**Question 7.1**

1. The interpretation of the model is as follows:
   * 74% of the variability in the starting salary of the sample is explained by GPA and METRICS
   * Both GPA and METRICS have a statistically significant effect on starting salary
   * A 0.1 increase in GPA leads to a $164.3 ceteris paribus increase in starting salary and folks who take Econometrics have a starting salary $5033 higher than those who don’t.
2. I would modify the equation as follows:

Where FEMALE=1, if female and 0 otherwise.

1. For this, I would need to add an interaction term FEMALE\*METRICS, changing the above equation to:

Together, (β4 + β5) show the difference between a Male taking Econometrics vs a Female taking Econometrics. If it is 0, we know the effect of taking Econometrics is the same. If not, we know there is some difference.

**Question 7.4**

1. The coefficients of SQFT and AGE respectively are the change in house price values for a unit change in the value of SQFT and AGE respectively. For a 100 sqft increase in house area, the price increases by $7278.78 because it has a positive sign. Also, for a house that is older by 10 years, it’s price decreases by $1794.62 because its sign is negative. Both coefficients are statistically significant.
2. The estimated coefficients for variables D92 to D96 represent the change in the intercept value for years 1992 to 1996 respectively with respect to the year 1991. That means that all things remaining the same, a house price in the year 1993 differs from the price in 1991 by amount D93 and so on for other years.
3. I we had introduced a term for 1991, that would have introduced perfect collinearity because:

D91 + D92 + …. + D95 + D96 = 1

This would have led the OLS estimators to not work in this situation.

**Question 7.5**