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24K-0514

PF LAB:3

QUESTION#1

Explain the output of this C program. Why the wrong value is being displayed in the output?

```c
#include <stdio.h>

int main(){

    int testInteger=3000000000;
    printf("Number is %d",testInteger);

}
```

```
D:\PF\Lab 3 example codes\Printf.exe
Number is -1294967296
--------------------------------
Process exited after 0.03059 seconds with return value 0
Press any key to continue . . .
```

ANS: Because integer datatype in C language can only store value up to 2147483647 that's why it is showing wrong output.

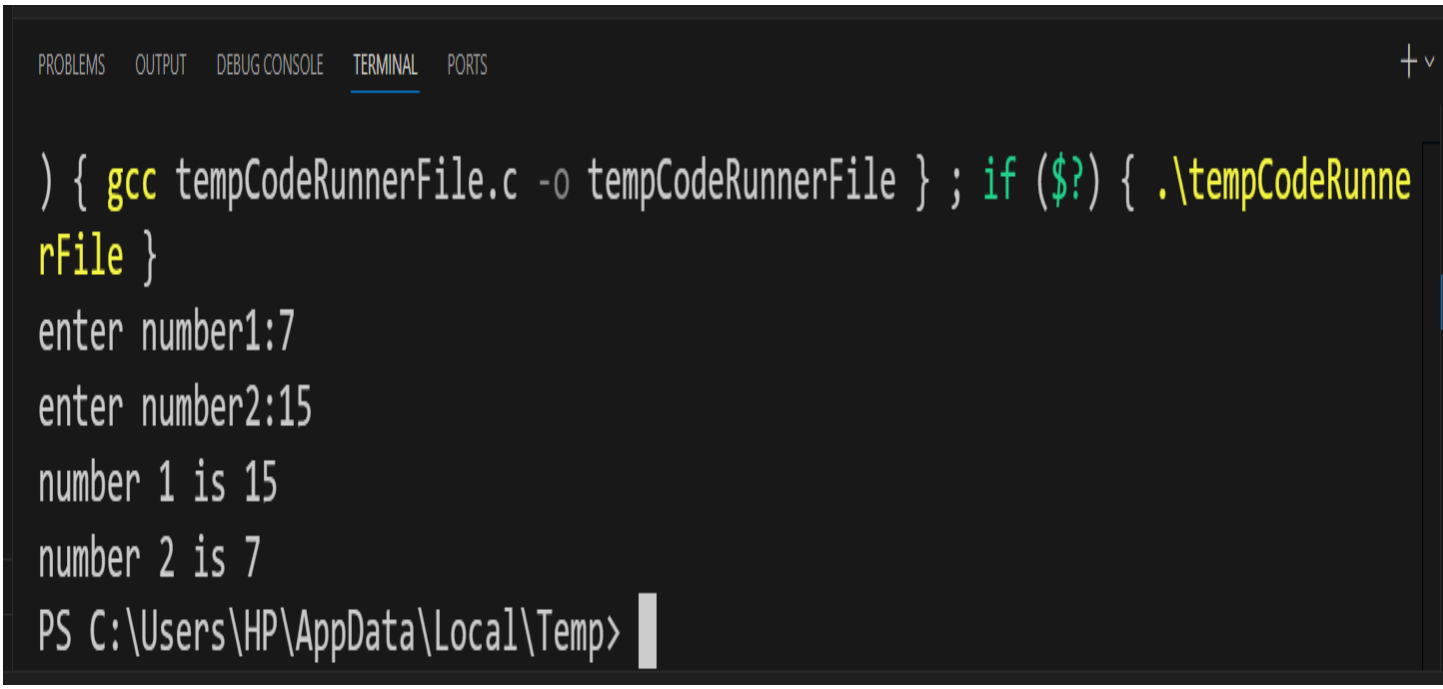
QUESTION#2

Write a C program that takes two integer values as input from the user. Then swap the values taken from the user and display the output of the variables.

