IT LAB 4

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Experiment 1

TASK: Create a program to generate multiplication table of any integer using while loop.

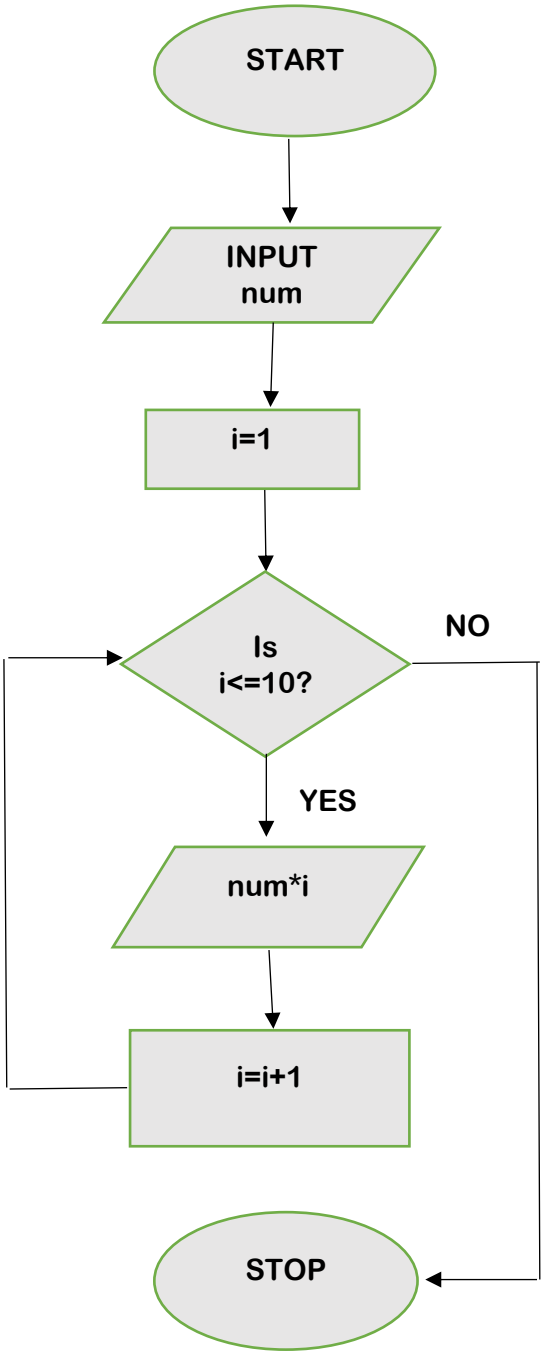
Objective: To create a program to generate multiplication table of any integer using while loop.

Software: OnlineGDB

Methodology:

