Green University of Bangladesh
Department of Computer Science and Engineering (CSE)

Faculty of Sciences and Engineering

Semester: (Spring, Year:2022), B.Sc. in CSE (Day)

LAB REPORT NO -02

Course Title: Structured Programming Lab

Course Code: CSE 104 Section: PC-213DB

Lab Experiment Name:

1. **Write a C Program to Calculate the Area of a Square, take the length of one side as user input.**
2. **Write a C program to enter temperature in °Celsius and convert it into °Fahrenheit.**
3. **Write a C program to enter the temperature in Fahrenheit(°F) and convert it into Celsius(°C).**
4. **Write a C program to enter marks of five subjects and calculate total and average marks.**

Student Details

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Lab Date : 12.02.22
Submission Date : 18.02.22 (11.59 PM)
Course Teacher's Name : Md.Solaiman Mia

[For Teachers use only: Don't Write Anything inside this box]

Project Proposal Status	
Marks: ……	**Signature: .....**
Comments:	**Date: .....**

Problem 01

1. TITLE OF THE LAB EXPERIMENT:

Write a C Program to Calculate the Area of a Square, take the length of one side as user input.

2. OBJECTIVES:

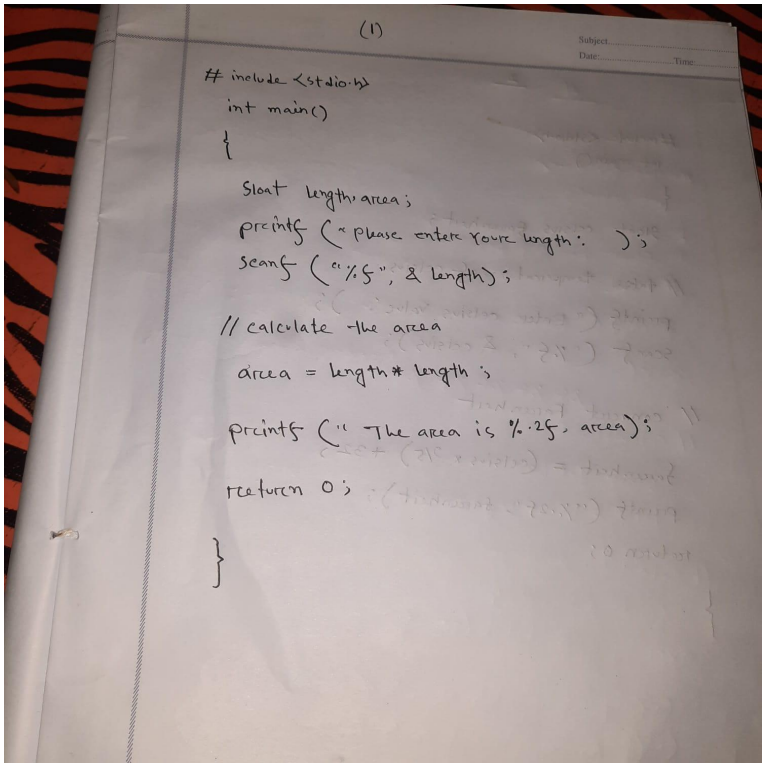
Our object is to take the input length of the area, the calculate the area.

3. PROCEDURE / ANALYSIS / DESIGN :

Algorithm:

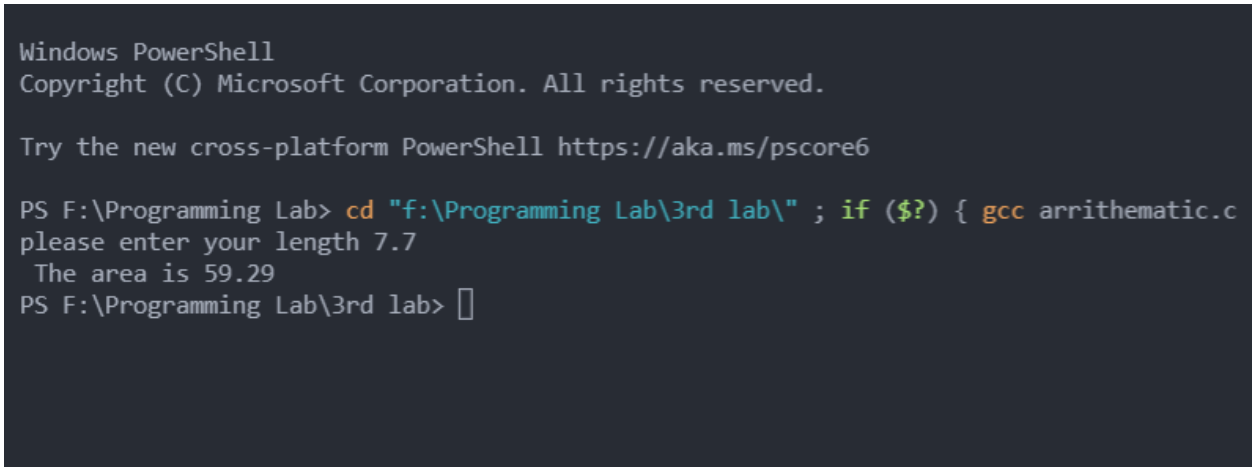
Step 1: Start
Step 2: Declare the variables length,area.
Step 3: Read the values for length.
Step 4: calculate the area (area = length * length)
Step 5:Display the area
Step 6: End

4. IMPLEMENTATION:



```
(1)
# include <stdio.h>
int main()
{
  float length, area;
  printf ("Please enter your length: ");
  scanf ("%f", &length);
// calculate the area
  area = length * length;
  printf ("The area is %.2f", area);
  return 0;
}
```

5. OUTPUTS:



6. ANALYSIS AND DISCUSSION:

In this program, we take the two variables length and area respectively. Then we take length input from the users and then we display the area of the square. We know the area of square=length+length. So if we are able to take one side of length, then we will calculate the area .and that we did it.

Problem 02

1. TITLE OF THE LAB EXPERIMENT:

Write a C program to enter temperature in °Celsius and convert it into °Fahrenheit.

2. OBJECTIVES:

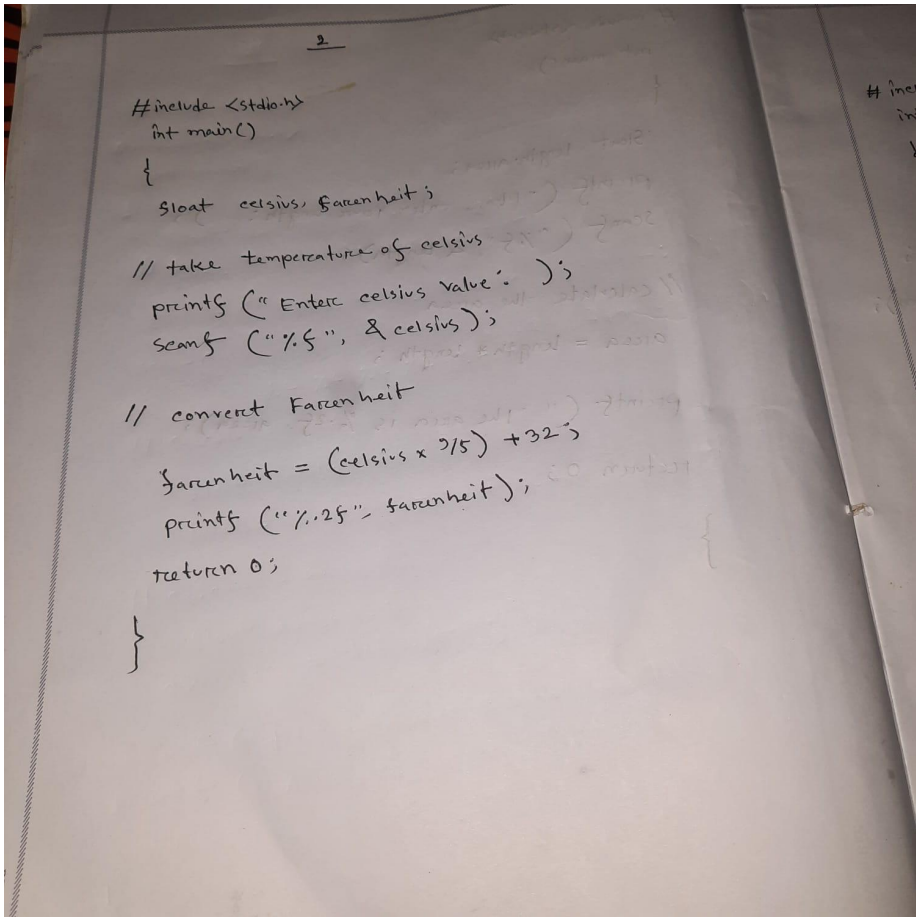
Our object is to take the input celsius temperature, then convert the celsius into Fahrenheit.

