | 554 35.60913 73.30018 | 555 |
| 556 | 557 | 558 | 559 | 560 | 561 | 562 | F 70 |
| 563 48.85193 37.64649 33.57178 | 564 48.85193 34.59046 | | | 567 37.64649 41.72120 | | | 570 |
| 571 | 572 | 573 | 574 | | 576 | 577 | F0F |
| 578 33.57178 38.66517 33.57178 | 579 34.59046 38.66517 | | | 582 42.73987 33.57178 | | | 585 |

| 586 | 587 | 588 | 589 | 590 | 591 | 592 | |
|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----|
| 593 33.57178 32.55310 34.59046 | 594 34.59046 38.66517 | 595 34.59046 38.66517 | 596 33.57178 38.66517 | 597 33.57178 34.59046 | 598 38.66517 32.55310 | 599 32.55310 32.55310 | 600 |
| 601 608 34.59046 32.55310 | 602 609 34.59046 46.81458 | 603 610 34.59046 33.57178 | 611 34.59046 | 612 34.59046 | 606 613 34.59046 37.64649 | 607 614 32.55310 32.55310 | 615 |
| 45.79590 | | 618 625 34.59046 45.79590 | 50.88929 | 50.88929 | | 622 629 39.68384 35.60913 | 630 |
| 32.55310 | 632 639 32.55310 32.55310 | 633 640 35.60913 39.68384 | 641 33.57178 | 32.55310 | 643 32.55310 | 637 644 32.55310 33.57178 | 645 |
| | 647 654 33.57178 36.62781 | 648 655 32.55310 32.55310 | 32.55310 | 657 32.55310 | 651 658 32.55310 43.75855 | 652 659 71.26282 57.00135 | 660 |
| 42.73987 661 668 33.57178 54.96399 46.81458 | 662 669 33.57178 32.55310 | 663 670 32.55310 32.55310 | 664 671 32.55310 35.60913 | 665 672 32.55310 35.60913 | 666 673 32.55310 58.02002 | 667 674 54.96399 74.31885 | 675 |
| 676 683 34.59046 32.55310 34.59046 | 677 684 34.59046 32.55310 | 678 685 32.55310 32.55310 | 679 686 32.55310 32.55310 | 687 33.57178 | 681 688 32.55310 34.59046 | 682 689 33.57178 34.59046 | 690 |
| 691 698 32.55310 | 692 699 32.55310 34.59046 | 693 700 32.55310 32.55310 | 701 34.59046 | 702 34.59046 | 34.59046 | 697 704 32.55310 32.55310 | 705 |
| 706 713 | 707 714 42.73987 38.66517 | 708 715 42.73987 39.68384 | 34.59046 | 34.59046 | 34.59046 | 712 719 38.66517 39.68384 | 720 |
| 721 728 32.55310 34.59046 32.55310 | 722 729 32.55310 32.55310 | 723 730 32.55310 34.59046 | 724 731 33.57178 32.55310 | 725 732 33.57178 32.55310 | 726 733 33.57178 33.57178 | 727 734 34.59046 33.57178 | 735 |
| 736 743 33.57178 36.62781 32.55310 | 737 744 32.55310 36.62781 | | 739 746 34.59046 36.62781 | 740 747 34.59046 36.62781 | 741 748 34.59046 32.55310 | 742 749 36.62781 32.55310 | 750 |
| 751 758 33.57178 32.55310 39.68384 | 752 759 33.57178 32.55310 | 753 760 33.57178 34.59046 | 754 761 34.59046 34.59046 | 755 762 34.59046 34.59046 | 756 763 34.59046 39.68384 | 757 764 32.55310 39.68384 | 765 |
| 766 773 32.55310 32.55310 32.55310 | 767 774 32.55310 32.55310 | 768 775 32.55310 32.55310 | 769 776 38.66517 32.55310 | 770 777 38.66517 36.62781 | 771 778 38.66517 36.62781 | 772 779 32.55310 36.62781 | 780 |
| 781 788 | 782 789 | 783 790 | 784 791 | 785 792 | 786 793 | 787 794 | 795 |