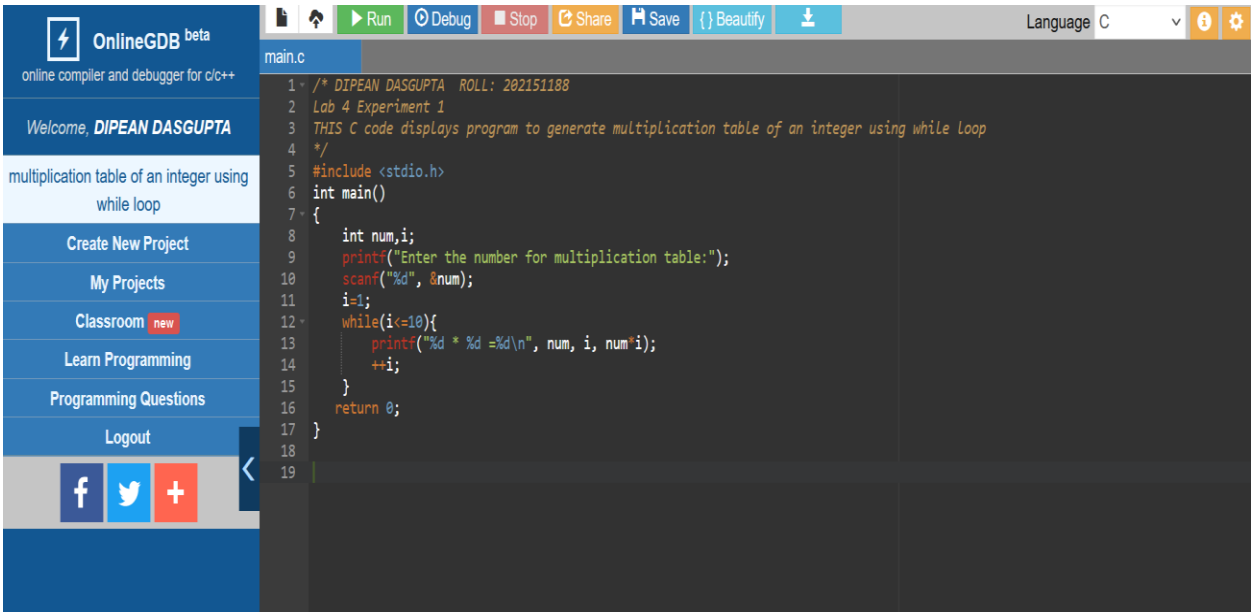
1. Declare int variable “num”.
2. Input the value from user and store it in “num”. For example, 14.
3. Then run a while loop that will run from 1 to 10.
4. Each time it will calculate the successive multiple of the number “num”. With each iteration, it will print the multiple of num in specified format num*i.
5. Print the multiplication table and end the program.

Flowchart:



CODE:

```
#include <stdio.h>
int main()
{
    int num,i;
    printf("Enter the number for multiplication table:");
    scanf("%d", &num);
    i=1;
    while(i<=10){
        printf("%d * %d =%d\n", num, i, num*i);
        ++i;
    }
   return 0;
}
```



RESULT:

Sample 1

Enter the number for multiplication table: 14

14*1=14

14*2=28

14*3=42

14*4=56

14*5=70

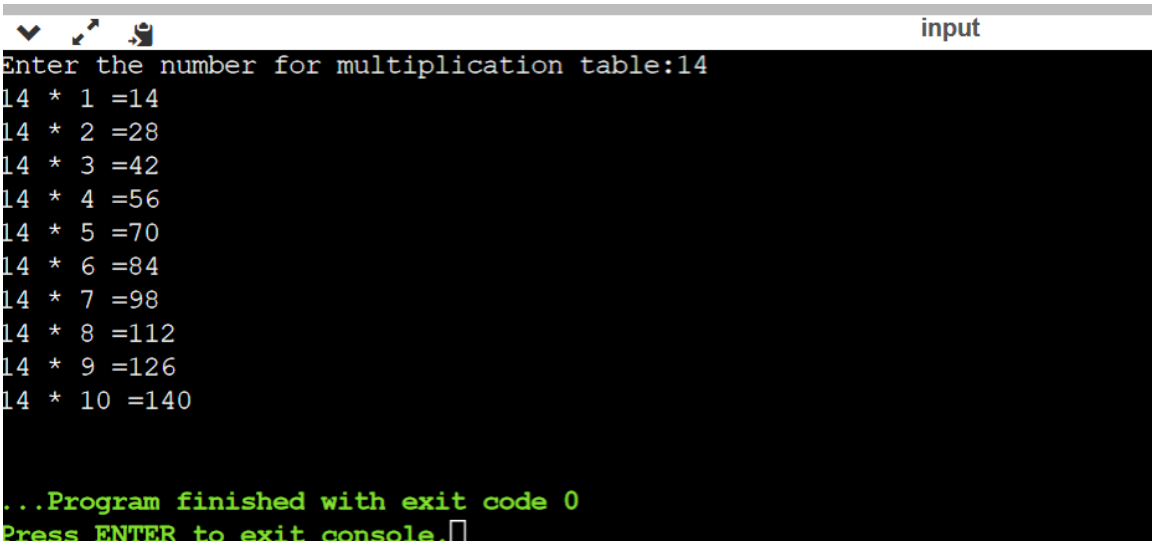
14*6=84

14*7=98

14*8=112

14*9=126

14*10=140



Experiment 2

TASK: Create a program to convert from degree Centigrade to Fahrenheit and vice versa using if statement.