3. PROCEDURE / ANALYSIS / DESIGN:

Algorithm:

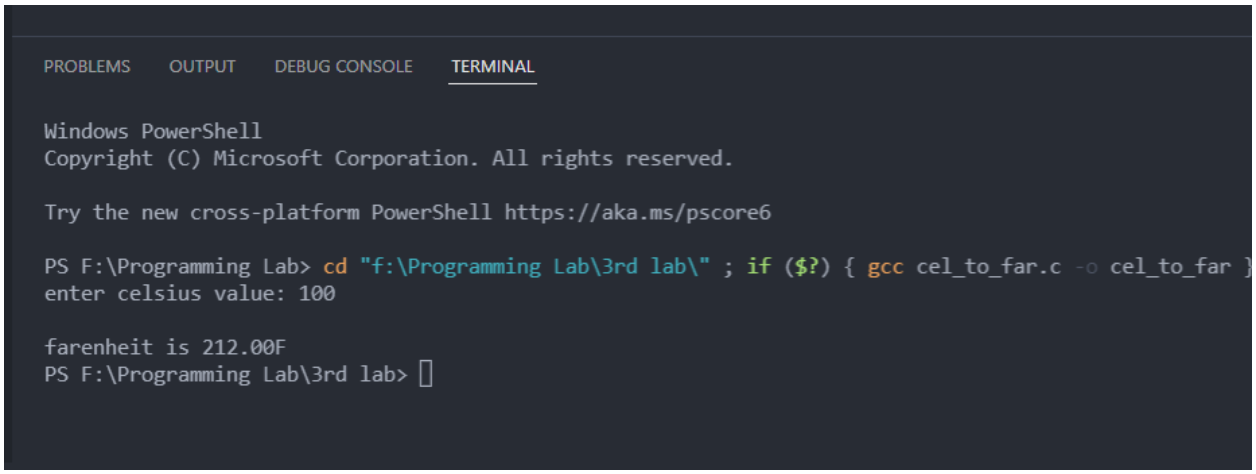
Step 1: Start
Step 2: Declare the variables celsius, fahrenheit.
Step 3: Read the values for celcius.
Step 4 : calculate the temperature (fahrenheit = (celsius * 9/5) + 32)
Step 5 : Display fahrenheit
Step 6 : End

4. IMPLEMENTATION:



```c
#include <stdio.h>
int main()
{
  float celsius, farenheit;

// take temperature of celsius
  printf ("Enter celsius value: ");
  scanf ("%f", &celsius);

// convert Farenheit

  farenheit = (celsius * 9/5) +32;
  printf ("%.2f", farenheit);

  return 0;

}
```