| | 44.77723 57.00135 | | | | | | |
|----------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----|
| 796 803 | 797 804 | 798 | 799 | 800 | 801 808 | 802 809 | 810 |
| 38.66517 | 38.66517 32.55310 | 38.66517 | 35.60913 | 35.60913 | 35.60913 | 32.55310 | 910 |
| 811 818 | 812 819 | 813 820 | 814 821 | 815 | 816 823 | 817 824 | 825 |
| | 32.55310 | 32.55310 | 33.57178 33.57178 | 33.57178 33.57178 | 33.57178 33.57178 | 33.57178 | 023 |
| 826 833 | 827 834 | 828 835 | 829 | 830 837 | 831 838 | 832 839 | 840 |
| 34.59046 | 34.59046 32.55310 | 34.59046 32.55310 | 32.55310 32.55310 | 32.55310 32.55310 | 32.55310 32.55310 | 32.55310 32.55310 | 040 |
| 841 848 | 842 849 | 843 | 844 | 845 | 846 853 | 847 | 855 |
| 32.55310 | 32.55310 32.55310 | 32.55310 | 33.5/1/8 | 33.5/1/8 | 32.55310 | 32.55310 | 633 |
| 856 863 | 857 864 | 858 | 859 | 860 | 861 868 | 862 869 | 870 |
| 37.64649 | 33.57178 35.60913 | 33.57178 33.57178 | 37.64649 33.57178 | 33.57178 33.57178 | 37.64649 32.55310 | 35.60913 | 670 |
| 871 878 | 872 | 873 880 | 874 | 875 | 876 | 877 884 | 885 |
| 32.55310 | 32.55310 39.68384 | 32.55310 32.55310 | 33.57178 39.68384 | 33.57178 32.55310 | 33.57178 32.55310 | 32.55310 | 863 |
| 886 893 | 887 894 | 888 895 | 889 | 890 | 891 | 892 899 | 900 |
| 35.60913 | 32.55310 35.60913 | 32.55310 | 33.57178 | 32.55310 | 33.57178 | 33.57178 | 900 |
| 901 | 902 | 903 910 | 904 | 905 | 906 913 | 907 914 | 915 |
| | 32.55310 | 34.59046 | 32.55310 | 32.55310 | 34.59046 33.57178 | 32.55310 | 913 |
| 916 923 | 917 924 | 918 925 | 919 926 | 920 927 | 921 928 | 922 929 | 930 |
| 32.55310 | 33.57178 | 33.57178 34.59046 | 32.55310 | 32.55310 | 33.57178 33.57178 | 34.59046 33.57178 | 330 |
| 931 | 932 939 | 933 | 934 941 | 935 942 | 936 943 | 937 944 | 945 |
| 32.55310 | | 44.77723 | 44.77723 | 32.55310 | | 32.55310 32.55310 | 343 |
| 946 | 947 954 | 948 955 | 949 956 | 950 957 | 951 958 | 952 959 | 960 |
| | 32.55310 | 32.55310 | 35.60913 | 35.60913 | 35.60913 33.57178 | 33.57178 | 300 |
| 961 968 | 962 969 | 963 970 | 964 971 | 965 972 | 966 973 | 967 974 | 975 |
| 55.98267 | 34.59046 37.64649 | 46.81458 | 46.81458 | 34.59046 | 46.81458 | 34.59046 | |
| 976 983 | 977 984 | 978 985 | 979 986 | 980 987 | 981 988 | 982 989 | 990 |
| 32.55310 32.55310 32.55310 | 32.55310 32.55310 | 32.55310 | 32.55310 | | 32.55310 | | |

```
991 992 993 994 995 996 997
998 999 1000
34.59046 32.55310 32.55310 32.55310 32.55310
32.55310 32.55310 32.55310
[ reached getOption("max.print") -- omitted 51397 entries ]
```

f. Fine tune the model and represent important features

Ans: topic not covered in class.

