CHANDIGARH UNIVERSITY
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EXPERIMENT NUMBER – 2.1

STUDENT'S NAME –	**NIKHIL**
STUDENT'S UID –	**20BET1042**
CLASS AND GROUP –	**BE IT**
SEMESTER –	**1ST**

TOPIC OF EXPERIMENT –

Ram, Mohan and Sohan took loan of Rs. x, yand z on rate of interest r%,p%,Q% for time t1,t2 and t3 years respectively. Calculate simple interest they will pay and find who will pay the most using ternary operator

AIM OF THE EXPERIMENT –

The course aim to raise the programming skills of students via logic building capability

PROGRAM CODE

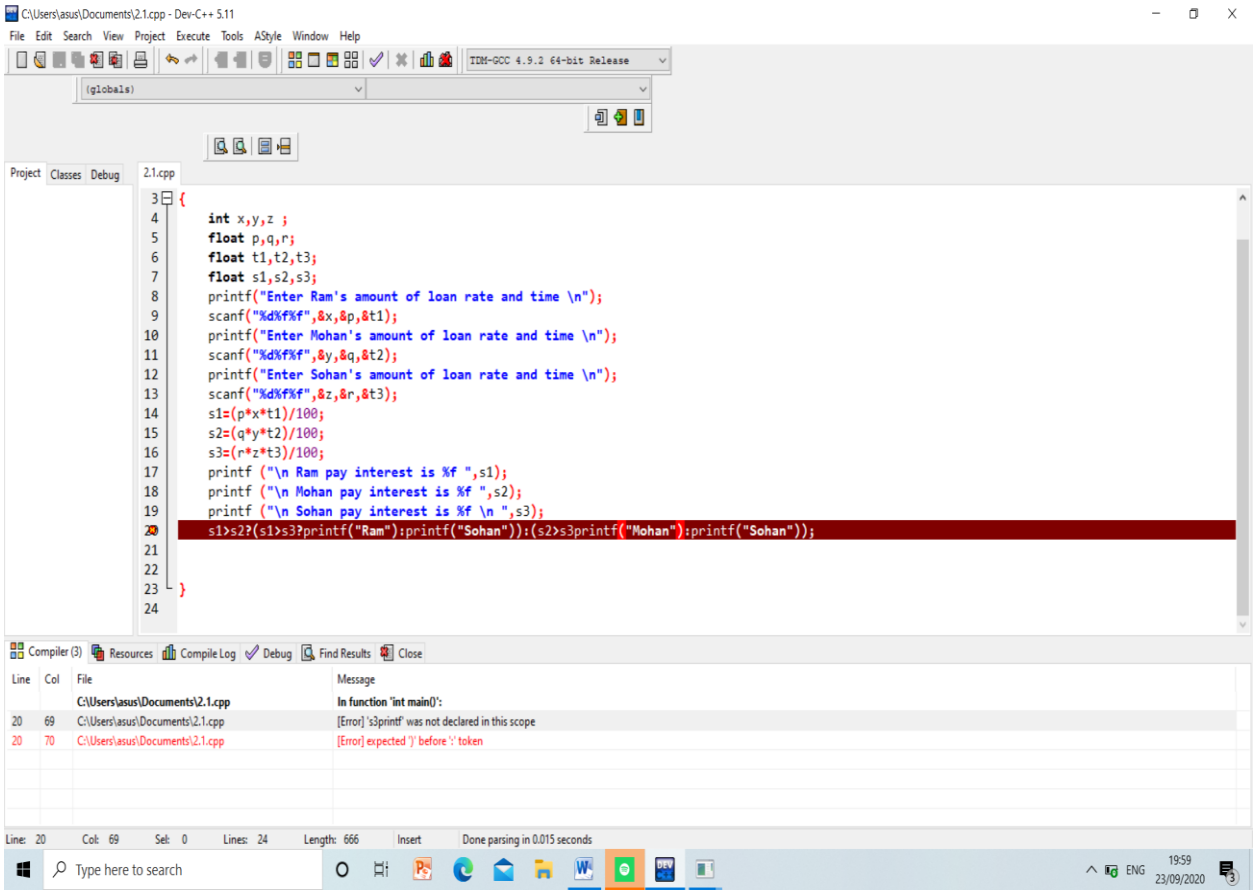
```
int main()
{
        int x,y,z ;
        float p,q,r;
        float t1,t2,t3;
        float s1,s2,s3;
        printf("Enter Ram's amount of loan rate and time \n");
        scanf("%d%f%f",&x,&p,&t1);
        printf("Enter Mohan's amount of loan rate and time \n");
        scanf("%d%f%f",&y,&q,&t2);
        printf("Enter Sohan's amount of loan rate and time \n");
        scanf("%d%f%f",&z,&r,&t3);
        s1=(p*x*t1)/100;
        s2=(q*y*t2)/100;
        s3=(r*z*t3)/100;
        printf ("\n Ram pay interest is %f ",s1);
        printf ("\n Mohan pay interest is %f ",s2);
        printf ("\n Sohan pay interest is %f \n ",s3);
    s1>s2?(s1>s3?printf("Ram"):printf("Sohan")):(s2>s3?printf("Mohan"):printf("Sohan"));
}
```

