Supplement for Lecture 26: Two-Way ANOVA

```
Exams = read.csv("Exams4.csv")
Exams
```

```
##    Student Exam Grade
## 1     Barb    1    62
## 2     Barb    2    87
## 3     Barb    3    74
## 4     Barb    4    77
## 5    Betsy    1    94
## 6    Betsy    2    95
## 7    Betsy    3    86
## 8    Betsy    4    89
## 9     Bill    1    68
## 10    Bill    2    93
## 11    Bill    3    82
## 12    Bill    4    73
## 13     Bob    1    86
## 14     Bob    2    97
## 15     Bob    3    70
## 16     Bob    4    79
## 17     Bud    1    50
## 18     Bud    2    63
## 19     Bud    3    28
## 20     Bud    4    47
```

```
amodExam = aov(Grade~factor(Exam),data=Exams)
amodStudent = aov(Grade~Student,data=Exams)
COMPLETE
```

```
summary(amodExam)
summary(amodStudent)
COMPLETE
```

```
COMPLETE
```

```
COMPLETE
```

```
glue= read.csv("Glue.csv")
glue

#Check if Balanced
COMPLETE

#Interaction Plots (Mean)
COMPLETE

#Check Homoscedasticity
COMPLETE
```

```r
#One-Way ANOVA
THICK = aov(Force~Thickness,data=glue)
summary(THICK)

TYPE = aov(Force~Type,data=glue)
summary(TYPE)

#Two-Way ANOVA
BOTH = aov(Force~Thickness+Type,data=glue)
summary(BOTH)

#Two-Way ANOVA with Interaction
COMPLETE
```

```
COMPLETE
```