101C_final_project

```
train<-read.csv("/Users/lingjuexie/Downloads/lafdtraining.csv")
load("/Users/lingjuexie/Downloads/Training_adj.rda")
#train_adj<-read.csv("/Users/lingjuexie/Downloads/Training_adj.csv")
#str(train)
#summary(train)
#summary(factor(train$year))
#summary(factor(train$First.in.District))
#summary(factor(train$Dispatch.Sequence))
#summary(factor(train$First.in.District))
#summary(factor(train$Dispatch.Status))
#summary(factor(train$Unit.Type))
#summary(train$Incident.Creation.Time..GMT.)
#summary(factor(train$elapsed_time))
#View(train)
```

```
summary(factor(train$Dispatch.Sequence))
```

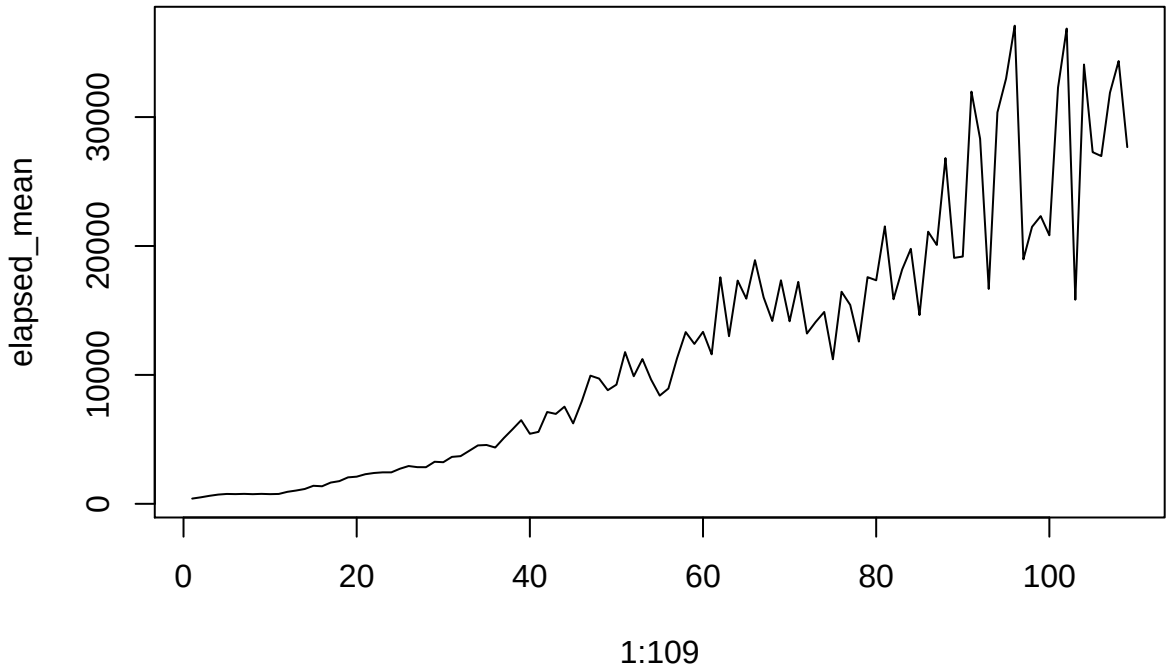
```
##       1       2       3       4       5       6       7       8       9
## 1303014  892056  279784   85987   38661   27035   22781   20811   19770
##      10      11      12      13      14      15      16      17      18
##   17368   14637   10555    