taxrate.c ● | #include<stdio.h> Untitled-2 ● | #include<stdio.h> Untitled-1 ●

```c
#include<stdio.h>
int main()
{
    int a,b,c;
    printf("enter number1:");
    scanf("%d",&a);
    printf("enter number2:");
    scanf("%d",&b);
    c=a;
    a=b;
    b=c;
    printf("number 1 is %d \nnumber 2 is %d",a,b);
    return 0;
}
```

OUTPUT:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunne
rFile }
enter number1:7
enter number2:15
number 1 is 15
number 2 is 7
PS C:\Users\HP\AppData\Local\Temp>

QUESTION#3

A customer asks the IT firm to develop a program in C language, which can take tax rate and

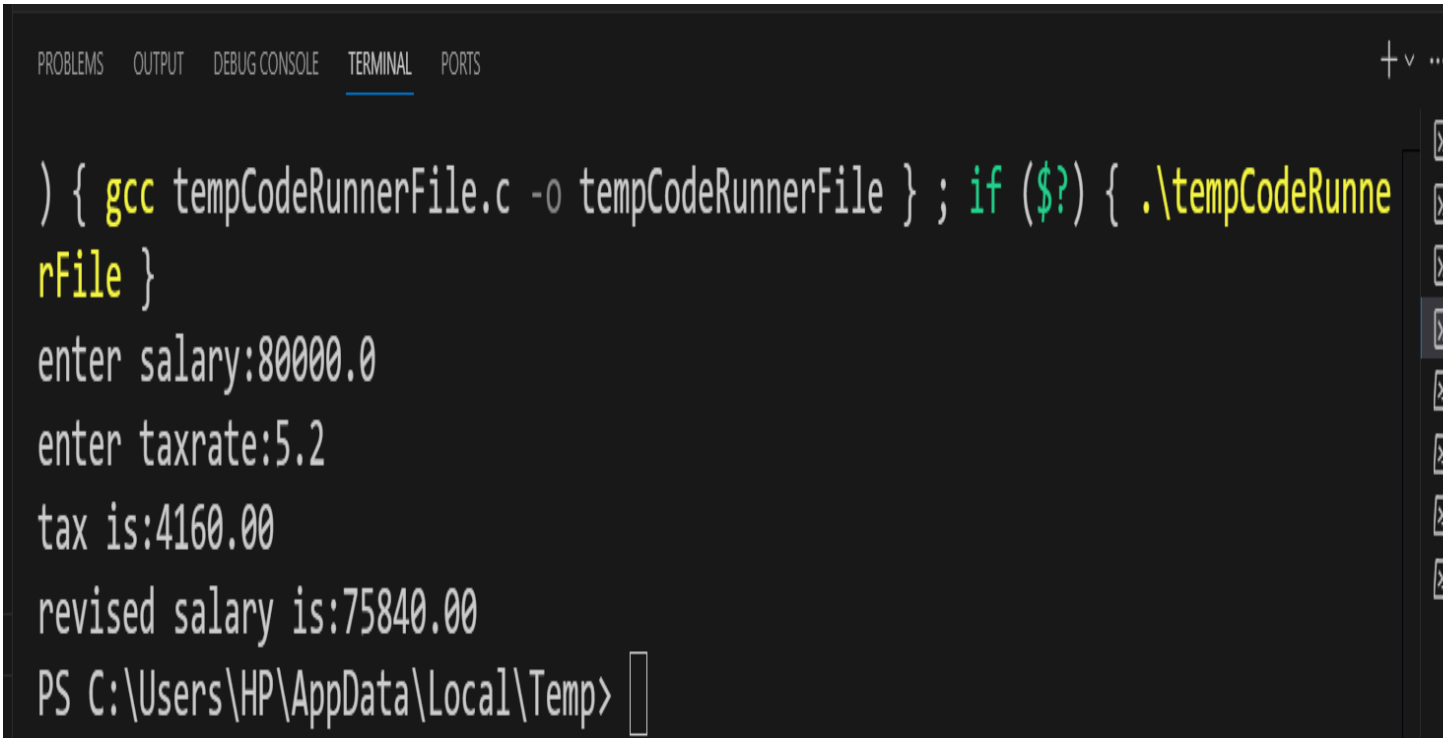
salary from the user on runtime and then calculate the tax, the user has to pay and the salary

he/she will have after paying the tax. This information is then provided to the user.

