

Class11

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Question 13

read in the document:

```
expr <- read.table("https://bioboot.github.io/bggn213_W19/class-material/rs8067378_ENSG000  
head(expr)
```

```
      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
```

```
nrow(expr)
```

```
[1] 462
```

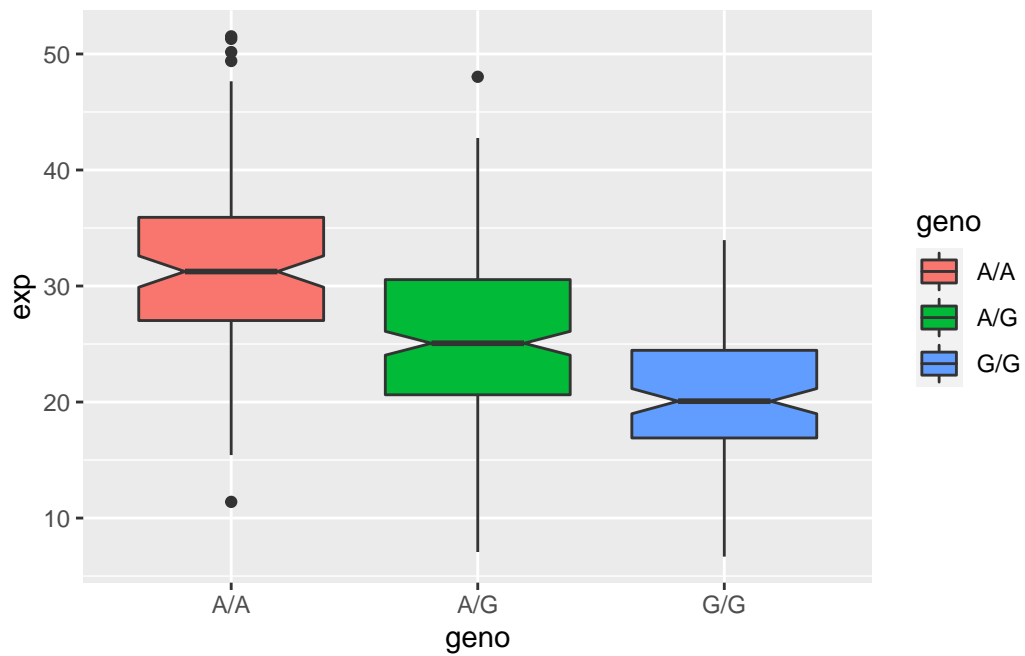
```
table(expr$geno)
```

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

```
library(ggplot2)
```

let's make a boxplot to display our data

```
ggplot(expr) + aes(geno, exp, fill=geno) + geom_boxplot(notch=TRUE)
```



Q14

The median expression of A/A is elevated compared to G/G. The A/A SNP increases the expression of ORMDL3 more than the G/G variant!