7786    4767    3125    2519    2186    1787
##      19      20      21      22      23      24      25      26      27
##    1528    1305    1135    1001     825     730     608     524     462
##      28      29      30      31      32      33      34      35      36
##     409     378     347     315     289     252     239     210     192
##      37      38      39      41      40      42      43      44      45
##     176     157     148     133     131     126     116     112     108
##      46      47      48      49      52      50      51      53      54
##     102     100      84      78      77      75      74      71      66
##      55      58      59      56      57      61      62      60      63
##      58      55      48      47      45      45      45      43      39
##      68      64      66      67      69      71      70      65      72
##      39      37      36      36      35      34      33      31      30
##      73      74      75      80      83      79      82      76      78
##      30      26      26      25      25      23      22      21      21
##      81      84      85      89      87      77      86      88      90
##      19      18      18      18      17      16      16      16      16
##      91      93      92      94      95     105      96     109 (Other)
##      13      13      12      11      11      11      10      10     550
##    NA's
##    5308
```

```
elapsed_mean<-c()
diff<-c()
diff[1]<-0
for(i in 1:109){
  elapsed_mean[i]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
  if(i>1) diff[i]<-elapsed_mean[i]-elapsed_mean[i-1]
}
diff
```

```
##   [1]       0.000000      98.381135     115.782052      95.501613      50.538118
```

```