C #include<stdio.h> Untitled-1

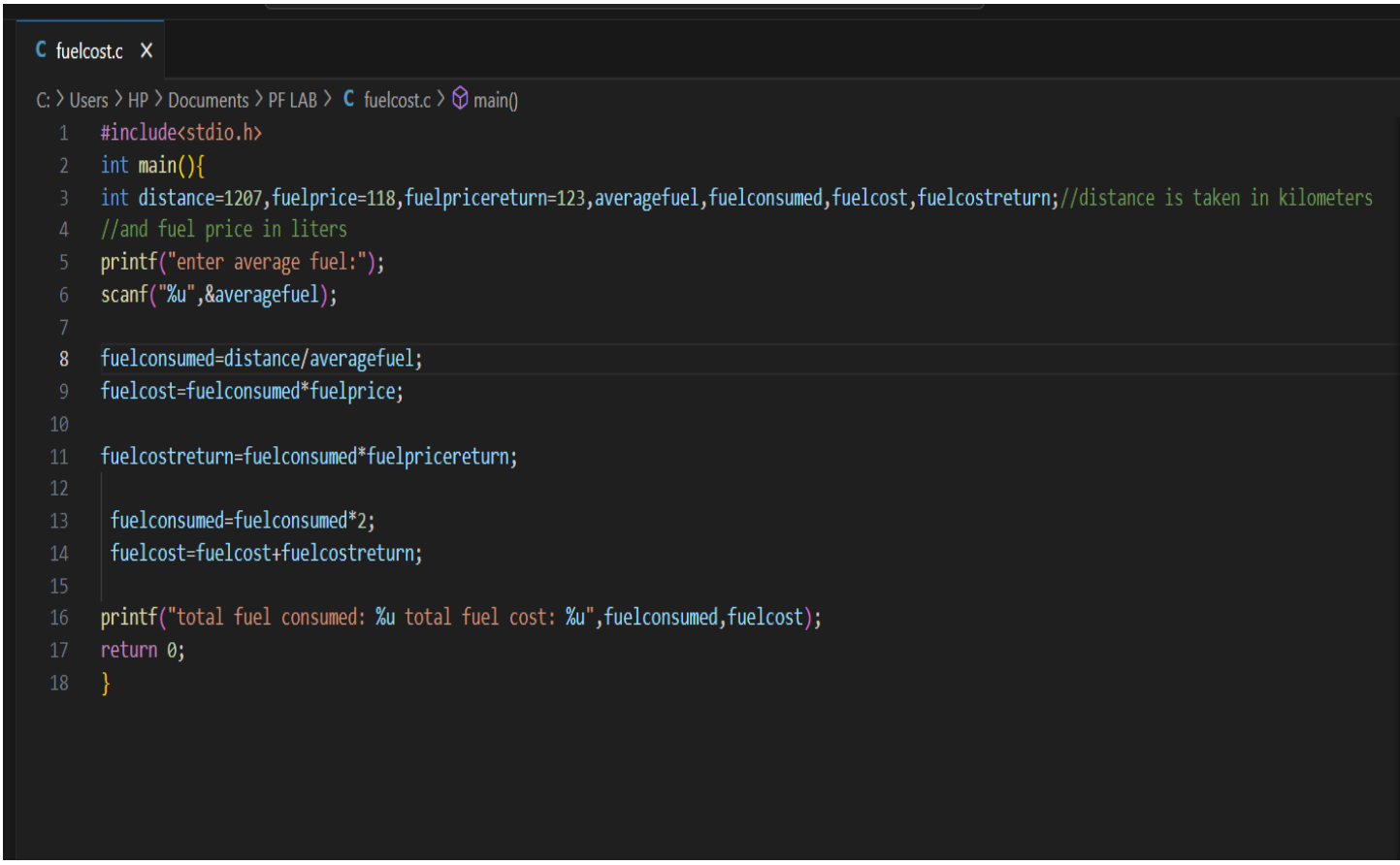
```c
#include<stdio.h>
int main(){
    float taxrate,salary,tax,revisedsalary;
     printf("enter salary:");
    scanf("%f",&salary);

    printf("enter taxrate:");
    scanf("%f",&taxrate);

    tax=(salary*taxrate)/100;
    revisedsalary=salary-tax;

    printf("tax is:%.2f \nrevised salary is:%.2f",tax,revisedsalary);
    return 0;
}
```

