DIRECTIONS: You will need to complete this assignment as part of your final exam. Below you will find three data descriptions. Answer each question for the data that is presented to you. I will accept hand-written or typed solutions. You must show how you found the answer to each question (you cannot just report the answer). DUE BY THE FINAL EXAM

I. Dataset 1

X_1	X_2
1	6
0	8
1	3
1	4
0	10

1. What is the mean, median, and mode of X_1, and X_2?
2. How many observations are in Dataset 1?
3. Does there appear to be a relationship between X_1 and X_2? What direction?
4. What is the central tendency (expected value) for X_1? (Give only one number)
5. What is the variance and standard deviation each variable?
6. Sketch a visual representation (graph) of how X_1 is distributed.

II. Dataset 2

X_3	$f(X_3)$
1	5
2	7
3	3
4	2
5	1

7. What is the mean, median, and mode of X_3?
8. How many observations are in Dataset 2?
9. Is Dataset 2 skewed? If so, in what direction?
10. What is the central tendency? (Give only one number)
11. What is the variance and standard deviation X_3?
12. Sketch a visual representation (graph) of how X_3 is distributed.

III. A random national poll showed that out of 1000 respondents, 500 favored a national healthcare program. Within this data, we know that 420 of 900 caucasian respondents favored national healthcare and that 80 of 100 African American respondents favored national healthcare.

a. Set up a cross-tabulation that represents the data.
b. What is the Proportional Reduction in Error (PRE) when we account for respondent race?
c. Is the difference in opinion toward national healthcare *statistically* significant?