**Name: Session:**

**Programming II**

**Lab Exercise 4/30/2024**

Write a program to solve the following problems. When you have completed the programs, submit your source code and a sample output of a working program.

1. An airline flight has 150 seats available – 20 first class and 130 coach class. Passengers have a choice between regular and vegetarian meals. Write a menu driven program to allow the ticket agent to keep track of the number of passengers in each class and the number of each type of meal requested. An attempt to book a passenger into a filled class should result in a “Class if Full” message. The message “Flight is Full” should be displayed when there are no more seats available. Here is a sample display:

1. Add an additional passenger

2. Receive a passenger and meal report

3. Quit

Enter a selection (1, 2, 3): 1

Select a class (First of Coach): C

Select a meal type (R or V): V

1. Add an additional passenger

2. Receive a passenger and meal report

3. Quit

Enter a selection (1, 2, 3): 2

First Class: 12

Coach Class: 98

Regular Meals: 60

Vegetarian Meals: 50

1. The Rule of 72 is used to estimate the time required for prices to double due to inflation. If the inflation rate is r percent, then the Rule of 72 estimates that prices will double it 72/r years. For example, if the inflation rate is 6%, prices double in approximately 72/6 or 12 years. Write a program that will test the accuracy of this rule. The program will generate a table showing the interest rate from 1 to 20 percent and the Rule of 72 value and the actual value.