Part 1:

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.

**Pseudocode:**

1. **Start**
2. **Input the number of years**

* Ask the user to input the number of years.

1. **Initialize Total Variables**

* Set total\_rainfall to 0.
* Set total\_months to 0.

1. **Outer Loop (For each year)**
   * Repeat for each year (from 1 to number of years):
     + Print the current year.
     + **Inner Loop (For each month)**
       - Repeat for each month (from 1 to 12):
         * Ask the user for rainfall input for that month.
         * Add the rainfall to total\_rainfall.
         * Increment total\_months by 1.
2. **Calculate Average Rainfall**

Calculate the average rainfall per month as average\_rainfall = total\_rainfall / total\_months.

1. **Display Results**

* Print the total number of months.
* Print the total rainfall.
* Print the average rainfall per month.

1. **End**

**Source code and screenshot of code execution:**

A screenshot of a computer

Description automatically generated

**Part 2:**

The CSU Global Bookstore has a book club that awards points to its students based on the number of books purchased each month. The points are awarded as follows:

If a customer purchases 0 books, they earn 0 points.

If a customer purchases 2 books, they earn 5 points.

If a customer purchases 4 books, they earn 15 points.

If a customer purchases 6 books, they earn 30 points.

If a customer purchases 8 or more books, they earn 60 points.

Write a program that asks the user to enter the number of books that they have purchased this month and then display the number of points awarded.

**Pseudocode:**

1. **Start**
2. **Input the number of books purchased**

* Ask the user for the number of books they have purchased this month.

1. **Determine Points Based on the Number of Books Purchased**

* If books\_purchased == 0, set points = 0.
* If books\_purchased == 2, set points = 5.
* If books\_purchased == 4, set points = 15.
* If books\_purchased == 6, set points = 30.
* If books\_purchased >= 8, set points = 60.
* If books\_purchased == 3, set points = 5.
* If books\_purchased == 5, set points = 15.
* If books\_purchased == 7, set points = 30.

1. **Display the Points**

* Print the number of points awarded based on the number of books purchased.

1. **End**

**Source code and screenshot of code execution:**

A screenshot of a computer

Description automatically generated

Screenshot when less than 2 books are purchased

A screenshot of a computer

Description automatically generated

Screenshot when more than 8 books are purchased

A screenshot of a computer

Description automatically generated