



King Saud University

College of Business Administration

Quantitative Analysis Department (QUA)

Statistical Techniques in Health Administration

QUA 520

FINAL TAKE-HOME EXAM

Duration: 48 hours

Name:

Student ID:

Note:

- Provide answers for the all enquires and questions.
- Arrange your answers such that every question has its answer below the question.
- You should interpret all results.
- **You must work in the exam individually and seek NO assistance from anyone.**

Use the data provided in Excel file (BMI.xls) to answer all the following queries and questions:

1. Provide descriptive statistics for all the variables in the data. That includes frequency tables and graphs as well as numerical statistics.
2. Perform a hypothesis test to test if the mean BMI for male is different than female. That is to test if the mean BMI for male and female is the same.
3. Perform a hypothesis test to test if the mean SBP is the same for all Smoking groups.
4. Explore the relationship between Weight and SBP and the relationship between the Age and BMI.
5. Fit a regression model to predict the SBP using Age, Education, Height, and Weight as independent variables.
6. Should all the independent variables be in the final model?
7. What is the best regression model to predict the SBP? That is which independent variables must be in the model.
8. Check assumptions of the chosen model to make sure it is appropriate for prediction.

My best wishes.