5. OUTPUTS:



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS F:\Programming Lab> cd "f:\Programming Lab\3rd lab\" ; if ($?) { gcc cel_to_far.c -o cel_to_far }
enter celsius value: 100

farenheit is 212.00F
PS F:\Programming Lab\3rd lab>
```

6. ANALYSIS AND DISCUSSION:

In this program, we take the two variables Celsius and Fahrenheit respectively. Then we take Celcius temperature and.we know fahrenheit=(celsius * 9/5) + 32 .we apply the Fahrenheit formula for converting celsius into Fahrenheit.then we print the Fahrenheit temperature

Problem 03

1. TITLE OF THE LAB EXPERIMENT:

Write a C program to enter the temperature in Fahrenheit(°F) and convert it into Celsius(°C).

2. OBJECTIVES:

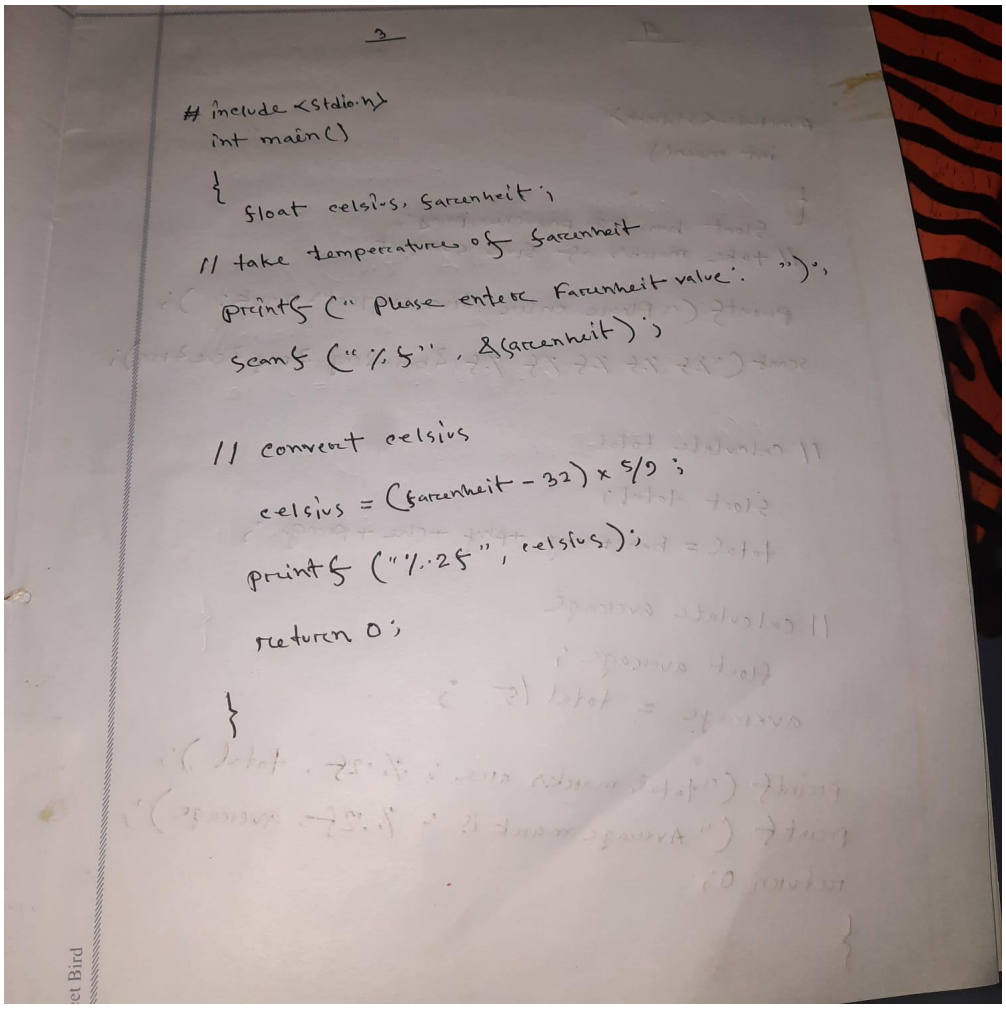
Our object is to take the input Fahrenheit temperature, then convert the Fahrenheit into celsius

3. PROCEDURE / ANALYSIS / DESIGN:

Algorithm:

Step 1: Start
Step 2: Declare the variables celsius, fahrenheit.
Step 3: Read the values for fahrenheit.
Step 4 : calculate the temperature (celcius = (fahrenheit -32) *5/9)
Step 5 : Display Celcius
Step 6 : End

4. IMPLEMENTATION:

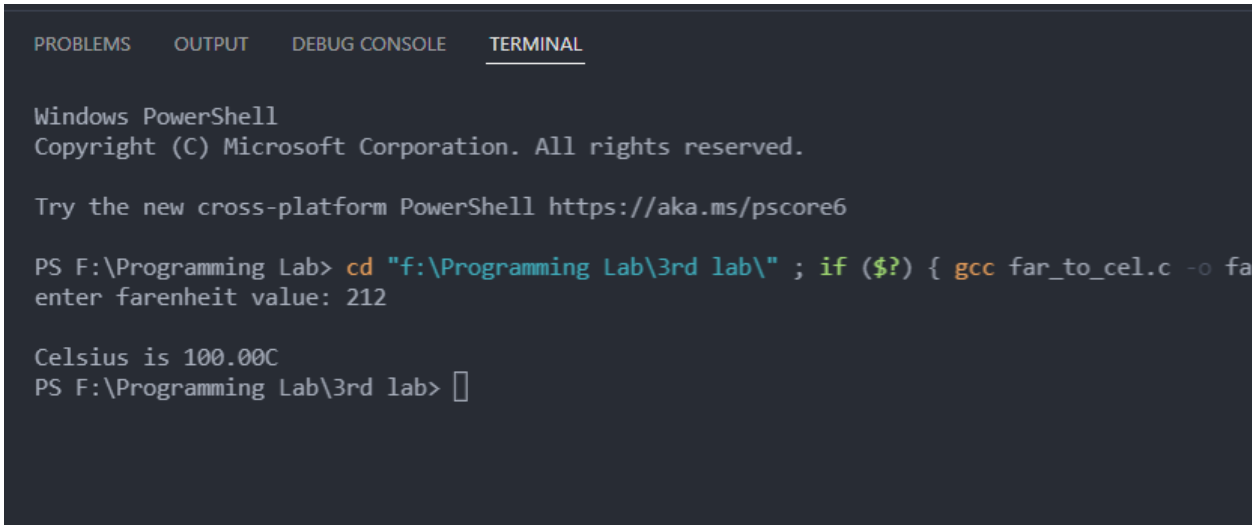