g. Interpret the summary of the linear model

```
summary(mod)
lm(formula = blogData_train$A ~ blogData_train$Target)
Residuals:
                         Median
      Min
                                       3Q
6.08
              -30.97
                                              1089.09
-1311.76
                         -21.92
Coefficients:
                            Estimate Std. Error t value Pr(>|t|)
                                          0.307019
(Intercept)
                           32.553104
                                                        106.0
blogData_train$Target
                                          0.008014
                   0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Signif. codes:
Residual standard error: 69.17 on 52395 degrees of freedom Multiple R-squared: 0.2357, Adjusted R-squared: 0.2357
Multiple R-squared:
                                   Adjusted R-squared:
and 52395 DF, p-value
                1.61<u>6e</u>+04 on 1
```

For 1 unit increase there will be 1.01 unit of increase in no.of comments

These 3 terms, t-statistics (127.1), Std Error of regression coefficient (0.008014) and Probability (of committing Type I Error) is 2e-06 [2/1000000 = 0.00000200 = almost 0] are associated with a t test which tests following Null Hypothesis:

Ho: The slope of no.of comments is not significant

Ha: The slope of no.of comments is significant

0.008014 = standard error of regression co-efficient

As p value is 0.000 which is less than 0.05, Reject the Ho (and accept Ha) and conclude that "slope is significant"

Multiple R-squared = 0.2357

23.5% of the variance in Average can be explained by no.of comments [Remaining 76.5% is unexplained variance....due to factors outside the model]

h. Report the test accuracy vs. the training accuracy

Ans: topic not covered in class.

i. Interpret the final model coefficients

Ho: The slope of no.of comments is not significant

Ha: The slope of no.of comments is significant

0.008014 = standard error of regression co-efficient

As p value is 0.000 which is less than 0.05, Reject the Ho (and accept Ha) and conclude that "slope is significant"

Multiple R-squared = 0.2357

23.5% of the variance in Average can be explained by no.of comments [Remaining 76.5% is unexplained variance....due to factors outside the model]

j. Plot the model result and compare it with assumptions of the model

```
> summary(mod)
lm(formula = blogData_train$A ~ blogData_train$Target)
Residuals:
                      Median
                                   3Q
6.08
1311.76
                                          1089.09
Coefficients:
                          Estimate Std. Error t value Pr(>|t|)
(Intercept)
                                      0.307019
blogData_train$Target
                                       0.008014
                  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Signif. codes:
Residual standard error: 69.17 on 52395 degrees of freedom
               uared: 0.2357, Adjusted R-squared:
1.616e+04 on 1 and 52395 DF, p-value
Multiple R-squared:
```

For 1 unit increase there will be 1.01 unit of increase in no.of comments

These 3 terms, t-statistics (127.1), Std Error of regression coefficient (0.008014) and Probability (of committing Type I Error) is 2e-06 [2/1000000 = 0.00000200 = almost 0] are associated with a t test which tests following Null Hypothesis:

Ho: The slope of no.of comments is not significant

Ha: The slope of no.of comments is significant

0.008014 = standard error of regression co-efficient

As p value is 0.000 which is less than 0.05, Reject the Ho (and accept Ha) and conclude that "slope is significant"