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

In ternary operator expression I forget to put question mark at underline portion

s1>s2?(s1>s3?printf("Ram"):printf("Sohan")):(s2>s3printf("Moha n"):printf("Sohan"));

so it cause error



But after put questionmark it run perfectly.

PROGRAMS' EXPLANATION (in brief)

In this program we will defining variable x, y, z as rate of interest .

p,q,r as principle amount and

t1,t2,t3 as time of Ram, Mohan, Sohan's respectively .

%d and %f formate specifier will use for input integer and decimal values.

Using formula (principle*rate*time)/100 we will get SI .

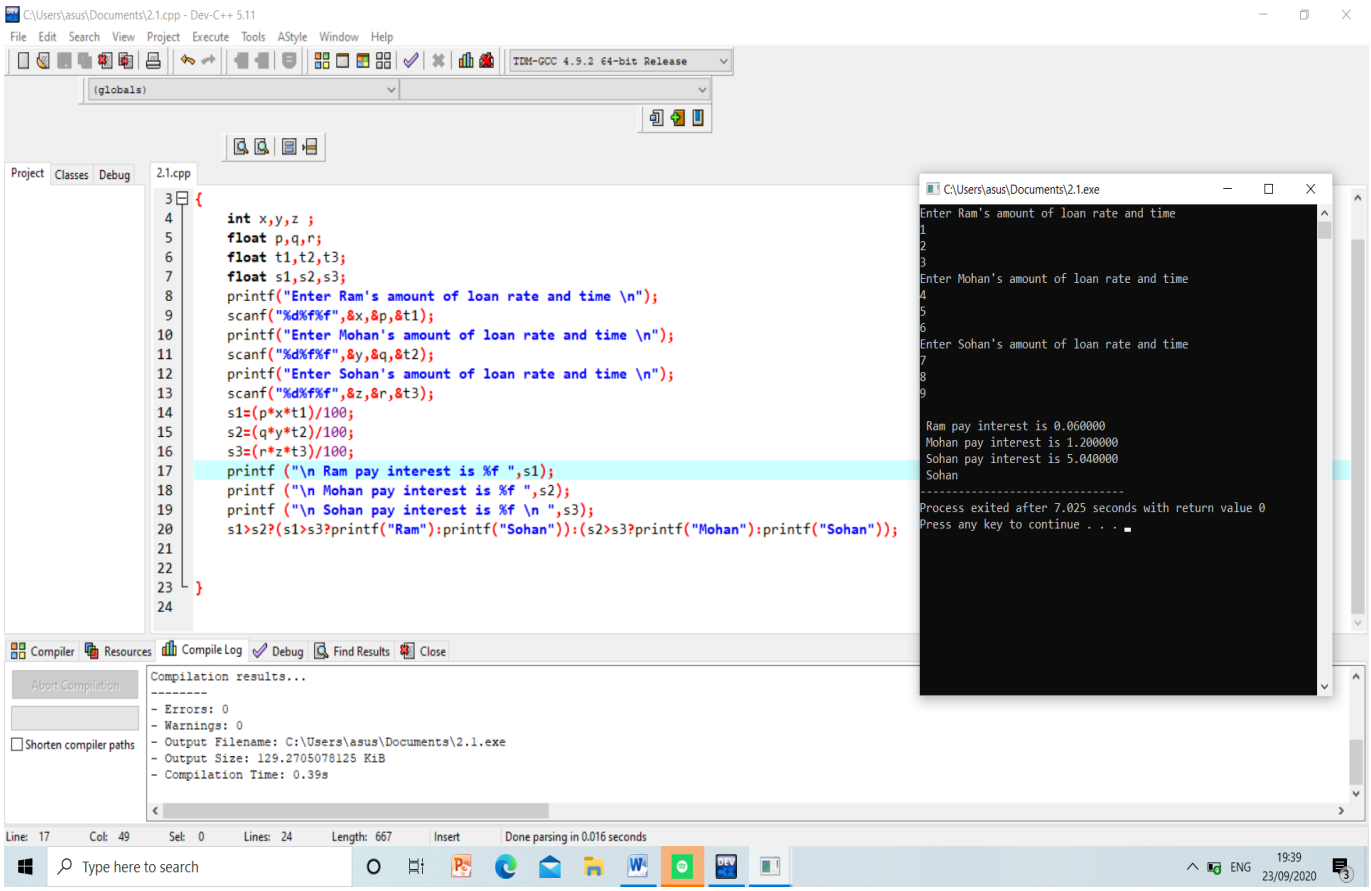
Then using ternary operaor by using this expression