```
3

#include <stdio.h>
int main()
{
    float celsius, farenheit;
// take temperatures of farenheit
    printf(" Please enter Farenheit value: ");
    scanf("%f", &farenheit);

// convert celsius
    celsius = (farenheit - 32) x 5/9 ;
    printf("%.2f", celsius);
    return 0;
}
```

5. OUTPUTS:



6. ANALYSIS AND DISCUSSION:

In this program, we take the two variables Celsius and Fahrenheit respectively. Then we take Fahrenheit temperature and.we know celsius=(Fahrenheit - 32) * 5/9 .we apply the celsius formula for converting Fahrenheit into Celsius. then we print the Celsius temperature

Problem 04

1. TITLE OF THE LAB EXPERIMENT:

Write a C program to enter marks of five subjects and calculate total and average marks.

2. OBJECTIVES:

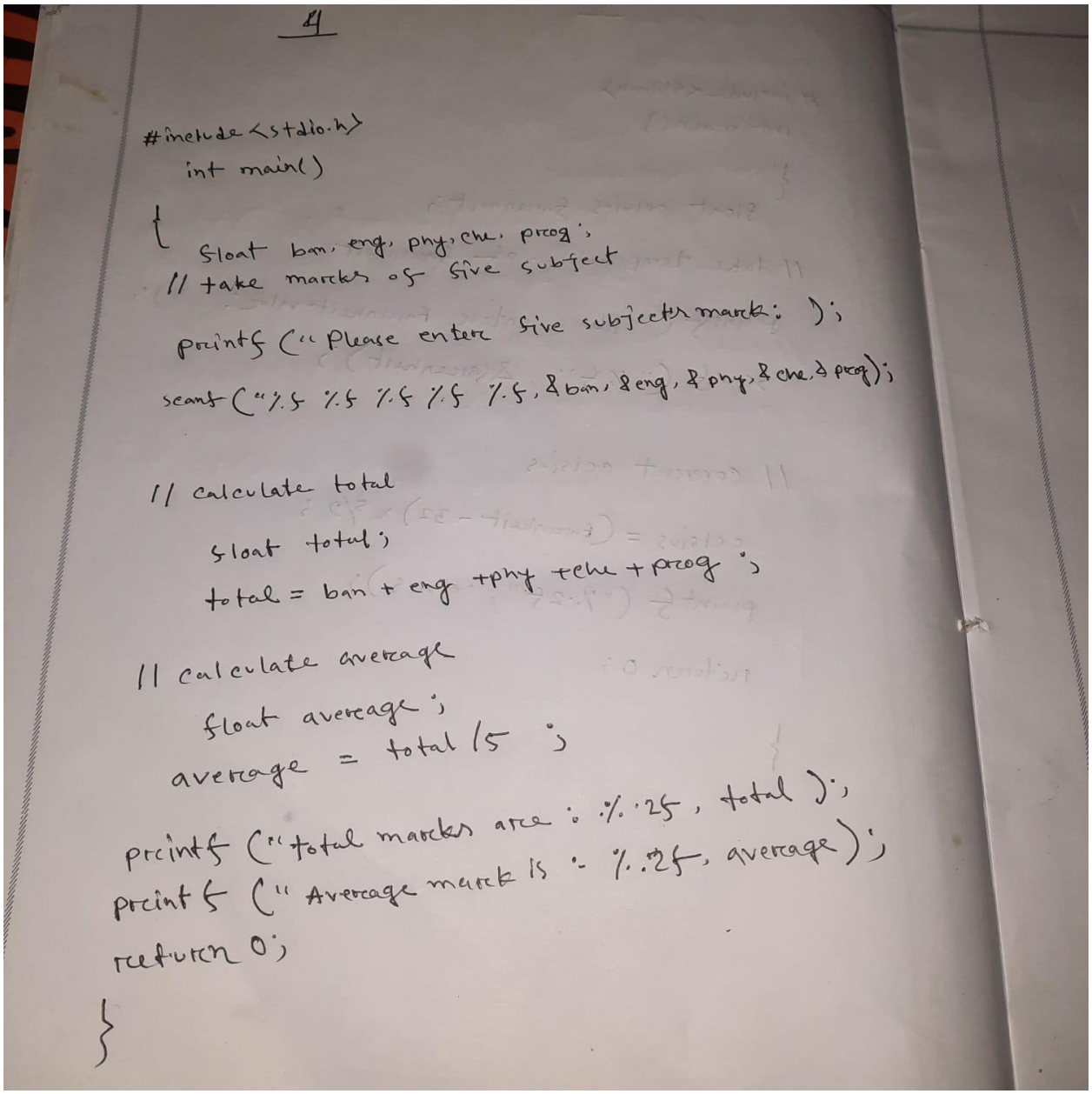
Our object is to take the input marks of bang,eng,phy,che,prog, then calculate the total marks and average mark.

3. PROCEDURE / ANALYSIS / DESIGN :

Algorithm :

Step 1: Start
Step 2: Declare variable ban,eng,phy,che,prog.
