COSC 120 Lab 1 (Part 2)

Please complete all the following exercises. For each exercise, keep all your final source code and your console input/output in your lab report (i.e. you need to test your program). Save your lab report in **pdf** format and submit the final **pdf** document to myClasses.

1. Draw a rectangle using *

Write a program to draw the following rectangle using *. (Hint: you may draw row by row to form a rectangle)

****

****

****

2. Sales Prediction

A company has determined that its annual profit is typically 13 percent of total sales. Assume the amount of total sales is $15,000, write a program to display the profit that will be made from that amount.

3. Distance Traveled

Assuming there are no accidents or delays, the distance that a car travels down the inter-state can be calculated with the following formula:

$$Distance = Speed \times Time$$

Assume the car speed is 58 miles per hour, write a program to calculate and display the following:

- The distance the car will travel in 6 hours
- The distance the car will travel in 10 hours
- The distance the car will travel in 15 hours

4. Miles-per-Gallon

A car's miles-per-gallon (MPG) can be calculated with the following formula:

$$MPG = Miles\ driven \div Gallons\ of\ gas\ used$$

Write a program that asks the user for the number of miles driven and the gallons of gas used. It should calculate the car's MPG and display the result.

5. Celsius to Fahrenheit Temperature Converter

Write a program that converts Celsius temperatures to Fahrenheit temperatures. The formula is as follows:

$$F = \frac{9}{5}C + 32$$

The program should ask the user to enter a temperature in Celsius, then display the temperature converted to Fahrenheit.