Answer of Assignment 3 – 28.12.2020

SUBJECT- **PROGRAMMING AND DATA STRUCTURE USING C (PDSC)**

LECTURE-M. Thangavel

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1. **Display multiple variables.**

Sample Variables :
a+ c, x + c,dx + x, a + x, s + b, ax + b, s + c, ax + c, ax + ux

Declaration :

int a = 125, b = 12345;

long ax = 1234567890;

short s = 4043;

float x = 2.13459;

double dx = 1.1415927;

char c = 'W';

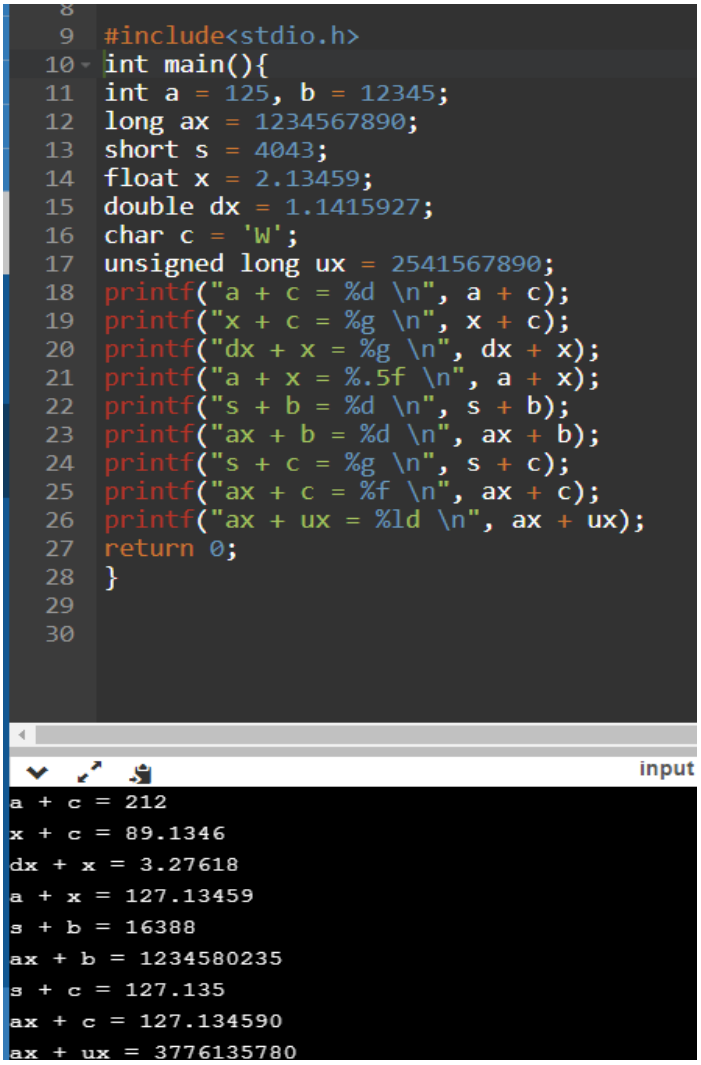
unsigned long ux = 2541567890;

Ans:-

```
#include<stdio.h>
 int main(){
int a = 125, b = 12345;
long ax = 1234567890;
short s = 4043;
float x = 2.13459;
```

```
double dx = 1.1415927;
char c = 'W';
unsigned long ux = 2541567890;
 printf("a + c = %d \n", a + c);
printf("x + c = %g \n", x + c);
printf("dx + x = %g \n", dx + x);
printf("a + x = %.5f \n", a + x);
printf("s + b = %d \n", s + b);
printf("ax + b = %d \n", ax + b);
printf("s + c = %g \n", s + c);
printf("ax + c = %f \n", ax + c);
printf("ax + ux = %ld \n", ax + ux);
return 0;
}
```

Output:-



```c
#include<stdio.h>
int main(){
int a = 125, b = 12345;
long ax = 1234567890;
short s = 4043;
float x = 2.13459;
double dx = 1.1415927;
char c = 'W';
unsigned long ux = 2541567890;
printf("a + c = %d \n", a + c);
printf("x + c = %g \n", x + c);
printf("dx + x = %g \n", dx + x);
printf("a + x = %.5f \n", a + x);
printf("s + b = %d \n", s + b);
printf("ax + b = %d \n", ax + b);
printf("s + c = %g \n", s + c);
printf("ax + c = %f \n", ax + c);
printf("ax + ux = %ld \n", ax + ux);
return 0;
}
```

input

```
a + c = 212
x + c = 89.1346
dx + x = 3.27618
a + x = 127.13459
s + b = 16388
ax + b = 1234580235
s + c = 127.135
ax + c = 127.134590
ax + ux = 3776135780
```