Step 3: Read the values for ban,eng,phy,che,prog.
Step 4:Declare variable total,average;
Step 5: Calculate total (total = (bang+eng+phy+che+prog))
Step 6: Calculate average (average = (total / 5))
Step 7:Display total and average.
Step 8: End

4. IMPLEMENTATION:



4

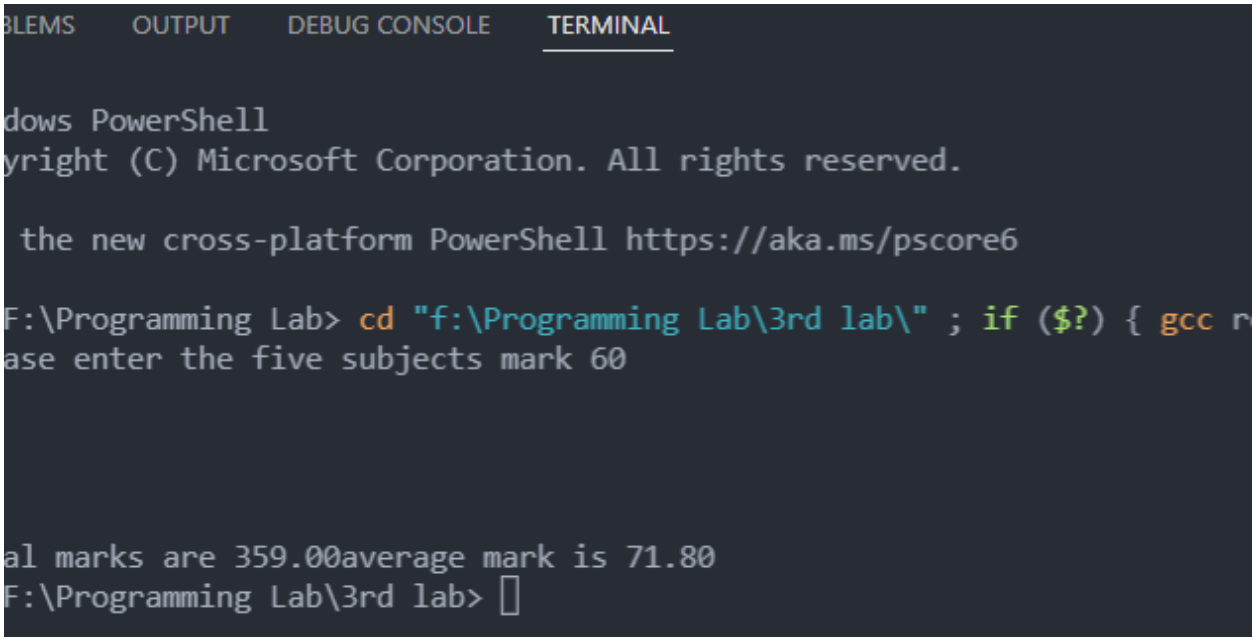
```
#include <stdio.h>
int main()
{
  float ban, eng, phy, che, prog;
// take marcks of five subject
printf("Please enter five subjecter marck: ");
scanf("%f %f %f %f %f", &ban, &eng, &phy, &che, &prog);

// calculate total
    float total;
    total = ban + eng + phy + che + prog ;

// calculate average
    float average;
    average = total / 5 ;

printf("total marcks are : %.2f", total);
printf("Average marck is : %.2f", average);
return 0;
}
```

5. OUTPUTS:



6. ANALYSIS AND DISCUSSION:

In this program, we take five variables for five subjects like bang,eng,phy,che,prog Then we take input marks from users. after that, we add all subject marks and we finish the program with the average of the marks.