s1>s2?(s1>s3?printf("Ram"):printf("Sohan")):(s2>s3?printf("Mohan"):printf("Sohan "));

(where s1,s2,s3 are SI of ram,sohan,mohan)

We will get who has to pay maximum SI.

OUTPUT :


C:\Users\asus\Documents\2.1.cpp - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
2.1.cpp
{
int x,y,z ;
float p,q,r;
float t1,t2,t3;
float s1,s2,s3;
printf("Enter Ram's amount of loan rate and time \n");
scanf("%d%f%f",&x,&p,&t1);
printf("Enter Mohan's amount of loan rate and time \n");
scanf("%d%f%f",&y,&q,&t2);
printf("Enter Sohan's amount of loan rate and time \n");
scanf("%d%f%f",&z,&r,&t3);
s1=(p*x*t1)/100;
s2=(q*y*t2)/100;
s3=(r*z*t3)/100;
printf ("\n Ram pay interest is %f ",s1);
printf ("\n Mohan pay interest is %f ",s2);
printf ("\n Sohan pay interest is %f \n ",s3);
s1>s2?(s1>s3?printf("Ram"):printf("Sohan")):(s2>s3?printf("Mohan"):printf("Sohan"));
}
C:\Users\asus\Documents\2.1.exe
Enter Ram's amount of loan rate and time
1
2
3
Enter Mohan's amount of loan rate and time
4
5
6
Enter Sohan's amount of loan rate and time
7
8
9
Ram pay interest is 0.060000
Mohan pay interest is 1.200000
Sohan pay interest is 5.040000
Sohan
Process exited after 7.025 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\asus\Documents\2.1.exe
- Output Size: 129.2705078125 KiB
- Compilation Time: 0.39s
Line: 17 Col: 49 Sel: 0 Lines: 24 Length: 667 Insert Done parsing in 0.016 seconds
Type here to search
ENG 19:39 23/09/2020

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EXPERIMENT NUMBER – 2.2

STUDENT'S NAME –	**NIKHIL**
STUDENT'S UID –	**20BET1042**
CLASS AND GROUP –	**BE IT**
SEMESTER –	**1ST**

AIM OF THE EXPERIMET-

The course aim to provide exposure to problem solving with programming.