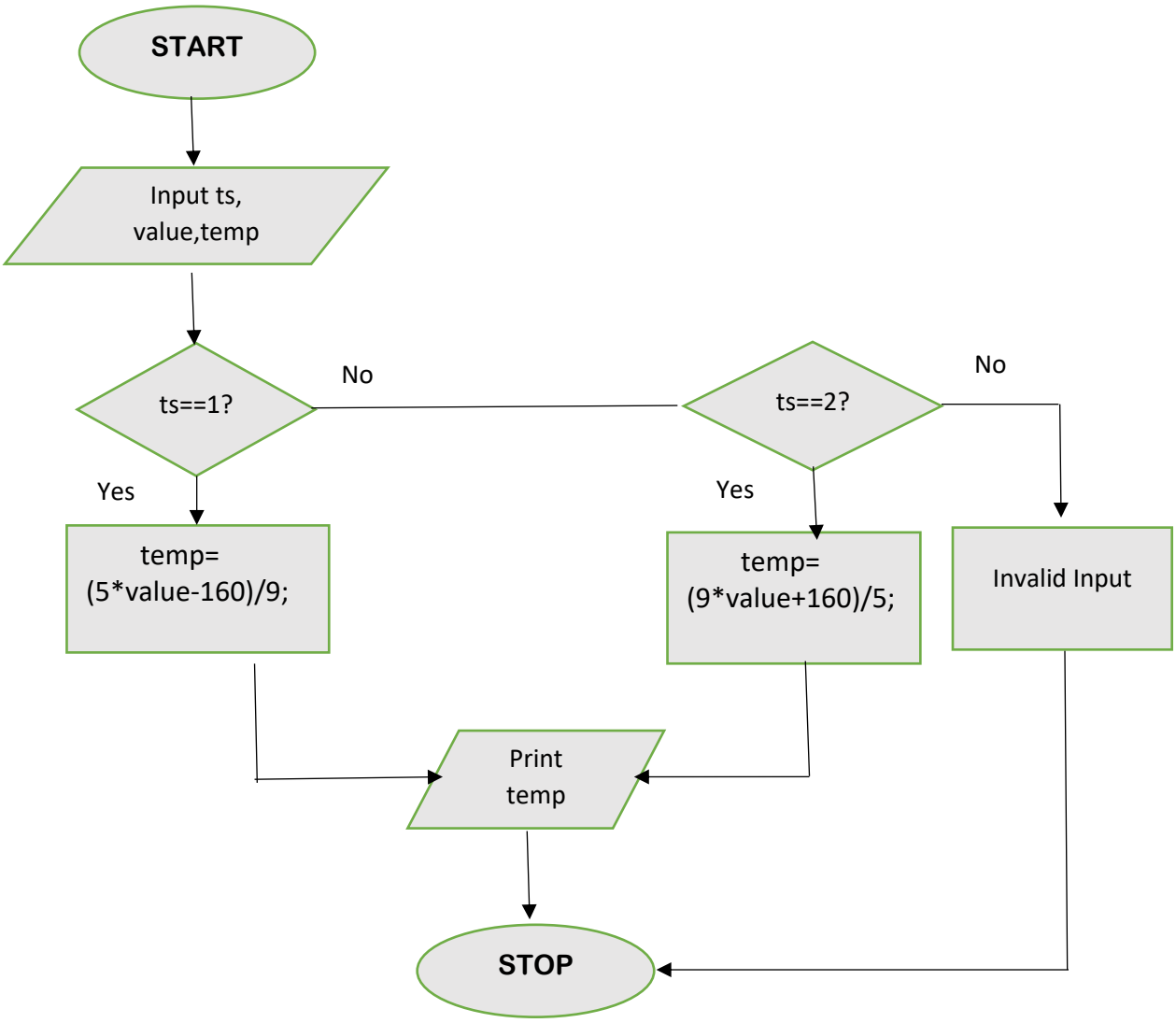
Objective: To create program to convert from degree Centigrade to Fahrenheit and vice versa using if statement.

