CSCI 110-Fall Semester 2024

Homework 4

Assigned on:10/02/2024

Due on:10/06/2024 till midnight

Total points:30

Write the source code in your IDE and submit .cpp file with the screenshot of an output.

This homework is based on chapter 4 from your required book.

Each lab is 5 points

**1.Bug Collector**

A bug collector collects bugs every day for seven days. Design a program that keeps a running total of the number of bugs collected during the seven days. The loop should ask for the number of bugs collected for each day, and when the loop is finished, the program should display the total number of bugs collected.

* **Candy Factory**

A machine at a candy factory can produce 80 chocolate bars per minute. Design a program that uses a loop to display the number of chocolate bars the machine can produce in 10, 15, 20, 25, and 30 minutes.

* **Budget Analysis**

Design a program that asks the user to enter the amount they must spend for a month. A loop should then prompt the user to enter each expense for the month and keep a running total. When the loop finishes, the program should display the amount that the user is over or under budget.

* **Sum of Numbers**

Design a program with a loop that asks the user to enter a series of positive numbers. The user should enter a negative number to signal the end of the series. After all the positive numbers have been entered, the program should display their sum.

* **Tuition Increase**

At one college, the tuition for a full-time student is $6,000 per semester. It has been announced that the tuition will increase by 2 percent each year for the next five years. Design a program with a loop that displays the projected semester tuition amount for the next five years.

* **Distance Traveled**

The distance a vehicle travels can be calculated as follows:



For example, if a train travels 40 miles per hour for three hours, the distance traveled is 120 miles. Design a program that asks the user for the speed of a vehicle (in miles per hour) and how many hours it has traveled. It should then use a loop to display the distance the vehicle has traveled for each hour of that time period. Here is an example of the output:

What is the speed of the vehicle in mph? 40 [Enter]

How many hours has it traveled? 3 [Enter]