PROGRAM CODE

```
#include<stdio.h>
int main()
{
    int a,b ;
printf("Enter the values of a and b ");
scanf ("%d %d",&a,&b);
printf ("\nOutput  of a&b is %d", a&b);
printf ("\nOutput  of a|b is %d", a|b);
printf ("\nOutput  of a^b is %d", a^b);
return 0 ;

}
```

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

No

PROGRAMS' EXPLANATION (in brief):

First we define two variable a and b.

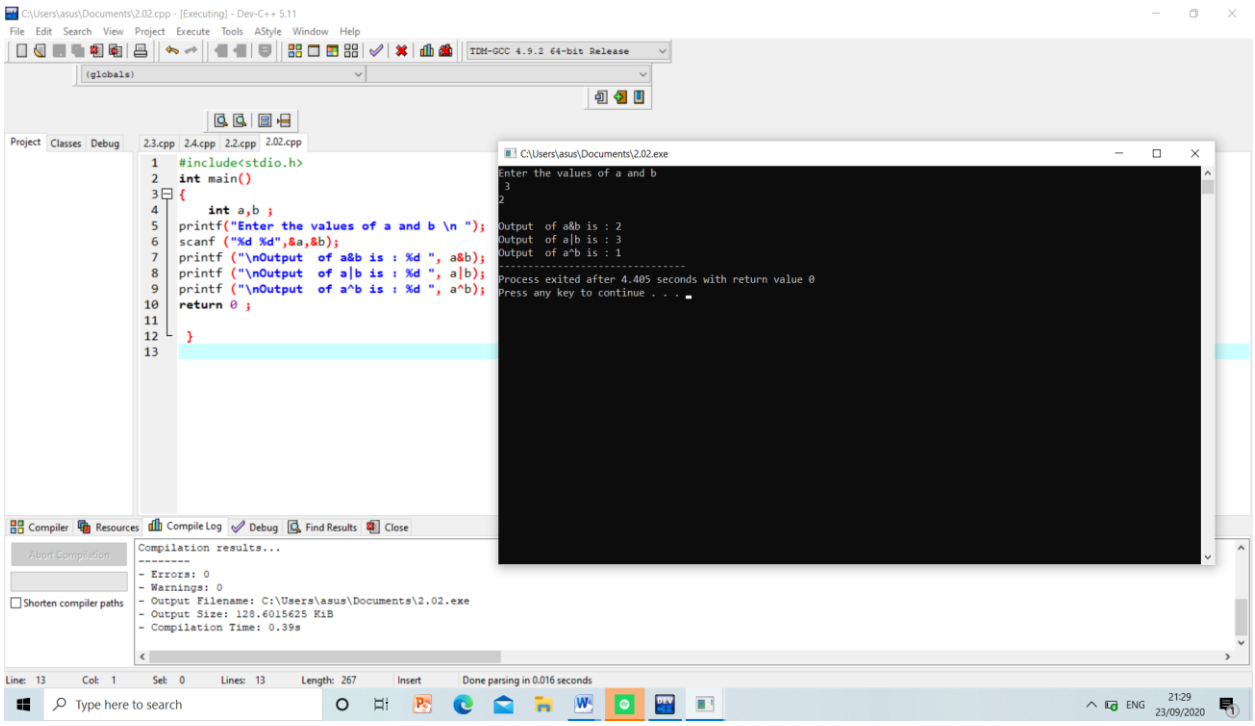
Now we will use Bitwise operators and,or,Xor

First the decimals we will input convert into binary then using below table:

	For AND (&):	For OR(|)	For XOR(^)
0 0	0	0	0
0 1	0	1	1
1 0	0	1	1
1 1	1	1	0

Using above sequences of particular Bitwise operator we will get our output.