Multiple R-squared = 0.2357

23.5% of the variance in Average can be explained by no.of comments [Remaining 76.5% is unexplained variance....due to factors outside the model]

```
predict(lm(blogData_train$A~blogData_train$Target))
           55310
                                 57178
                                         60.05738
                                                        55310
                                        32.55310
9590
   16
                         18
                                                20
                                                           21
                                                                      22
      24
                             26
                                                   28
                                                                         30
```

| 47.83326 53.94532 34.59046 | 33.57178 | 47.83326 35.60913 | 45.79590 35.60913 | 33.57178 35.60913 | 53.94532 35.60913 | 33.57178 34.59046 |
|--|------------------------------------|-------------------------|-------------------------------------|-------------------------|-------------------------------------|--|
| 31 38 37.64649 35.60913 | 32 39 37.64649 32.55310 | 32.55310 | 32.55310 | 53.94532 | 36 43 32.55310 32.55310 | 32.55310 |
| 32.55310 32.55310 | 47 54 46.81458 | 44.///23 | 39.68384 | 32.55310 | 51 58 32.55310 32.55310 | 32.55310 |
| 68 33.57178 | 33.57178 | 33.57178 | 34.59046 | 34.59046 | 66 73 32.55310 32.55310 | 32.55310 |
| 33.3/1/0 | 40./0232 | 32.333TO | 32.333TO | 09.22347 | 81 88 33.57178 36.62781 | 34.39040 |
| 33.57178 91 98 33.57178 | 92 99 35,60913 | 93 100 1 35,60913 | 94 101 1 34.59046 | 95 LO2 : 34.59046 | 96 103 33.57178 35.60913 | 97 104 105 33.57178 |
| 34.59046 106 113 | 107 114 | 108 115 | 109 116 | 110 117 | | 112 119 120 |
| 32.55310 121 128 36.62781 38.66517 | 122 129 | 123 130 | 124 131 | 125 132 | 126 133 36.62781 40.70252 | 127 134 135 |
| 32.55310 | 36.62781 | 36.62781 | 39.68384 | 32.55310 | 141 148 32.55310 38.66517 | 32.55310 |
| | 152 159 32.55310 39.68384 | 34.333TO | 30.003I/ | 26.333TO | 156 163 38.66517 36.62781 | 157 164 165 34.59046 36.62781 |
| 33.57178 166 173 33.57178 52.92664 | 167 174 33.57178 37.64649 | | 169 176 107.93519 50.88929 | | 171 178 107.93519 33.57178 | 172 179 180 52.92664 33.57178 |
| 40.70252 181 188 32.55310 32.55310 32.55310 | | | | | 186 193 38.66517 32.55310 | |
| 196 203 33.57178 32.55310 37.64649 | 197 204 33.57178 32.55310 | | 199 206 32.55310 32.55310 | | 201 208 32.55310 55.98267 | |
| 211 218 36.62781 35.60913 33.57178 | 212 219 36.62781 36.62781 | | 214 221 36.62781 80.43091 | | 216 223 35.60913 33.57178 | 217 224 225 32.55310 80.43091 |