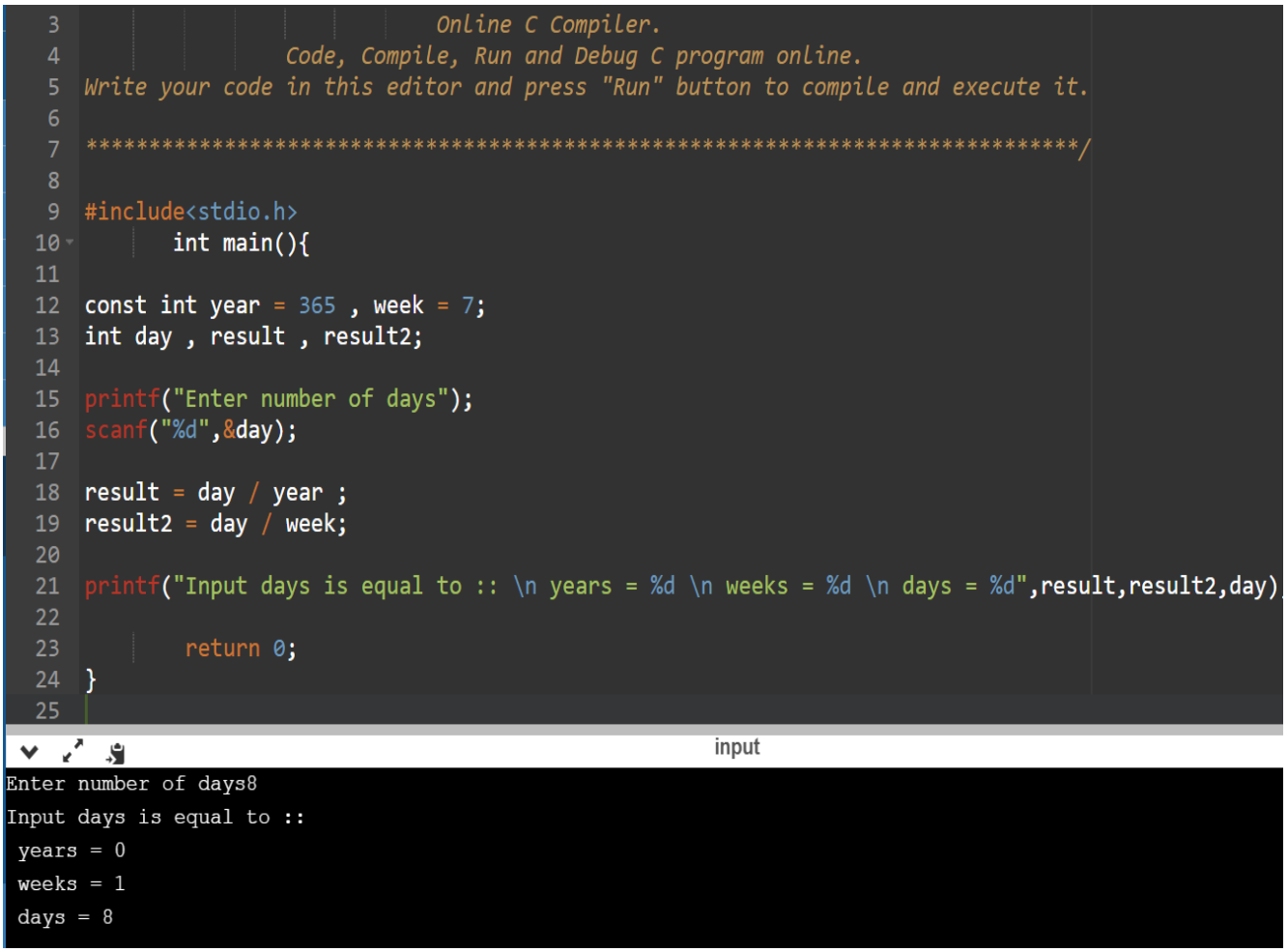
2. **Convert specified days into years, weeks and days.**

   Ans:-

```
#include<stdio.h>

 int main(){

const int year = 365 , week = 7;

int day , result , result2;

printf("Enter number of days");

scanf("%d",&day);

result = day / year ;

result2 = day / week;

printf("Input days is equal to :: \n years = %d \n weeks = %d \n days = %d",result,result2,day);

return 0;
```