OUTPUT :



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EXPERIMENT NUMBER – 2.3

STUDENT'S NAME –	**NIKHIL**
STUDENT'S UID –	**20BET1042**
CLASS AND GROUP –	**BE IT**
SEMESTER –	**1ST**

AIM OF THE EXPERIMENT –

With knowledge of C

PROGRAM CODE

```
#include<stdio.h>
int main()
{
 int m,y,n,r;
 printf("\nEnter the values of m, y(1900<=y<=2019), n, r(1<=r<=12): \n");
 scanf("%d %d %d %d",&m,&y,&n,&r);
 int y_o_b, clas;
 y_o_b = y+m-n;
 printf("Mr. Kavi's year of birth is %d",y_o_b);
 if (r <= 12 && r >=1)
 {
 clas = r+n-m; //1992 AND 1993
 if(clas<1)
 {
 printf("\nMr. Kavi is in pre primary");
 }
 else if (clas>12)
 {
 printf("\nMr. Kavi is in college but class cannot be predicted.");
 }
 else
 {
 printf("\nMr. Kavi is in class %d", clas);
 }
 return 0;
 }
}
```

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

No

PROGRAMS' EXPLANATION (in brief)

Now first we will define variable m as how much kavi's younger than mother, then n as kavi's brother age diff with her mother. r is his brother class . Y is kavi's brother YOB.

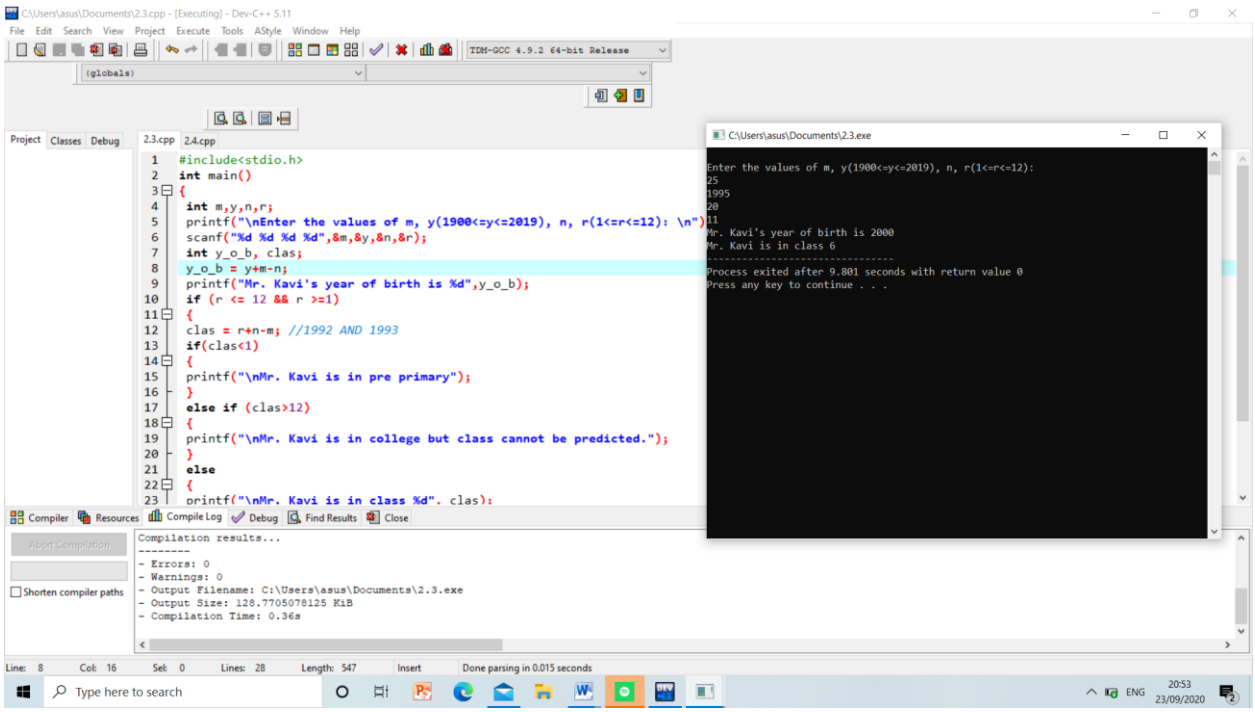
Now to find kavi YOB : Suppose we let Kavi Is 25yrs younger and his brother is 20yrs younger then their mother and kavi's bro age is 1995 then by basic sense we know kavi's age will be 1995+25-20 means his birth year inc if he is older then his birth year will be less than 1995 so we use the formula YOB=Y+m-n we will get his YOB