OUTPUT:

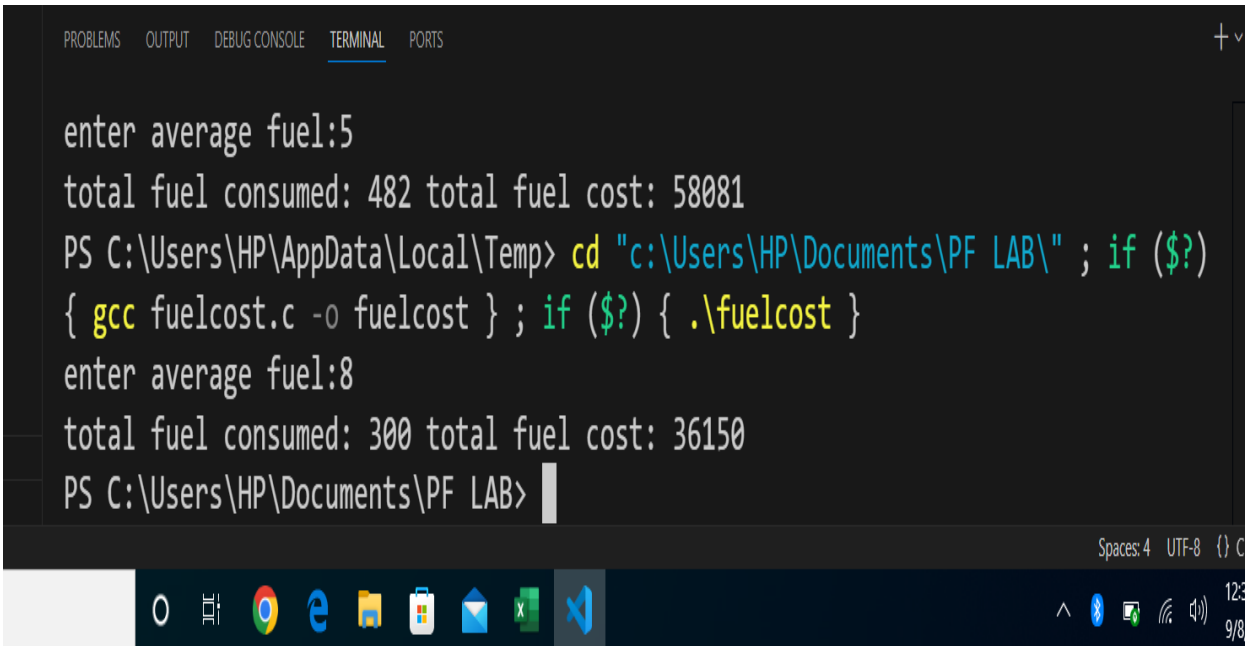

PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunne
rFile }
enter salary:80000.0
enter taxrate:5.2
tax is:4160.00
revised salary is:75840.00
PS C:\Users\HP\AppData\Local\Temp>