| 226 | 227 | 228 | 229 | 230 | 231 | 232 | |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----|
| 233 36.62781 33.57178 41.72120 | 32.55310 | | 32.55310 | 32.55310 | 41.72120 | 41.72120 | 240 |
| 241 248 | 242 249 | 243 250 | 244 251 | 245 252 | 246 253 | 247 254 | 255 |
| 32.55310 33.57178 35.60913 | 32.55310 | 32.55310 33.57178 | 35.60913 | 35.60913 32.55310 | 35.60913 | 33.57178 35.60913 | 233 |
| 256 263 33.57178 32.55310 | 257 264 33.57178 32.55310 | 258 265 33.57178 39.68384 | 259 266 32.55310 39.68384 | 260 267 32.55310 39.68384 | 261 268 32.55310 36.62781 | 262 269 32.55310 36.62781 | 270 |
| 36.62781 271 | 272 | 273 | 274 | 275 | 276 | 277 | |
| 278 39.68384 | 279 39.68384 | 280 39.68384 32.55310 | 281 35.60913 | 282 35.60913 | 283 33.57178 | 284 33.57178 36.62781 | 285 |
| 286 | 287 | 288 | 289 | 290 297 | 291 | 292 | |
| 293 38.66517 35.60913 32.55310 | 294 38.66517 35.60913 | 295 38.66517 36.62781 | 296 33.57178 36.62781 | 33.57178 | 298 33.57178 35.60913 | 299 35.60913 32.55310 | 300 |
| 301 | 302 | 303 | 304 | 305 | 306 | 307 | 245 |
| 308 34.59046 35.60913 34.59046 | | 310 34.59046 34.59046 | | | | 314 35.60913 34.59046 | 315 |
| 316 | | 318 | 319 | | 321 | 322 | |
| 323 35.60913 41.72120 69.22547 | 324 35.60913 41.72120 | 325 33.57178 39.68384 | 326 33.57178 39.68384 | 327 32.55310 41.72120 | 328 32.55310 34.59046 | 329 41.72120 69.22547 | 330 |
| 331 | 332 339 | 333 340 | 334 341 | 335 342 | 336 343 | | 245 |
| 338 34.59046 32.55310 40.70252 | 34.59046 | 34.59046 32.55310 | 42.73987 | 40.70252 | 34.59046 | 344 40.70252 41.72120 | 345 |
| 346 353 | 347 354 | 348 355 | 349 356 | 350 357 | 351 358 | 352 359 | 360 |
| | 39.68384 | 40.70252 33.57178 | 32.55310 | 37.64649 | 37.64649 | 32.55310 | 300 |
| 361 | 362 | 363 | | | | | 275 |
| 368 32.55310 32.55310 32.55310 | 369 35.60913 32.55310 | 370 33.57178 40.70252 | 371 88.58033 36.62781 | 372 88.58033 33.57178 | 373 46.81458 43.75855 | 374 46.81458 34.59046 | 375 |
| 376 | 377 | 378 | 379 | 380 | 381 | 382 | 200 |
| 383 36.62781 32.55310 37.64649 | 384 34.59046 32.55310 | | 386 34.59046 42.73987 | | | | 390 |
| 391 | 392 | 393 | 394 | 395 | 396 | 397 | 405 |
| 398 51.90796 36.62781 35.60913 | | 400 37.64649 35.60913 | | | | 404 36.62781 38.66517 | 405 |
| 406 | 407 | 408 415 | 409 | 410 | | 412 | 420 |
| 413 33.57178 32.55310 32.55310 | 414 40.70252 42.73987 | 415 40.70252 33.57178 | 416 42.73987 32.55310 | 417 33.57178 36.62781 | 418 32.55310 32.55310 | 419 32.55310 36.62781 | 420 |
| 421 428 | 422 429 | 423 430 | 424 431 | 425 432 | 426 433 | 427 434 | 435 |
| | | | | | | | |

