**Programming Exercises Using Repetion Structure**

**1. Bug Collector**

A bug collector collects bugs every day for seven days. Write 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.

**2. Calories Burned**

Running on a particular treadmill you burn 3.9 calories per minute. Write a program

that uses a loop to display the number of calories burned after 10, 15, 20, 25, and 30

minutes.

**3. Budget Analysis**

Write a program that asks the user to enter the amount that he or she has budgeted for a

month. A loop should then prompt the user to enter each of his or her expenses 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.

**4. Distance Traveled**

The distance a vehicle travels can be calculated as follows:

*distance* = *speed* \* *time*

For example, if a train travels 40 miles per hour for three hours, the distance traveled is 120

miles. Write a program that asks the user for the speed of a vehicle (in miles per hour) and

the number of 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 desired

output:

What is the speed of the vehicle in mph? **40**e

How many hours has it traveled? **3**e

Hour Distance Traveled

1 40

2 80

3 120

**5. Average Rainfall**

Write a program that uses nested loops to collect data and calculate the average rainfall

over a period of years. The program should first ask for the number of years. The

outer loop will iterate once for each year. The inner loop will iterate twelve times, once

for each month. Each iteration of the inner loop will ask the user for the inches of rainfall

for that month. After all iterations, the program should display the number of

months, the total inches of rainfall, and the average rainfall per month for the entire

period.

**6. Celsius to Fahrenheit Table**

Write a program that displays a table of the Celsius temperatures 0 through 20 and their

Fahrenheit equivalents. The formula for converting a temperature from Celsius to

Fahrenheit is

F=5/9\*C+32

where *F* is the Fahrenheit temperature and *C* is the Celsius temperature. Your program

must use a loop to display the table.

**7. Pennies for Pay**

Write a program that calculates the amount of money a person would earn over a period

of time if his or her salary is one penny the first day, two pennies the second day, and

continues to double each day. The program should ask the user for the number of days.

Display a table showing what the salary was for each day, and then show the total pay at

the end of the period. The output should be displayed in a dollar amount, not the number

of pennies.

**8. Sum of Numbers**

Write 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.