QUESTION#4

A car travelled back and forth from point A to point B. With a distance being (single trip) 1207KM. During the forward trip fuel price was 118/liter while returning it was 123/liter. Calculate the total fuel cost (both ways) and the fuel consumed (total trip). Use the car's fuel average as input from the user (Input must be positive make some restrictions on only accepting positive input)

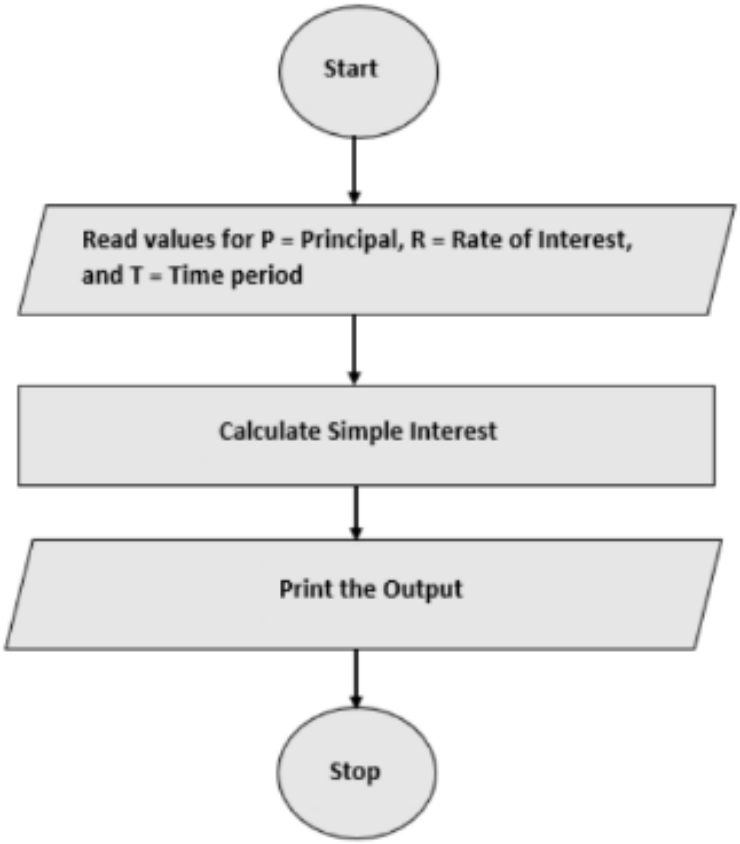


OUTPUT:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
enter average fuel:5
total fuel consumed: 482 total fuel cost: 58081
PS C:\Users\HP\AppData\Local\Temp> cd "c:\Users\HP\Documents\PF LAB\" ; if ($?)
{ gcc fuelcost.c -o fuelcost } ; if ($?) { .\fuelcost }
enter average fuel:8
total fuel consumed: 300 total fuel cost: 36150
PS C:\Users\HP\Documents\PF LAB>
Spaces: 4
UTF-8

