Class 12 Homework: Plotting Gene Expression

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Read the table into R

```
gene_exp_table <- read.table("rs8067378.txt")
head(gene_exp_table)
```

```
   sample geno      exp
1 HG00367  A/G 28.96038
2 NA20768  A/G 20.24449
3 HG00361  A/A 31.32628
4 HG00135  A/A 34.11169
5 NA18870  G/G 18.25141
6 NA11993  A/A 32.89721
```

```
summary(gene_exp_table)
```

```
    sample              geno                exp        
 Length:462         Length:462         Min.   : 6.675  
 Class :character   Class :character   1st Qu.:20.004  
 Mode  :character   Mode  :character   Median :25.116  
                                       Mean   :25.640  
                                       3rd Qu.:30.779  
                                       Max.   :51.518  
```

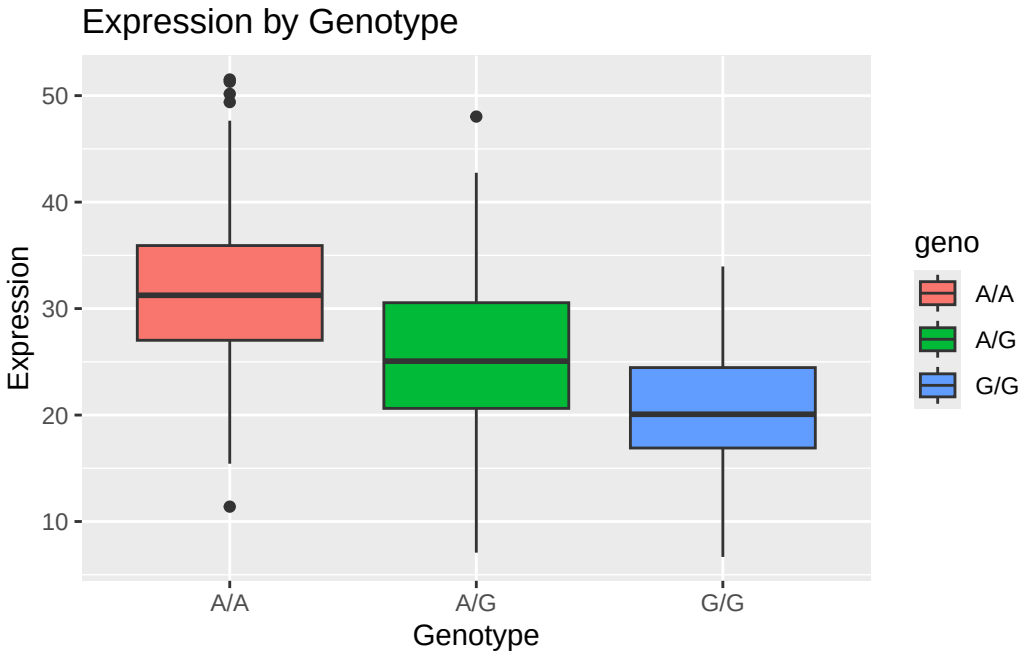
```
table(gene_exp_table$geno)
```

```
A/A A/G G/G 
108 233 121 
```

Create a boxplot.

```
library(ggplot2)
```

```
ggplot(gene_exp_table) +
  aes(geno, exp, fill=geno) +
  geom_boxplot() +
  labs(x="Genotype", y="Expression", title= "Expression by Genotype")
```



Q14: A/A seems to have a higher expression than G/G based on the boxplot. The SNP does seem to affect expression as there is large difference between the two homozygous alleles.