}

Output :



```
                            Online C Compiler.
                    Code, Compile, Run and Debug C program online.
Write your code in this editor and press "Run" button to compile and execute it.

*******************************************************************************/

#include<stdio.h>
      int main(){

const int year = 365 , week = 7;
int day , result , result2;

printf("Enter number of days");
scanf("%d",&day);

result = day / year ;
result2 = day / week;

printf("Input days is equal to :: \n years = %d \n weeks = %d \n days = %d",result,result2,day)

      return 0;
}
```

input

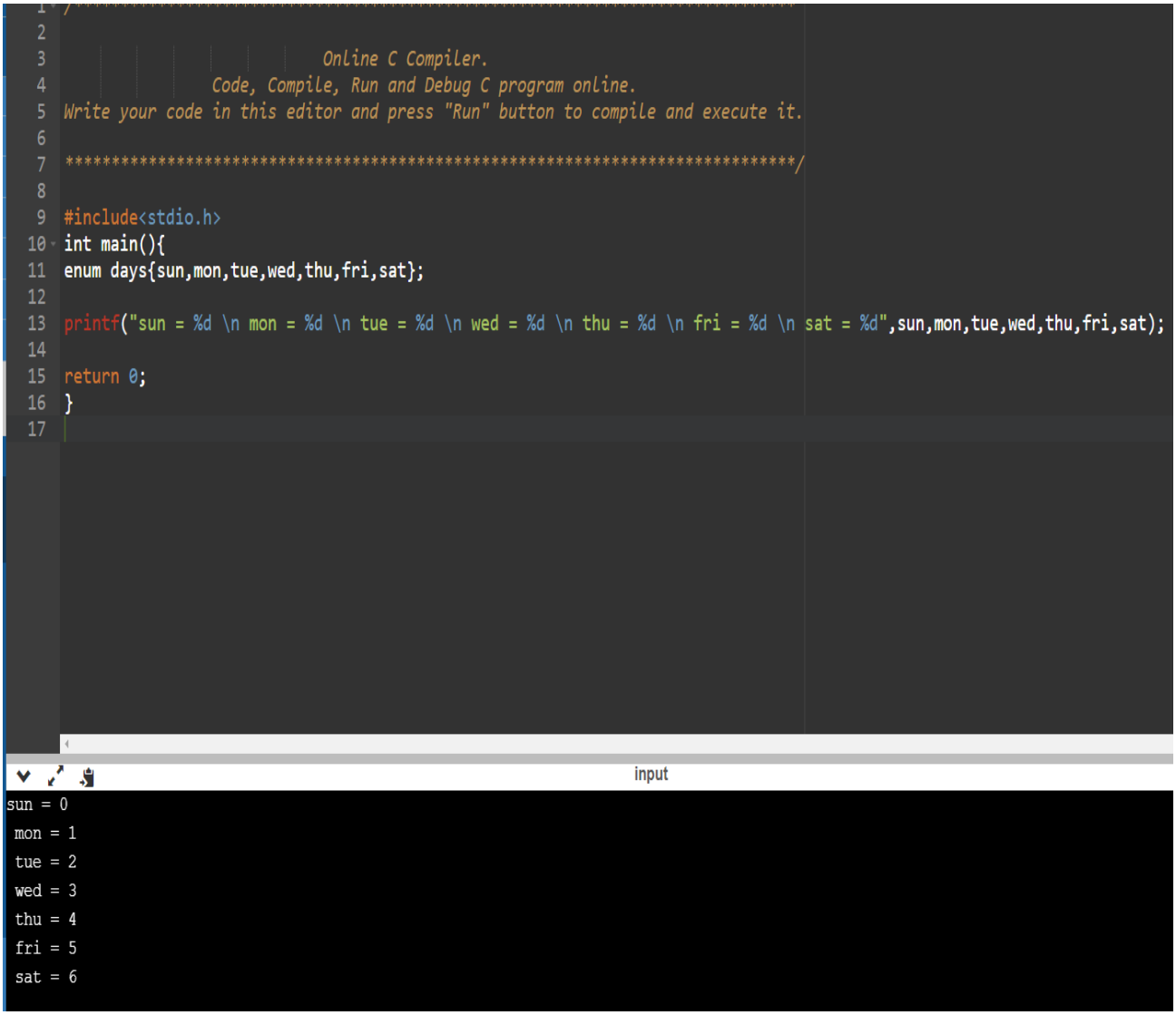
```
Enter number of days8
Input days is equal to ::
 years = 0
 weeks = 1
 days = 8
```

3. Create enumerated data type for 7 days and display their values in integer constants.

Ans:-

```
#include<stdio.h>

int main()

{

enum days{sun,mon,tue,wed,thu,fri,sat};

printf("sun = %d \n mon = %d \n tue = %d \n wed = %d \n thu = %d \n fri = %d \n sat =
%d",sun,mon,tue,wed,thu,fri,sat);

return 0;

}
```