QUESTION#5

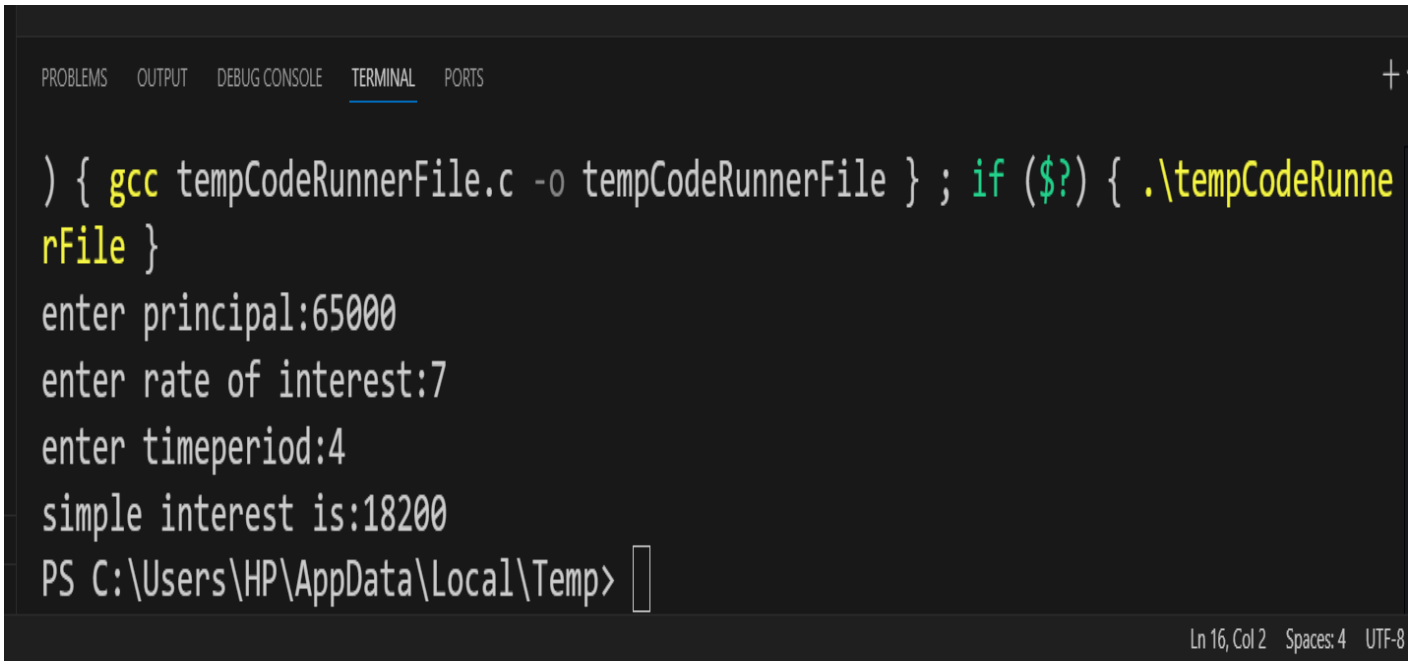
Construct a C program with the flowchart below. The input value of the principle must be between 100 Rs. To 1,000,000 Rs. The Rate of interest must be between 5% to 10% and Time Period must be between 1 to 10 years. Hint: these restrictions can be displayed in the form of message on the window.



taxrate.c | #include<stdio.h> Untitled-2 | #include<stdio.h> Untitled-3 | #include<stdio.h> Untitled-4 | #include<stdio.h> Untitled-1