##   [6]    -12.768715     18.557678    -23.599082     22.198999    -20.298401
##  [11]     14.271506    166.055099     99.387906    120.529481    248.503259
##  [16]    -37.712318    287.736061    111.788721    290.645671     54.651405
##  [21]    189.526965     96.381086     49.222934     -1.352369    282.355683
##  [26]    208.008380    -85.200757     -5.590400    422.818145    -36.335874
##  [31]    414.974505     57.716384    414.225066    416.746613     33.481252
##  [36]   -199.078840    741.014881    675.819841    705.316947  -1054.295749
##  [41]    148.367905   1541.991318   -148.272345    562.793814  -1298.863001
##  [46]   1717.785621   1986.063762   -227.620090   -899.159452    430.310196
##  [51]   2522.308851  -1871.088512   1332.316482  -1587.819955  -1247.569850
##  [56]    548.442391   2348.406579   2030.646199   -917.406349    937.628571
##  [61]  -1747.285714   5977.903361  -4568.962475   4314.126078  -1403.512019
##  [66]   2985.695055  -2884.810440  -1832.561254   3155.585979  -3178.618571
##  [71]   3058.960000  -4007.701818    887.573123    785.608696  -3669.842105
##  [76]   5238.286550  -1023.353535  -2842.326203   4997.285294   -243.907143
##  [81]   4182.246032  -5652.588889   2308.533333   1603.051282  -5139.884615
##  [86]   6468.571429  -1030.008929   6740.687500  -7740.134615    102.456044
##  [91]  12792.053571  -3659.013889 -11647.611111  13696.375000   2623.553571
##  [96]   4102.015873 -18124.777778   2520.933333    835.400000  -1490.166667
## [101]  11453.666667   4581.250000 -21032.416667  18244.500000  -6798.196970
## [106]   -304.836364   4919.533333   2452.666667  -6676.571429
```

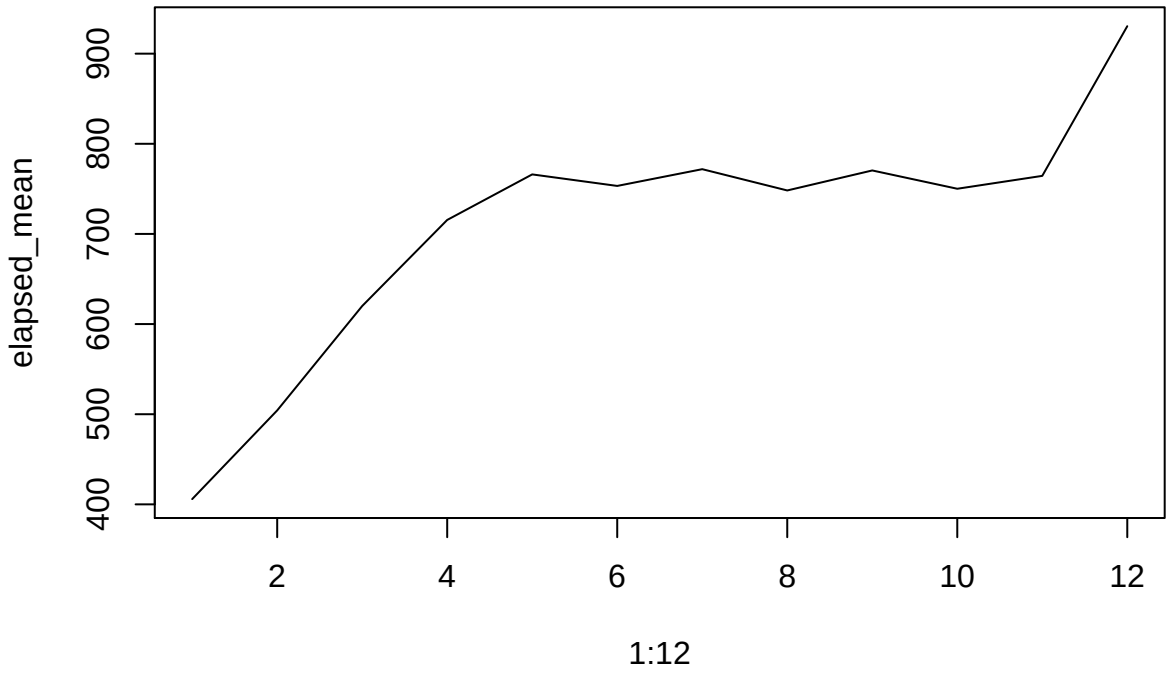
```
plot(1:109,elapsed_mean,type="l")
```



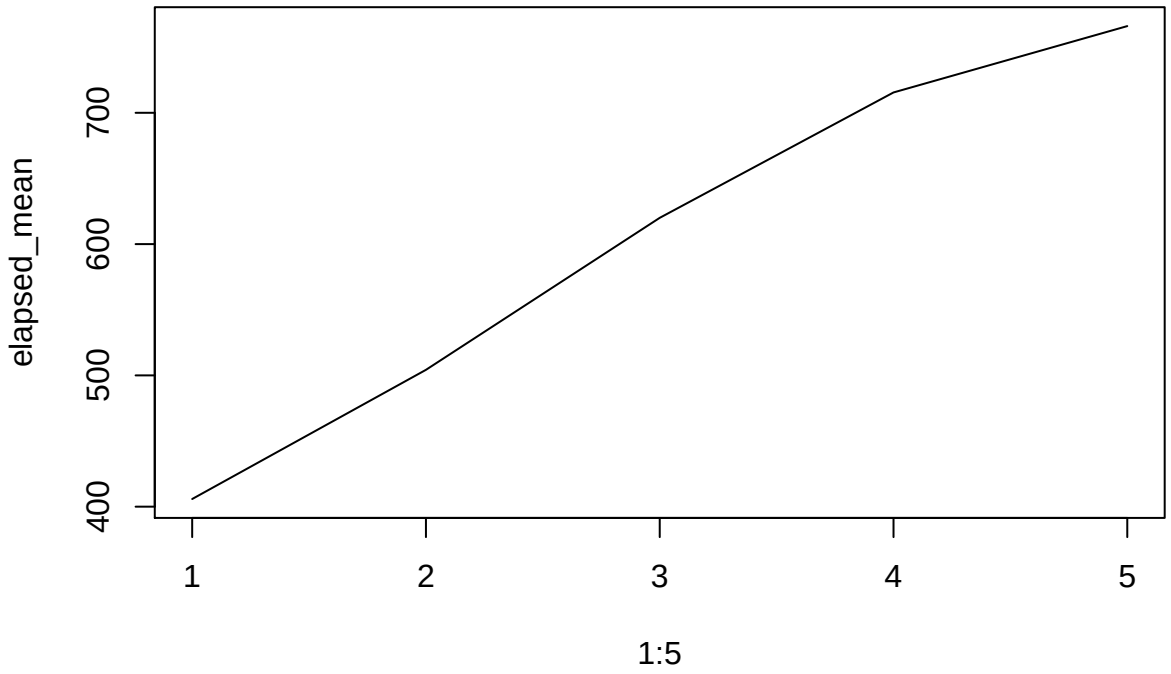

```
elapsed_mean<-c()
for(i in 1:12){
  elapsed_mean[i]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}
elapsed_mean
```

```
