# HW1

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## Q1

```
1/3+1/4
```

```
## [1] 0.5833333
```

```
x <- 2^10
x+1
```

```
## [1] 1025
```

```
f <- 440
1127*log(1+f/700)
```

```
## [1] 549.6415
```

```
a<-2
b<-4
c<--4
d<--b+sqrt(b^2-4*a*c)
d/(2*a)
```

```
## [1] 0.7320508
```

## Q2

```
df1 <- read.csv("NYC.csv", header=T)

xtabs(r ~ emphasis + word, data = df1)
```

```
##           word
## emphasis   flooR fouRth
##   emphatic    59     35
##   normal      84     52
```

Employees used $r$ in the emphatic condition with "fourth" 35 times.

```
xtabs(r ~ store + word, data=df1)
```

```
##          word
## store     flooR fouRth
##   Klein's    12      9
##   Macy's     79     46
##   Saks       52     32
```

```
table(df1$store, df1$word)
```

```
##
##           flooR fouRth
##   Klein's   104    112
##   Macy's    161    175
##   Saks       82     95
```

```
(12/104)*100
```

```
## [1] 11.53846
```

Klein's employees used $r$ in the word "floor" about 11.5% of the time.

## Q3

```
df2 <- read.table("VOT.tsv", header=T)
summary(df2$vot)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##  -85.29  -17.98   13.82    4.06   27.36   82.86
```

```
library(Rmisc)
```

```
## Loading required package: lattice
```

```
## Loading required package: plyr
```

```
summarySE(df2, "vot", "language")
```

```
##   language   N       vot       sd       se       ci
## 1  english 360  32.43242 19.86479 1.046967 2.058958
## 2  spanish 360 -24.31306 36.41377 1.919174 3.774236
```

Mean of Spanish speakers' VOT is -24.31306, and SD of English speakers' VOT is 36.41377.