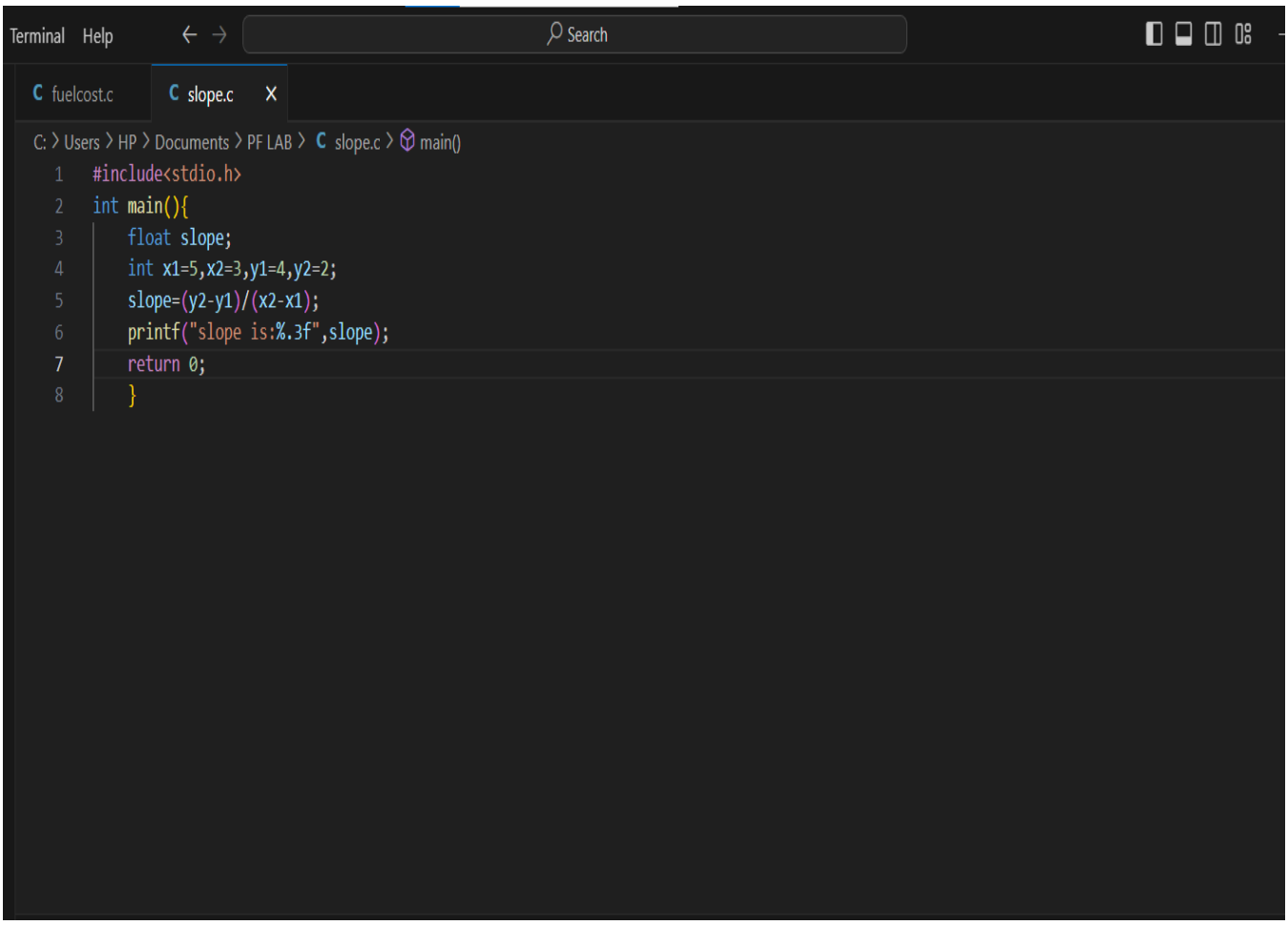
```c
#include<stdio.h>
int main(){
    int principal,rateofinterest,timeperiod,simpleinterest;
    printf("enter principal:");
    scanf("%d",&principal);
    printf("enter rate of interest:");
    scanf("%d",&rateofinterest);
    printf("enter timeperiod:");
    scanf("%d",&timeperiod);

simpleinterest=(principal*rateofinterest*timeperiod)/100; //principal must be between 100 Rs to 1000000 Rs,Rate of interest must be
                                                          //between 5% to 10% and Time Period must be bwteen 1 to 10 years.
    printf("simple interest is:%d",simpleinterest);
return 0;

}
```

OUTPUT:

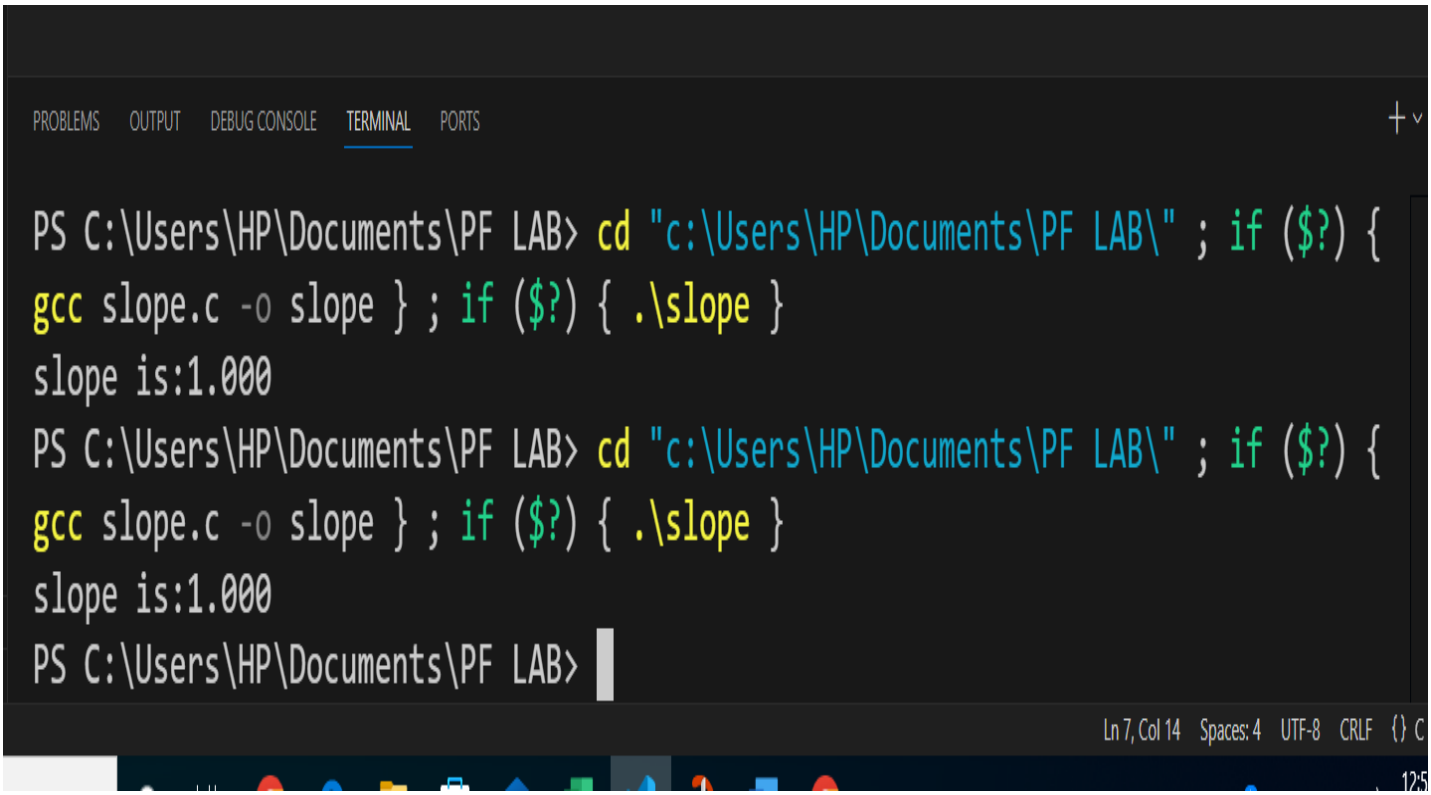

PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunne
rFile }
enter principal:65000
enter rate of interest:7
enter timeperiod:4
simple interest is:18200
PS C:\Users\HP\AppData\Local\Temp>
Ln 16, Col 2
Spaces: 4
UTF-8

Question#6

Construct a C program where you calculate the slope of two point (5,4), (3,2). Use format specifiers to cap the result to 3 decimal places.



OUTPUT:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\HP\Documents\PF LAB> cd "c:\Users\HP\Documents\PF LAB\" ; if ($?) {
gcc slope.c -o slope } ; if ($?) { .\slope }
slope is:1.000
PS C:\Users\HP\Documents\PF LAB> cd "c:\Users\HP\Documents\PF LAB\" ; if ($?) {
gcc slope.c -o slope } ; if ($?) { .\slope }
slope is:1.000
PS C:\Users\HP\Documents\PF LAB>
Ln 7, Col 14
Spaces: 4
UTF-8
CRLF