| 37.64649 32.55310 51.90796 | 35.60913 32.55310 | 42.73987 34.59046 | 32.55310 34.59046 | 32.55310 40.70252 | 32.55310 51.90796 | 32.55310 40.70252 | |
|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----|
| 436 443 33.57178 32.55310 | 437 444 36.62781 38.66517 | 33.57178 | 36.62781 | 41.72120 | | 442 449 32.55310 33.57178 | 450 |
| 50.88929 | 35.60913 | 453 460 35.60913 36.62781 | 92.65503 | 92.65503 | 32.55310 | 457 464 32.55310 39.68384 | 465 |
| 35.60913 | 467 474 36.62781 37.64649 | 39.68384 | 32.55310 | 32.55310 | 478 36.62781 | 37.64649 | 480 |
| | 482 489 88.58033 53.94532 | 88.58033 | 88.58033 | 88.58033 | 486 493 53.94532 33.57178 | 53.94532 | 495 |
| 503 64.13208 34.59046 | 497 504 64.13208 32.55310 | 39.68384 | 39.68384 | 35.60913 | 508 35.60913 | 34.59046 | 510 |
| 32.55310 | 512 519 41.72120 32.55310 | 41.72120 | 35.60913 | 35.60913 | 516 523 35.60913 32.55310 | 32.55310 | 525 |
| 64.13208 | 527 534 32.55310 42.73987 | 32.55310 | 32.55310 | 32.55310 | 32.55310 | 532 539 41.72120 44.77723 | 540 |
| 35.60913 | 542 549 37.64649 72.28150 | 37.64649 | 35.60913 | 35.60913 | 546 553 72.28150 38.66517 | 547 554 35.60913 73.30018 | 555 |
| | 557 564 48.85193 34.59046 | 558 565 48.85193 40.70252 | 566 50.88929 | 567 37.64649 | 568 33.57178 | 562 569 32.55310 33.57178 | 570 |
| 33.57178 571 578 33.57178 38.66517 33.57178 | 572 579 34.59046 38.66517 | | 574 581 42.73987 33.57178 | 575 582 42.73987 33.57178 | 576 583 42.73987 54.96399 | 577 584 38.66517 54.96399 | 585 |
| 586 593 33.57178 32.55310 34.59046 | 587 594 34.59046 38.66517 | 588 595 34.59046 38.66517 | 589 596 33.57178 38.66517 | 590 597 33.57178 34.59046 | 591 598 38.66517 32.55310 | 592 599 32.55310 32.55310 | 600 |
| 608 34.59046 32.55310 37.64649 | 602 609 34.59046 46.81458 | 603 610 34.59046 33.57178 | 604 611 34.59046 46.81458 | 605 612 34.59046 33.57178 | 606 613 34.59046 37.64649 | 607 614 32.55310 32.55310 | 615 |
| 616 623 32.55310 45.79590 32.55310 | 617 624 34.59046 45.79590 | 618 625 34.59046 45.79590 | 619 626 50.88929 39.68384 | | 621 628 38.66517 33.57178 | 622 629 39.68384 35.60913 | 630 |

| 631 | | | 634 | 635 | 636 | | |
|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----|
| 33.57178 | 32.55310 | | 39.68384 | 33.57178 | 33.57178 | 33.57178 | 645 |
| 646 653 33.57178 35.60913 | 654 33.57178 | 655 | 656 32.55310 | 657 32.55310 | 651 658 32.55310 43.75855 | 659 71.26282 | 660 |
| 54.96399 | 662 669 33.57178 32.55310 | 663 670 32.55310 32.55310 | 32.55310 | 32.55310 | 673 32.55310 | 667 674 54.96399 74.31885 | 675 |
| 32.55310 | 677 684 34.59046 32.55310 | 32.55310 | 679 686 32.55310 32.55310 | 687 33.57178 | 688 32.55310 | 682 689 33.57178 34.59046 | 690 |
| 34.59046 691 698 32.55310 34.59046 65.15076 | 692 699 32.55310 34.59046 | 32.55310 | 34.59046 | 702 34.59046 | 696 703 34.59046 65.15076 | 697 704 32.55310 32.55310 | 705 |
| 706 713 | 707 714 42.73987 38.66517 | 708 715 42.73987 39.68384 | | 34.59046 | | | 720 |
| 721 728 32.55310 34.59046 32.55310 | 729 | 723 730 32.55310 34.59046 | 731 33.57178 | | 733 33.57178 | 727 734 34.59046 33.57178 | 735 |
| 736 743 33.57178 36.62781 32.55310 | 737 744 32.55310 36.62781 | 738 745 32.55310 36.62781 | 746 34.59046 | 747 34.59046 | 748 34.59046 | 742 749 36.62781 32.55310 | 750 |
| 751 758 | 752 759 33.57178 32.55310 | 753 760 33.57178 34.59046 | | 34.59046 | 34.59046 | | 765 |
| 766 773 32.55310 32.55310 32.55310 | 774 | 768 775 32.55310 32.55310 | 776 38.66517 | | 778 38.66517 | | 780 |
| 781 788 32.55310 57.00135 32.55310 | 782 789 44.77723 57.00135 | | 784 791 44.77723 33.57178 | 785 792 32.55310 33.57178 | 786 793 32.55310 32.55310 | 787 794 33.57178 32.55310 | 795 |
| 796 803 38.66517 32.55310 32.55310 | 797 804 38.66517 32.55310 | 798 805 38.66517 32.55310 | 799 806 35.60913 32.55310 | 800 807 35.60913 32.55310 | 808 35.60913 35.60913 | 802 809 32.55310 35.60913 | 810 |
| 811 818 35.60913 | 812 819 32.55310 33.57178 | 813 820 32.55310 33.57178 | | 822 33.57178 | 823 33.57178 | 817 824 33.57178 33.57178 | 825 |
| 826 833 | 827 834 | 828 835 | 829 836 | 830 837 | 831 838 | 832 839 | 840 |

