**Assignment**

**Topics – Central Tendency, Dispersion, Correlation and Regression**

1. Guess which of the following two lists has the larger SD. Check your guess by computing the SD for both lists.
   1. 9, 9, 10, 10, 10, 12
   2. 7, 8, 10, 11, 11, 13
2. A company proposes to give a flat raise of $250 a month. What would this do to the average monthly salary of the employees? To the SD? What would a 5% increase in the salaries across the board do to the average monthly salary? To the SD?
3. Classify each of the following variables as qualitative or quantitative, if quantitative as discrete or continuous.
   1. Occupation
   2. Region of residence
   3. Weight
   4. Height
   5. Number of automobiles owned
4. Would the correlation between the age of a second-hand car and its price be positive or negative? Why? (Antiquities are not included)
5. If women always married men who were five years older, the correlation between the ages of husbands and wives would be \_\_\_\_ (-1, close to -1, close to 0, close to 1, 1).
6. For women age 24-34 in the US in 2005, with full time jobs, the relationship between education (years of schooling completed) and personal income can be summarized as follows

Average education = 14 years, SD = 2.4 years

Average income = $32,000, SD =$26,000, r = 0.34

Estimate the average income of those women who have finished high school but have not gone to college(so they have 12 years of education)

1. The final examination scores in Statistics are normally distributed with an average score of   
    70 and a variance of 25.

a. If the lowest passing grade is 25, what percentage of the class is failing?

b. Find the proportion of students who score between 75 and 85 marks.

c. What percentage of students get a score between 67 and 78?

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