HW_6_Grebeniuk

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R Markdown

Exercise 1

```
getwd()
```

```
## [1] "/Users/alenagrebenuk/Desktop/stats1_hw"
```

```
setwd("/Users/alenagrebenuk/Desktop/stats1_hw")
dat<-read.table("persianE1.txt",header=TRUE, sep =" ")
head(dat)
```

```
##   distance predability subj item   rt condition
## 1     long predictable   19    4  516         c
## 2     long predictable    5   18  558         c
## 3     long predictable   24   35 1121         c
## 4     long predictable   38   29  488         c
## 5     long predictable   27   28  456         c
## 6     long predictable   19   12  332         c
```

Exercise 1

Your task is to calculate the mean reading time for each subject in each condition, labeled a-d.

```
means<-with(dat,tapply(rt,list(subj,condition), mean))
means
```

```
##            a        b         c        d
## 4   498.1111  609.1111  516.2222 497.6667
## 5   976.6667 1579.0000  783.2222 865.0000
## 6   554.6667  389.2222  652.3333 744.0000
## 7   657.1111  708.2222  680.3333 704.4444
## 8   398.6667  577.4444  443.4444 693.8889
## 9   511.3333  493.1111  715.3333 539.0000
## 10  306.4444  383.3333  412.4444 358.6667
## 11  533.3333  583.1111  572.1111 727.8889
## 12  920.6667  703.1111 1115.2222 898.0000
## 13  456.2222  439.3333  480.0000 518.0000
## 14  400.2222  560.7778  774.6667 649.1111
## 15  660.8889  679.4444  914.7778 761.0000
## 16  511.8889  440.3333  627.7778 617.1111
## 17  353.3333  338.7778  409.8889 435.3333
```

```
## 18 573.6667  681.2222  651.3333  660.5556
## 19 372.3333  423.7778  449.3333  634.7778
## 20 513.7778  722.0000  394.5556  639.4444
## 21 846.6667 1016.6667 1062.2222 1178.5556
## 22 701.2222  713.0000  577.8889  696.4444
## 23 562.0000  880.5556  674.8889  680.8889
## 24 525.2222  924.3333  623.1111  872.5556
## 25 629.2222  720.7778  784.7778  797.0000
## 26 439.0000  387.6667  454.8889  538.7778
## 27 516.3333  460.4444  391.6667  899.6667
## 28 384.8889  401.8889  394.2222  464.3333
## 29 526.4444  645.3333  604.7778  571.0000
## 30 897.4444  776.0000  845.5556  875.8889
## 31 518.3333  672.3333  676.8889 1165.6667
## 32 619.3333  427.7778  368.6667  520.1111
## 33 601.6667  574.0000  622.4444  537.1111
## 34 354.2222  366.5556  349.3333  322.1111
## 35 871.7778  673.4444  632.3333 1164.2222
## 36 281.0000  261.1111  306.1111  395.8889
## 37 544.0000  421.2222  651.7778  519.8889
## 38 421.3333  401.3333  469.0000  637.8889
## 39 395.3333  349.0000  297.3333  449.8889
## 40 358.4444  403.8889  400.5556  378.6667
## 41 500.3333  504.2222  482.2222  515.8889
## 42 588.2222  535.0000  578.3333  639.5556
## 43 427.3333  545.6667  490.0000  509.2222
## 44 382.4444  408.6667  502.2222  477.0000
## 45 409.1111  403.1111  425.8889  362.4444
```

Exercise 2

calculate the mean reading time for each condition

```
means<-with(dat,tapply(rt,list(condition), mean))
means
```

```
##        a        b        c        d
## 535.7302 575.8413 577.6217 645.5847
```

Exercise 3

Given the above means by condition, what is the mean difference in reading tie between the distance==long vs distance==short conditions? And what is the mean difference in reading time between the unpredictable and predictable conditions?

```
mean_short<- mean(dat$rt[dat$distance=="short"])
mean_short
```

```
## [1] 555.7857
```

```r
mean_long<- mean(dat$rt[dat$distance=="long"])
mean_long
```

```
## [1] 611.6032
```

```r
mean_short-mean_long
```

```
## [1] -55.81746
```

```r
mean_predictable<- mean(dat$rt[dat$predability=="predictable"])
mean_predictable
```

```
## [1] 556.6759
```

```r
mean_unpredictable<- mean(dat$rt[dat$predability=="unpredictable"])
mean_unpredictable
```

```
## [1] 610.713
```

```r
mean_unpredictable-mean_predictable
```

```
## [1] 54.03704
```