| 34.59046 32.55310 | 34.59046 32.55310 | 34.59046 32.55310 | 32.55310 32.55310 | 32.55310 32.55310 | 32.55310 32.55310 | 32.55310 32.55310 | |
|---|-------------------------|------------------------------------|----------------------|----------------------|----------------------|-----------------------------|------|
| 32.55310 841 | | | | | | | |
| 32.55310 | 32.55310 | 843 850 32.55310 32.55310 | 33.57178 | 33.57178 | 32.55310 | 32.55310 | 855 |
| 42.73987 856 863 | 857 864 | 858 865 | 859 | 860 | 861 | 862 | 0.70 |
| 37.64649 | 33.57178 | 33.57178 33.57178 | 37.64649 | 33.57178 | 37.64649 | 869 35.60913 32.55310 | 870 |
| 871 | 872 | 873 880 | 874 | 875 | 876 | 877 | 005 |
| 878 32.55310 32.55310 32.55310 | 32.55310 | 32.55310 32.55310 | 33.57178 | 33.57178 | 33.57178 | 884 32.55310 35.60913 | 885 |
| 886 | 887 | 888 895 | 889 | 890 | 891 | | 000 |
| | 32.55310 | 32.55310 33.57178 | 33.57178 | 32.55310 | 33.57178 | 899 33.57178 32.55310 | 900 |
| 32.55310 901 | 902 | 903 910 | 904 | 905 | 906 | 907 | |
| | 32.55310 | 910 34.59046 33.57178 | 32.55310 | 32.55310 | 34.59046 | 32.55310 | 915 |
| 916 | 917 | 918 | 919 | 920 | 921 | 922 | |
| 33.57178 | 33.57178 | 918 925 33.57178 34.59046 | 33.57178 | 34.59046 | 33.57178 | 33.57178 | 930 |
| 931 | 932 | 933 | 934 | 935 | 936 | 937 | |
| 938 32.55310 32.55310 36.62781 | | 933 940 44.77723 36.62781 | | | | | 945 |
| 946 | 947 954 | 948 955 | 949 | 950 | 951 | 952 959 | 960 |
| 953 32.55310 33.57178 33.57178 | 32.55310 | 32.55310 33.57178 | 35.60913 | 35.60913 | 35.60913 | 33.57178 | 960 |
| 961 | 962 | 963 970 | 964 | 965 | 966 | 967 | 075 |
| 968 55.98267 46.81458 37.64649 | 34.59046 | 46.81458 37.64649 | 46.81458 | 34.59046 | 46.81458 | 34.59046 32.55310 | 975 |
| 976 | 977 984 | 978 985 | 979 986 | 980 987 | 981 988 | 982 989 | 990 |
| 983 32.55310 32.55310 32.55310 | 32.55310 32.55310 | 32.55310 34.59046 | 32.55310 32.55310 | 32.55310 32.55310 | 32.55310 34.59046 | 32.55310 32.55310 | 990 |
| 991 | 992 | 993 | 994 | 995 | 996 | 997 | |
| 998 34.59046 | 32.55310 | 1000 32.55310 | 32.55310 | 32.55310 | 32.55310 | 32.55310 | |
| 32.55310 [reached | 32.55310 d getOption | 32.55310 n("max.prir | nt") om ⁻ | itted 51397 | entries | | |