Software: OnlineGDB

Methodology:

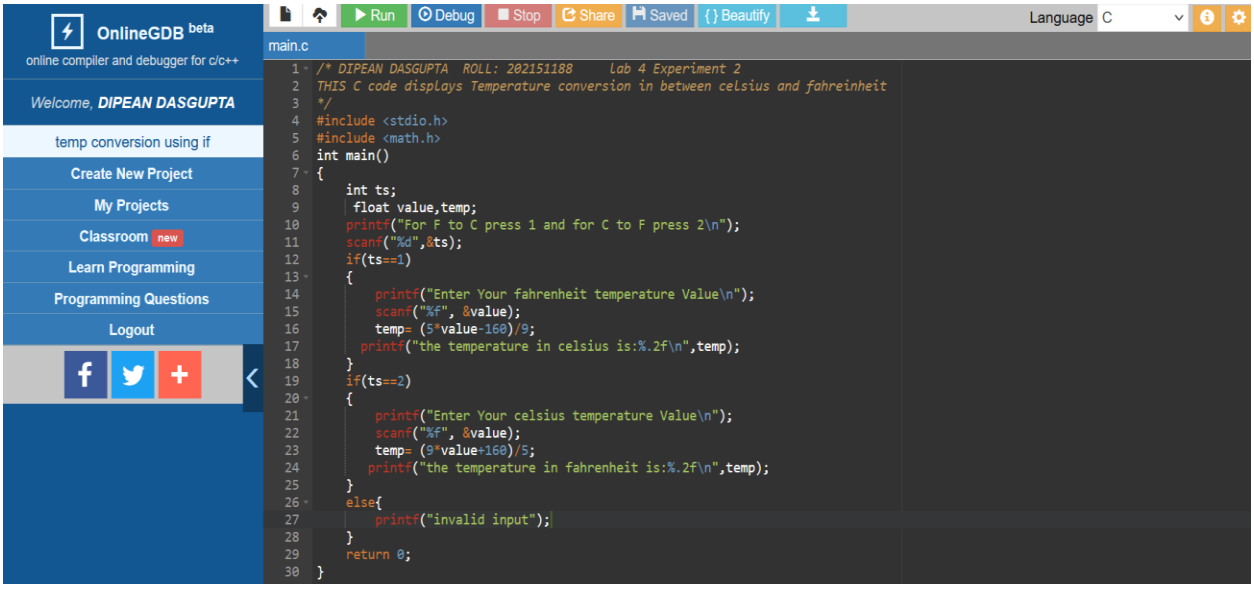
1. Declare variable ts as int and value, temp as float.
2. Set 1 for F to C and 2 for C to F.
3. Take input from user and store it in “value”.
4. For F to C, execute the formula (5*value-160)/9 and store the result in “temp”.
5. For C to F, execute the formula (9*value+160)/5 and store the result in “temp”.
6. Print the value of “temp” and end the program.

Flowchart:


START
Input ts, value,temp
ts==1?
No
ts==2?
No
Yes
Yes
temp= (5*value-160)/9;
temp= (9*value+160)/5;
Invalid Input
Print temp
STOP

CODE:

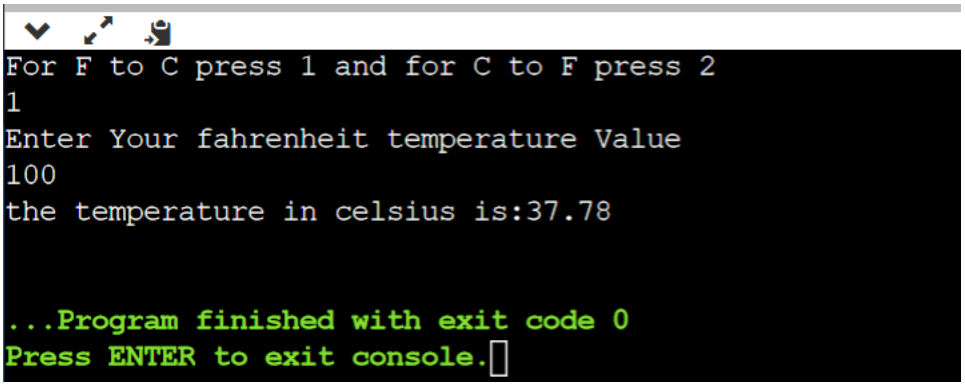
```
#include <stdio.h>
#include <math.h>
int main()
{
   int ts;
    float value,temp;
   printf("For F to C press 1 and for C to F press 2\n");
   scanf("%d", &ts);
   if(ts==1)
   {
      printf("Enter Your fahrenheit temperature Value\n");
      scanf("%f", &value);
      temp= (5*value-160)/9;
     printf("the temperature in celsius is:%.2f\n",temp);
   }
   if(ts==2)
   {
      printf("Enter Your celsius temperature Value\n");
      scanf("%f", &value);
      temp= (9*value+160)/5;
     printf("the temperature in fahrenheit is:%.2f\n",temp);
   }else{
         printf("Invalid input");
   return 0;
}
```



RESULT:

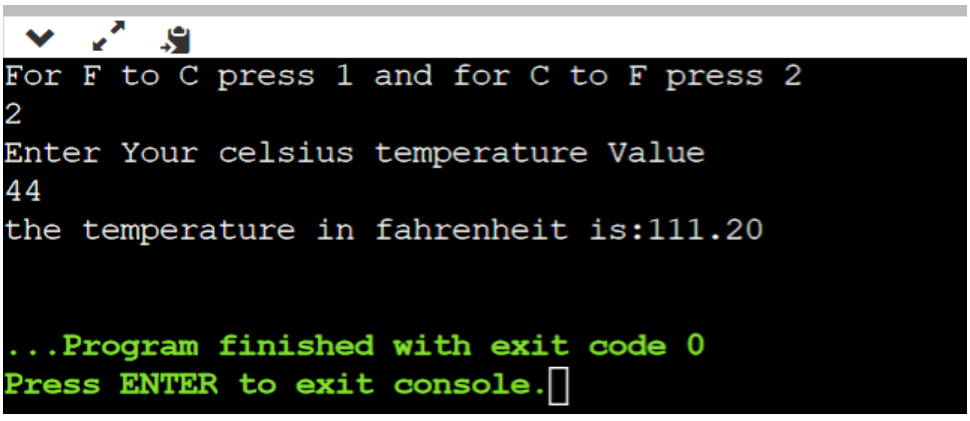
Sample 1

For F to C press 1 and for C to F press 2
1
Enter Your Fahrenheit temperature Value
100
the temperature in celsius is:37.78



SAMPLE 2

For F to C press 1 and for C to F press 2
2
Enter Your Celsius temperature Value
44
the temperature in fahrenheit is:111.20



Experiment 3

Task: Create a program to find the greatest in 3 numbers using nested-if.