Now for his class: suppose his brother in 11^{th} class then as we know Kavi Is 25yrs younger and his brother is 20yrs younger then their mother then his class wil be 11+20-25=6

So formula will become class=r+n-m

Using these formula we will get our result.Acc to requirement we will use if else statement and %d as formatspecifier.

OUTPUT :



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EXPERIMENT NUMBER – 2.4

STUDENT'S NAME –	**NIKHIL**
STUDENT'S UID –	**20BET1042**
CLASS AND GROUP –	**BE IT**
SEMESTER –	**1ST**

TOPIC OF EXPERIMENT –

In last day of mth month of the year is Friday then find out nth day(1<=n<=32)of the same month

AIM OF THE EXPERIMENT –

The course aim to raise the programming skills of students via logic building capability

PROGRAM CODE

```
#include<stdio.h>
int main ()
{
        int num,month;
        printf("Enter the day you want to find : ");
        scanf("%d",&num);
        printf("Enter the month : ");
        scanf("%d",&month);
         if(month==1|month==3|month==5|month==7|month==8|month==10|month==12)
         { if ((31-num)%7==0)
           printf("The day is Friday ");
           if ((31-num)%7==1)
           printf("The day is Thursday ");
            if ((31-num)%7==2)
           printf("The day is Wednesday ");
            if ((31-num)%7==3)
           printf("The day is Tuesday ");
            if ((31-num)%7==4)
           printf("The day is Monday ");
            if ((31-num)%7==5)
           printf("The day is Sunday ");
            if ((31-num)%7==6)
           printf("The day is Saturday ");
         }
          if(month==4|month==6|month==9|month==11)
          {if ((30-num)%7==0)
           printf("The day is Friday ");
           if ((30-num)%7==1)
           printf("The day is Thursday ");
```

```
  if ((30-num)%7==2)
            printf("The day is Wednesday ");
             if ((30-num)%7==3)
            printf("The day is Tuesday ");
             if ((30-num)%7==4)
            printf("The day is Monday ");
             if ((30-num)%7==5)
            printf("The day is Sunday ");
             if ((30-num)%7==6)
            printf("The day is Saturday ");
           }
           if(month==2)
           {if ((28-num)%7==0)
            printf("The day is Friday ");
            if ((28-num)%7==1)
            printf("The day is Thursday ");
             if ((28-num)%7==2)
            printf("The day is Wednesday ");
             if ((28-num)%7==3)
            printf("The day is Tuesday ");
             if ((28-num)%7==4)
            printf("The day is Monday ");
             if ((28-num)%7==5)
            printf("The day is Sunday ");
             if ((28-num)%7==6)
            printf("The day is Saturday ");
           }
}
```

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

No

PROGRAMS' EXPLANATION (in brief)

