**University Survey Data**

**Problem Statement:**

The Student News Service at Clear Mountain State University (CMSU) has decided to gather data about the undergraduate students that attend CMSU. CMSU creates and distributes a survey of 14 questions and receives responses from 62 undergraduates (stored in the ***Survey*** data set).

**1.1. For this data, construct the following contingency tables (Keep Gender as row variable)**

**1.1.1. Gender and Major**

**1.1.2. Gender and Grad Intention**

**1.1.3. Gender and Employment**

**1.1.4. Gender and Computer**

**1.2. Assume that the sample is representative of the population of CMSU. Based on the data, answer the following question:**

**1.2.1. What is the probability that a randomly selected CMSU student will be male?**

**1.2.2. What is the probability that a randomly selected CMSU student will be female?**

**1.3. Assume that the sample is representative of the population of CMSU. Based on the data, answer the following question:**

**1.3.1. Find the conditional probability of different majors among the male students in CMSU.**

**1.3.2 Find the conditional probability of different majors among the female students of CMSU.**

**1.4. Assume that the sample is a representative of the population of CMSU. Based on the data, answer the following question:**

**1.4.1. Find the probability That a randomly chosen student is a male and intends to graduate.**

**1.4.2 Find the probability that a randomly selected student is a female and does NOT have a laptop.**

**1.5. Assume that the sample is representative of the population of CMSU. Based on the data, answer the following question:**

**1.5.1. Find the probability that a randomly chosen student is a male or has full-time employment?**

**1.5.2. Find the conditional probability that given a female student is randomly chosen, she is majoring in international business or management.**

**1.6.  Construct a contingency table of Gender and Intent to Graduate at 2 levels (Yes/No). The Undecided students are not considered now and the table is a 2x2 table. Do you think the graduate intention and being female are independent events?**

**1.7. Note that there are four numerical (continuous) variables in the data set, GPA, Salary, Spending, and Text Messages.**

**Answer the following questions based on the data**

**1.7.1. If a student is chosen randomly, what is the probability that his/her GPA is less than 3?**

**1.7.2. Find the conditional probability that a randomly selected male earns 50 or more. Find the conditional probability that a randomly selected female earns 50 or more.**

**1.8. Note that there are four numerical (continuous) variables in the data set, GPA, Salary, Spending, and Text Messages. For each of them comment whether they follow a normal distribution. Write a note summarizing your conclusions.**