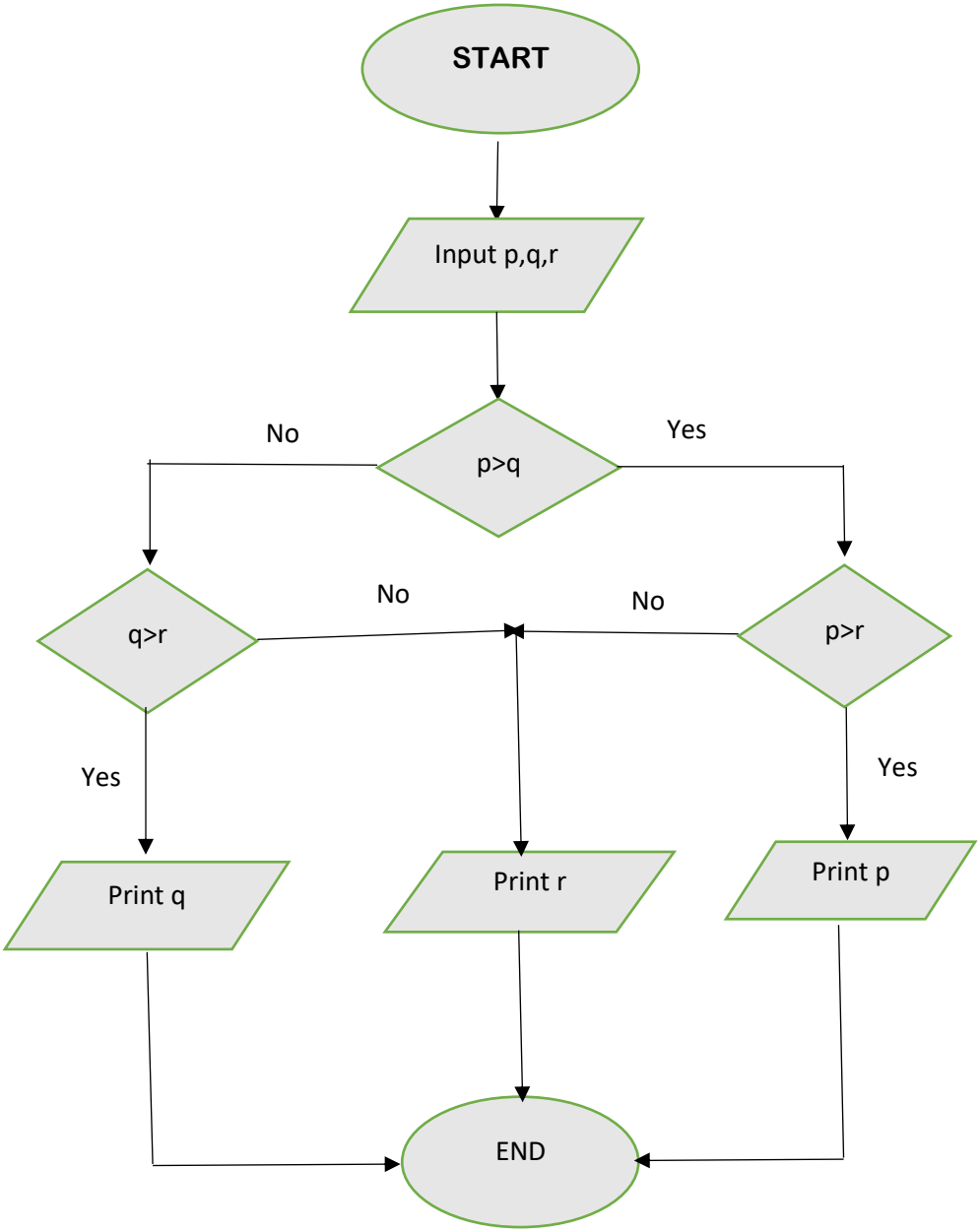
Objective: To create program to find the greatest in 3 numbers using nested-if.

Software: OnlineGDB

Methodology:

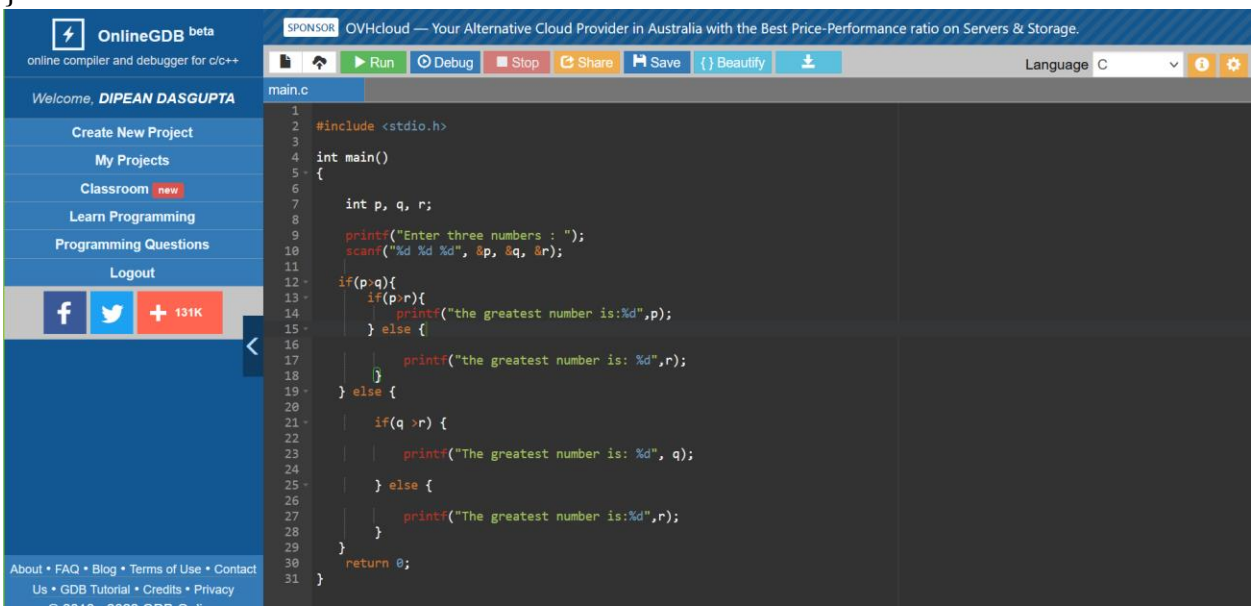
1. Declare 3 variables p,q,r as int.
2. Input the values from user.
3. if(p>q) and if(p>r), p is the greatest number; else r is the greatest number.
4. If (q>p) and if(q>r), q is the greatest number, else r is the greatest number.
5. Show the result in output and end the program.

FLOWCHART:


START
Input p,q,r
p>q
No
Yes
q>r
p>r
No
No
Yes
Yes
Print q
Print r
Print p
END

CODE:

```
#include <stdio.h>

int main(){
   int p, q, r;

   printf("Enter three numbers : ");
   scanf("%d %d %d", &p, &q, &r);

  if(p>q){
     if(p>r){
        printf("the greatest number is:%d",p);
     } else {

         printf("the greatest number is: %d",r);
      }
  } else {

      if(q >r) {

         printf("The greatest number is: %d", q);

      } else {

         printf("The greatest number is:%d",r);
      }
  }
   return 0;
}
```

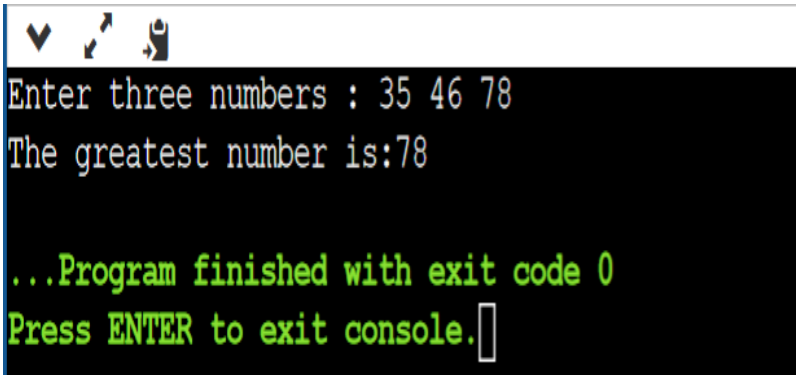


RESULT:

Sample 1

Enter Three Numbers: 35 46 78

The greatest Number is: 78



Sample 2

Enter three Numbers: -20 -5 -12

The greatest Number is: -5