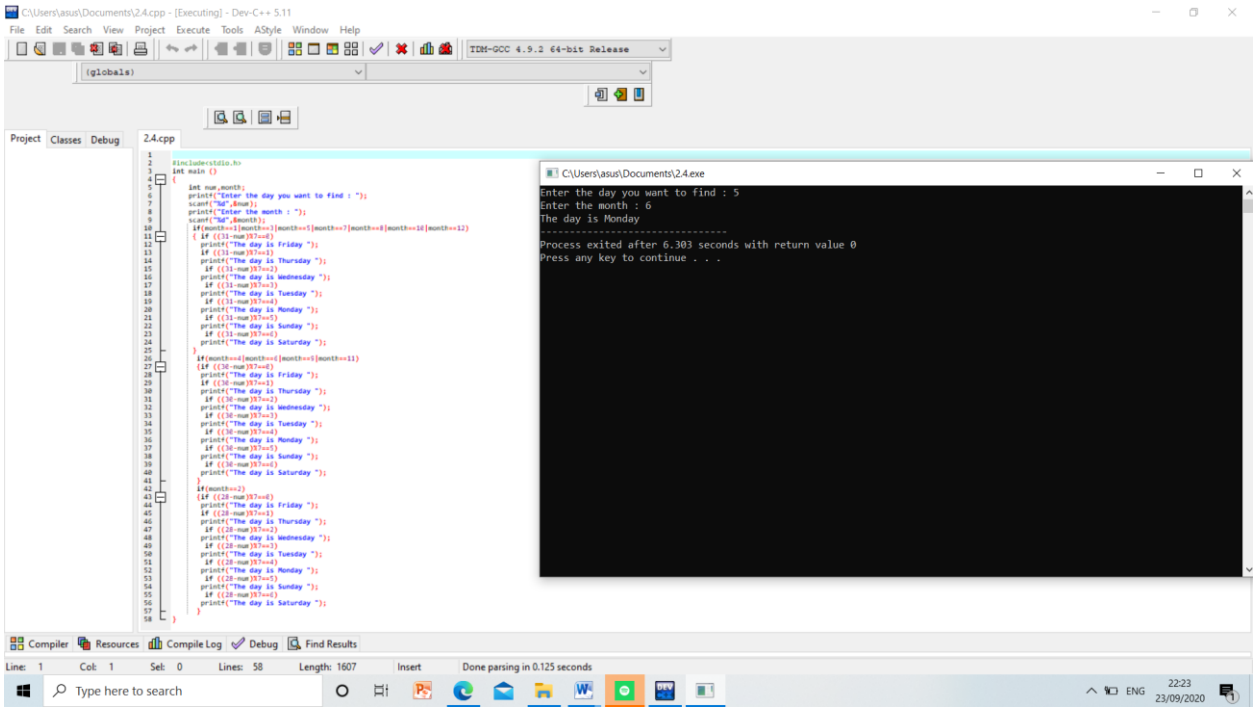
In this program we will define variable num and month as day you want to find and of which month. In this program according to our requirement we will use simple if statement.

As shown in program according to diiferent no. of day in month we will use expression separately and will get our output.

In this program % d operator use

And in if statement % use is modulous operator which give remainder.

OUTPUT :



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EXPERIMENT NUMBER – 2.5

STUDENT'S NAME –	Nikhil
STUDENT'S UID –	20BET1042
CLASS AND GROUP –	BE AND IT
SEMESTER –	1ST

AIM OF THE EXPERIMENT

The course aim to provide exposure to problem solving with programming.

Program code :

```
#include<stdio.h>
int main ()
{
        int N,p,q,m,r,ratio,Num_girls,y,x;
        printf("Enter the total no. of students " );
        scanf ("%d",&N);
        printf ("Enter the ratio p:q ") ;
        scanf ("%d%d",&p,&q);

        Num_girls=(p*N)/(p+q);
        printf(" \nTotal no. of girls are :%d",Num_girls);
        printf(" \nEnter savita's position(from top ) :  " );
   scanf("%d",&r);
        printf(" \n Enter no. of boys ahead of her " );
        scanf("%d",&m);
        y=r-m;
        printf(" \n No. of girls ahead of her %d ",y);
        x=Num_girls-y-1;
        printf(" \n No. of girls behind her %d ",x);
        }
```

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

IN LAST I use formula x=Num_girls-1

then in this case if 30 are total girls and three are ahead of her it gives answer 27 that means it incluse savita too so we will use

this formula

x=Num_girls-1-1

it will give right answer

PROGRAMS' EXPLANATION (in brief)