##  [1] 405.8330 504.2141 619.9962 715.4978 766.0359 753.2672 771.8249
##  [8] 748.2258 770.4248 750.1264 764.3979 930.4530
```

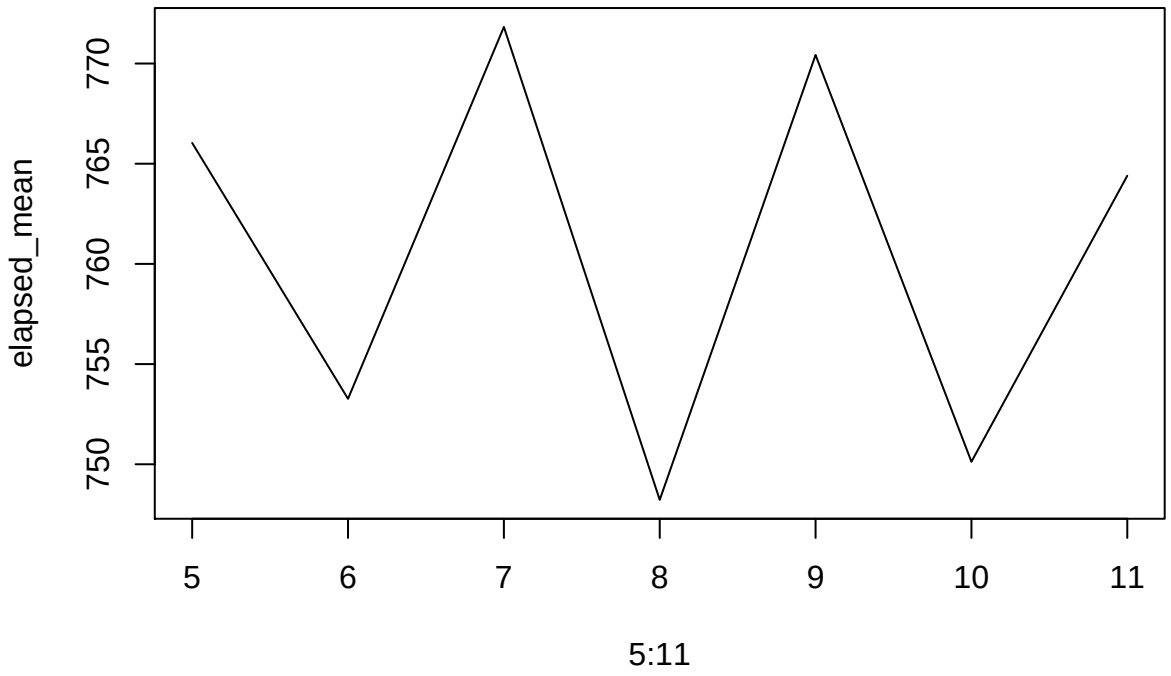
```r
plot(1:12,elapsed_mean,type="l")
```



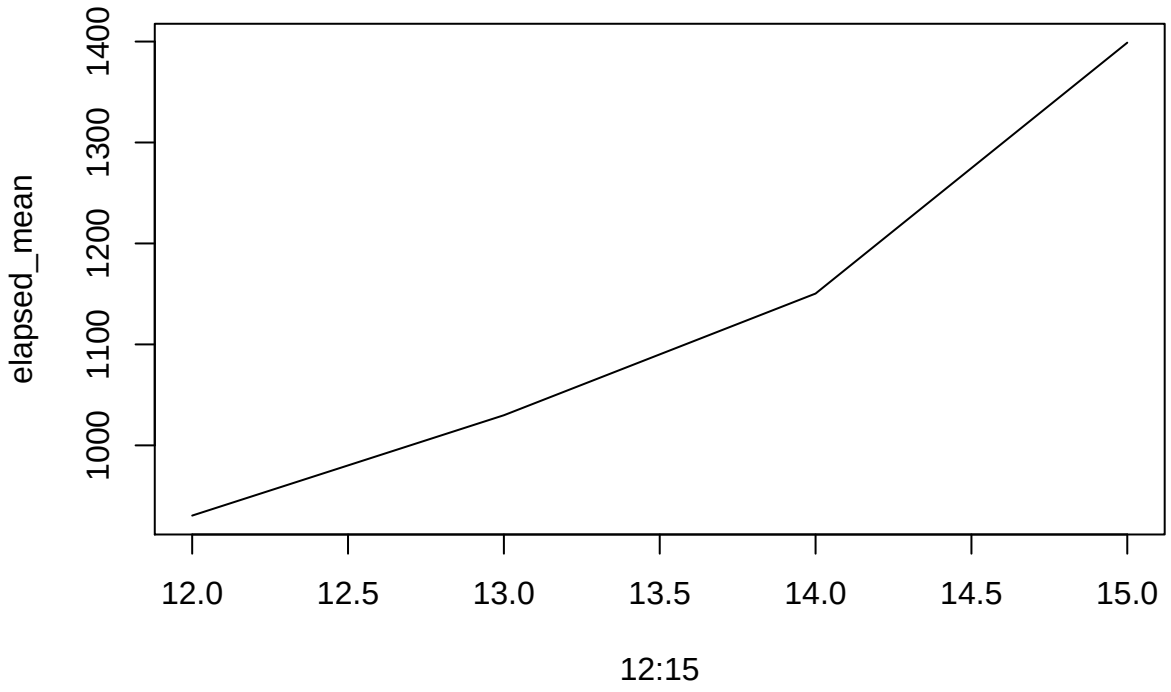

```r
#1-5
elapsed_mean<-c()
for(i in 1:5){
  elapsed_mean[i]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}

plot(1:5,elapsed_mean,type="l")
```



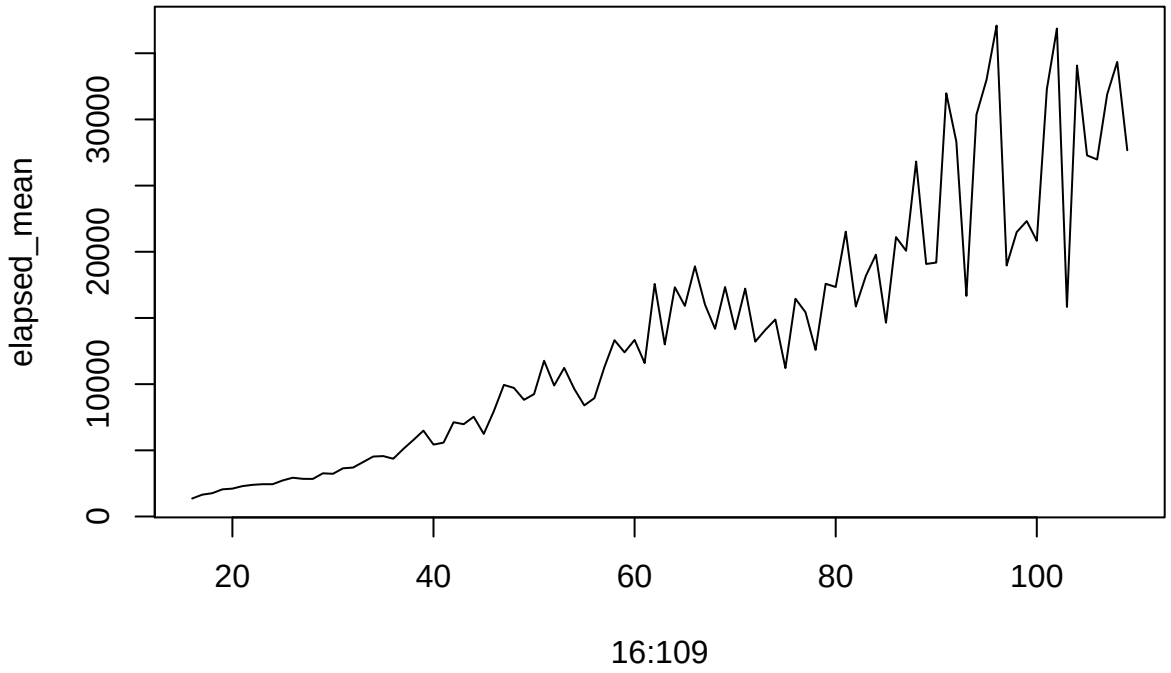
```r
#6-11 use 11 only
elapsed_mean<-c()
for(i in 5:11){
  elapsed_mean[i-4]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}

plot(5:11,elapsed_mean,type="l")
```




```r
#12-15 separately
elapsed_mean<-c()
for(i in 12:15){
  elapsed_mean[i-11]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}

plot(12:15,elapsed_mean,type="l")
```

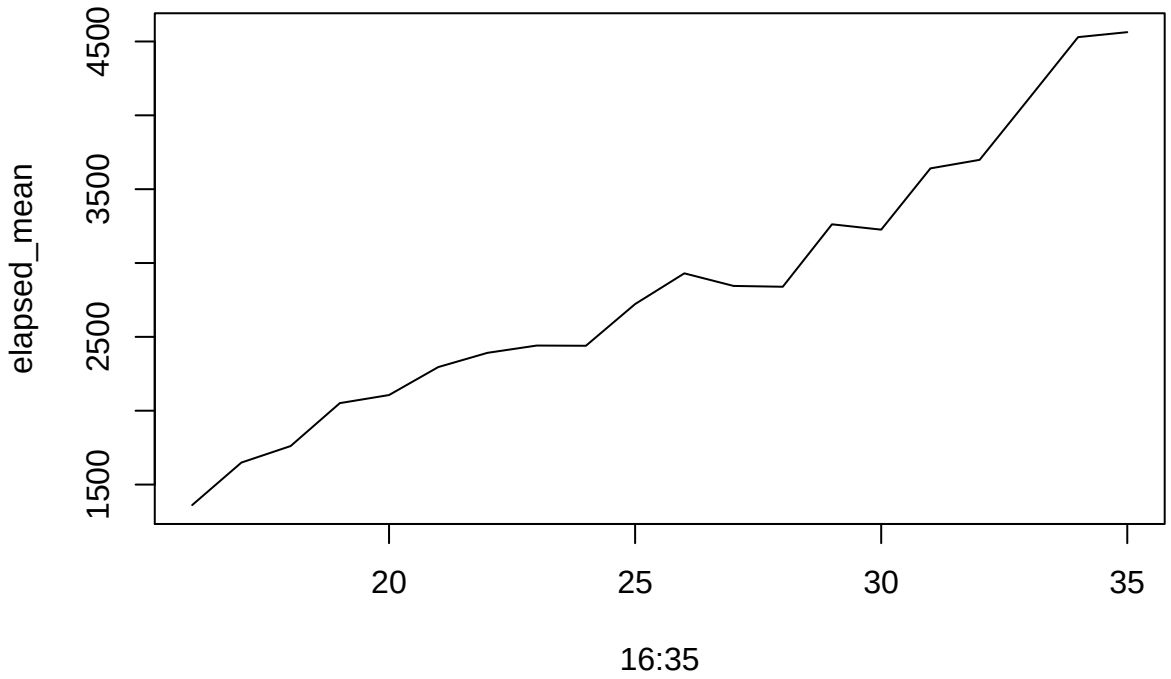



```
#16-109
elapsed_mean<-c()
for(i in 16:109){
  elapsed_mean[i-15]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}