First we will defining variables then find total number of girls and ratio using formula

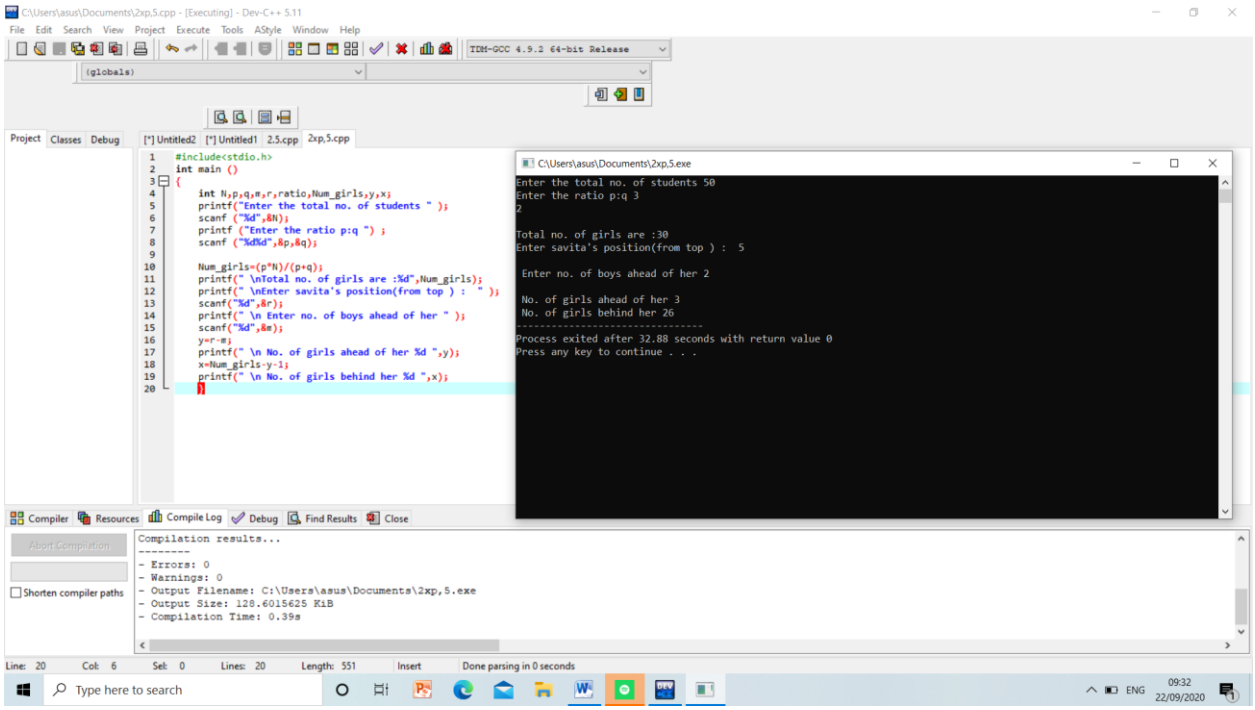
(p*N)/(p+q) we will get total number of girls then we input Savita's rank and no. of boys ahead of her from this we will get no. of girls ahead of her then

no. of girls behind her = total girls- girls ahead her

by this formula we will get result

%d format specifier use coz we will input or get interger values. Printf ,scanf use fot input the values.

OUTPUT



LEARNING OUTCOMES

- Identify situations where computational methods would be useful.
- Approach the programming tasks using techniques learnt and write pseudo-code.
- Choose the right data representation formats based on the requirements of the problem.
- Use the comparisons and limitations of the various programming constructs and choose the right one for the task.

EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet Completion including writing learning objective/ Outcome	10	
2.	Post Lab Quiz Result	5	
3.	Student engagement in Simulation/ Performance/ Pre Lab Questions	5	
4.	Total Marks	20	