plot(16:109,elapsed_mean,type="l")
```

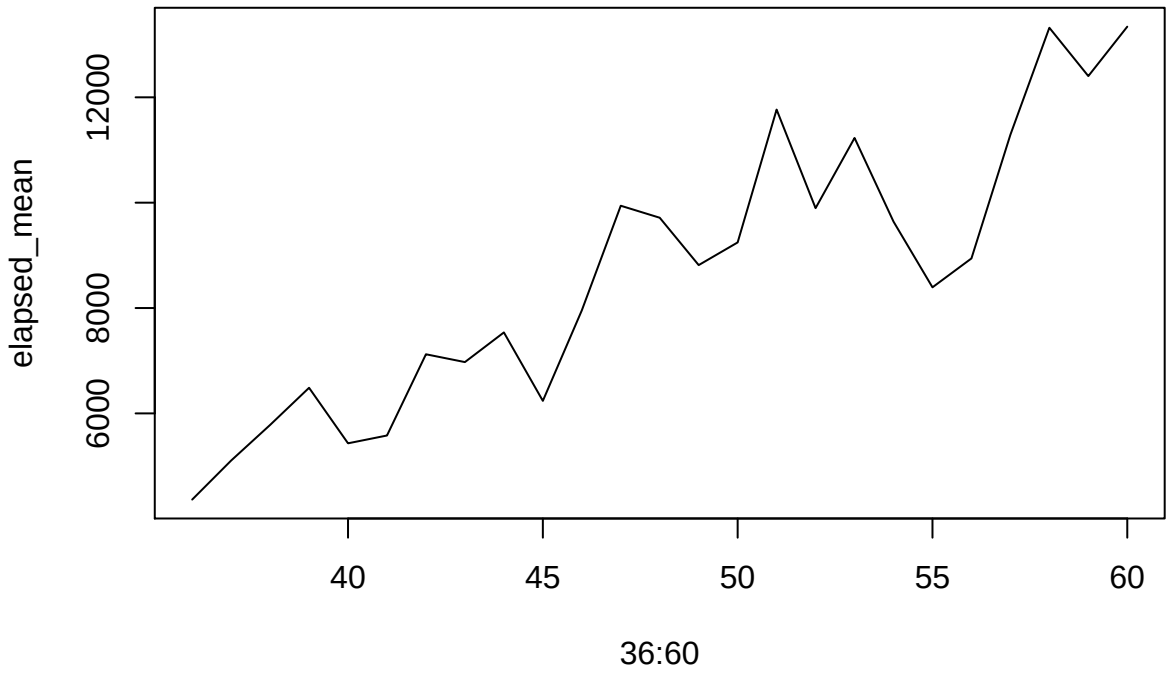



```
#16-35 use 26 only
elapsed_mean<-c()
for(i in 16:35){
```

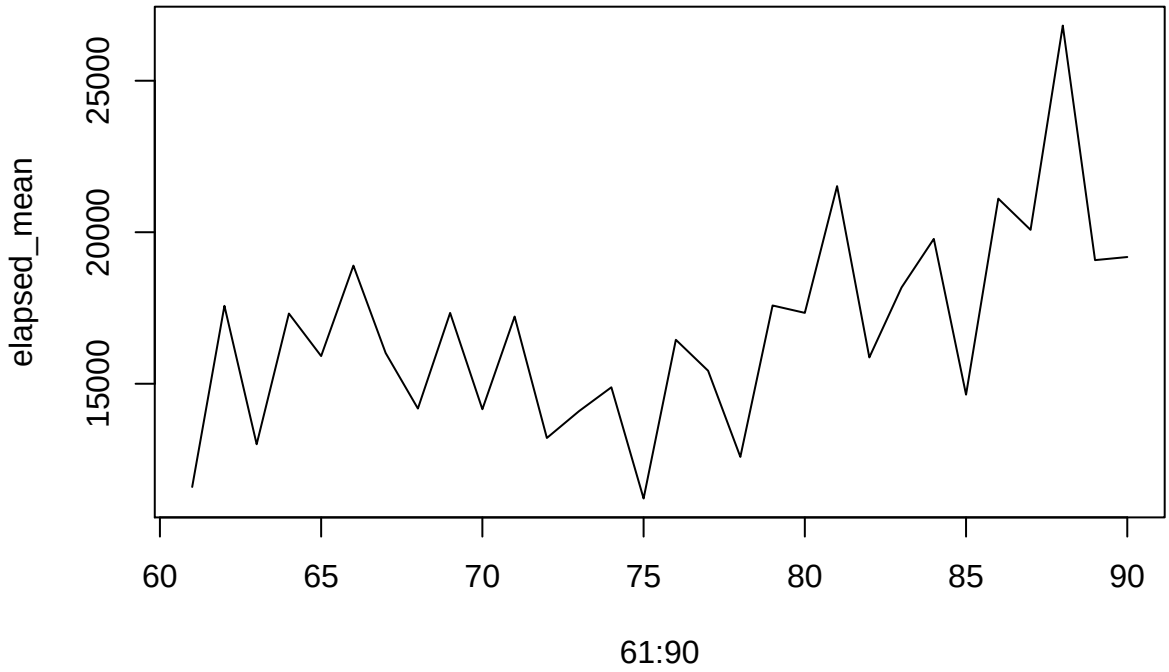
```
  elapsed_mean[i-15]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}

plot(16:35,elapsed_mean,type="l")
```




```
#36-60 use 50 only
elapsed_mean<-c()
for(i in 36:60){
  elapsed_mean[i-35]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}

plot(36:60,elapsed_mean,type="l")
```

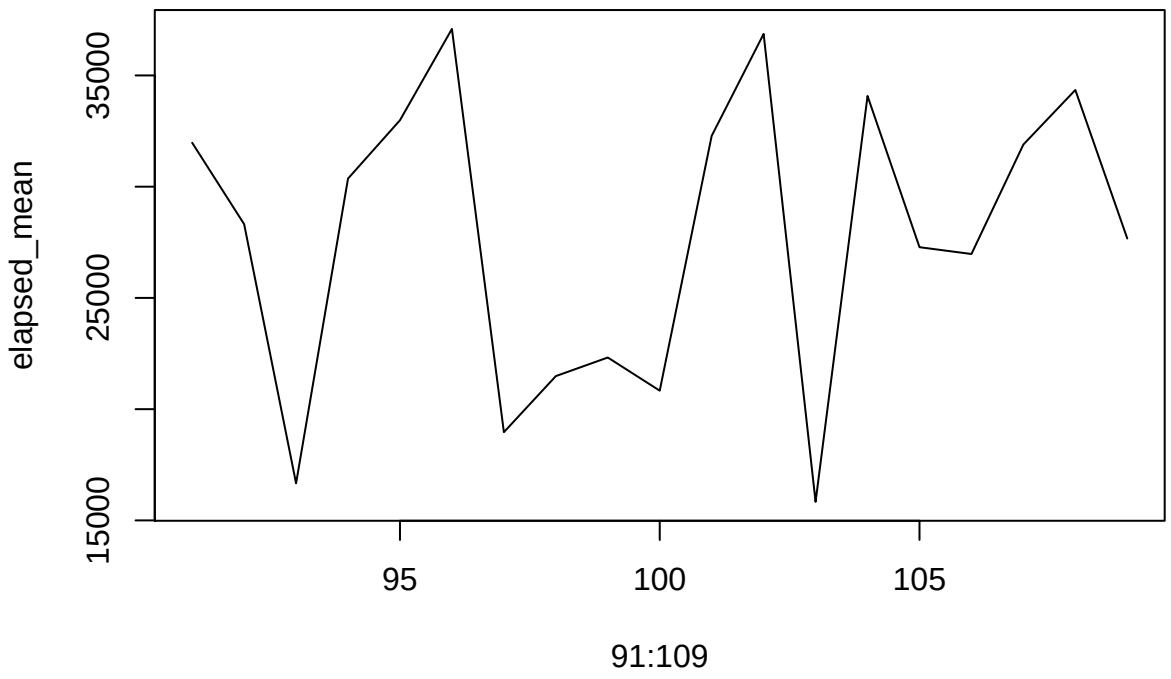



```
#61-90 use 80 only
elapsed_mean<-c()
for(i in 61:90){
  elapsed_mean[i-60]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}

plot(61:90,elapsed_mean,type="l")
```




```
#91-109 or others use 101 only
elapsed_mean<-c()
for(i in 91:109){
```

```
  elapsed_mean[i-90]<-mean(Training_adj[which(Training_adj$Dispatch.Sequence==i),]$elapsed_time)
}
plot(91:109,elapsed_mean,type="l")
```




```
Training_adj$Dispatch.Sequence.new<-Training_adj$Dispatch.Sequence

Training_adj[Training_adj$Dispatch.Sequence>=6 &Training_adj$Dispatch.Sequence<=11,]$Dispatch.Sequence.n

Training_adj[Training_adj$Dispatch.Sequence>=16 &Training_adj$Dispatch.Sequence<=35,]$Dispatch.Sequence

Training_adj[Training_adj$Dispatch.Sequence>=36 &Training_adj$Dispatch.Sequence<=60,]$Dispatch.Sequence

Training_adj[Training_adj$Dispatch.Sequence>=61 &Training_adj$Dispatch.Sequence<=90,]$Dispatch.Sequence

Training_adj[!(Training_adj$Dispatch.Sequence>=1 &Training_adj$Dispatch.Sequence<=90),]$Dispatch.Sequenc

summary(factor(Training_adj$Dispatch.Sequence.new))
```

```
##       1       2       3       4       5      11      12      13      14
## 1172097  755039  220326   61993   24429   56259    4424    3507    2565
##      15      26      50      80     101
##    1733    9688    1926     642     432
```