Output:-



3. **Converts Centigrade to Fahrenheit.**

   Ans:-

```
#include<stdio.h>

int main(){

float cel , fah , result ;

printf("Input temperature in celsius :: ");

scanf("%f",&cel);

result = (cel * 1.8) + 32 ;

printf("Celsius :: %g C \n Fahrenheit :: %g F",cel,result);

return 0;

}
```

Output:-

```
 8
 9  #include<stdio.h>
10  int main(){
11
12  float cel , fah , result ;
13
14  printf("Input temperature in celsius :: ");
15  scanf("%f",&cel);
16
17  result = (cel * 1.8) + 32 ;
18
19  printf("Celsius :: %g C \n Fahrenheit :: %g F",cel,result);
20
21  return 0;
22  }
23
```

input

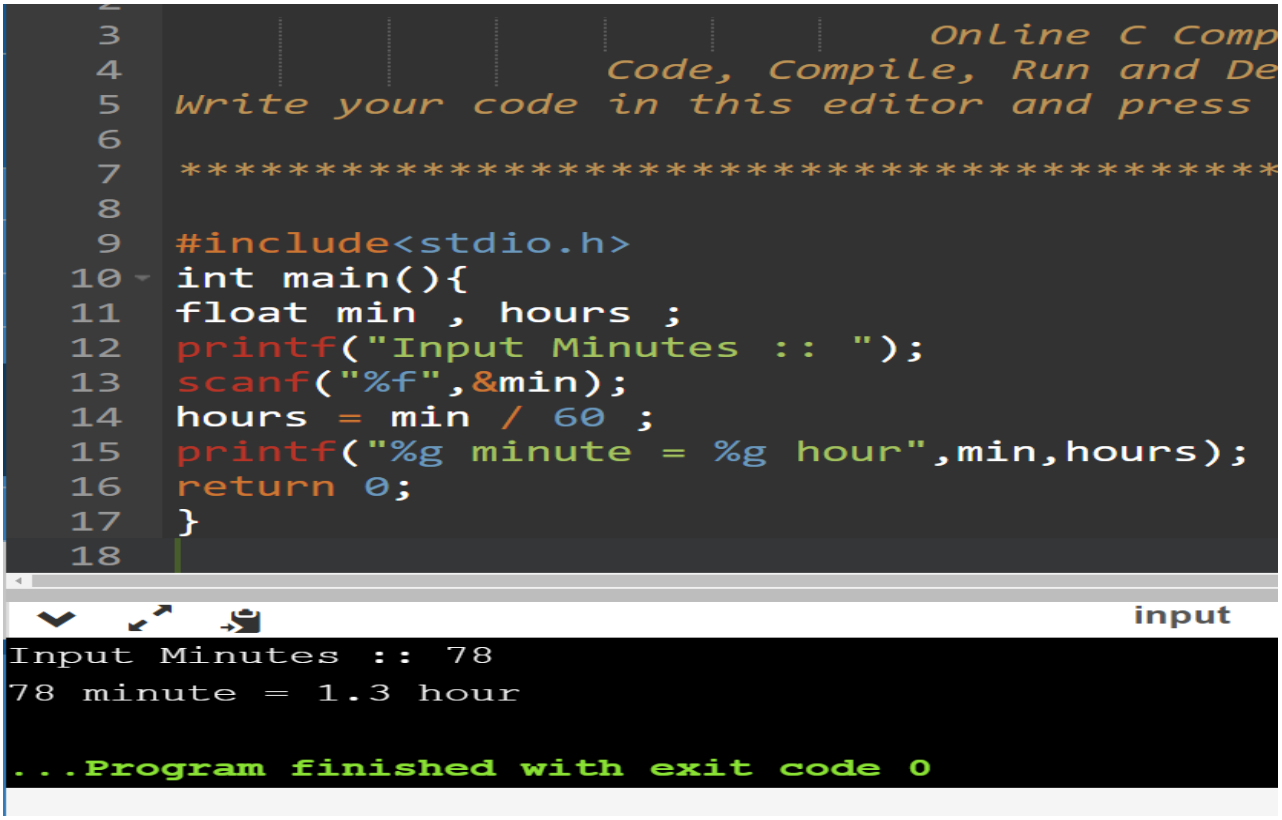
```
Input temperature in celsius :: 98
Celsius :: 98 C
 Fahrenheit :: 208.4 F
```

4. **Takes minutes as input, and display the total number of hours and minutes.**

Ans:-

```
#include<stdio.h>

int main(){

float min , hours ;

printf("Input Minutes :: ");

scanf("%f",&min);

hours = min / 60 ;

printf("%g minute = %g hour",min,hours);

return 0;

}
```

Output:

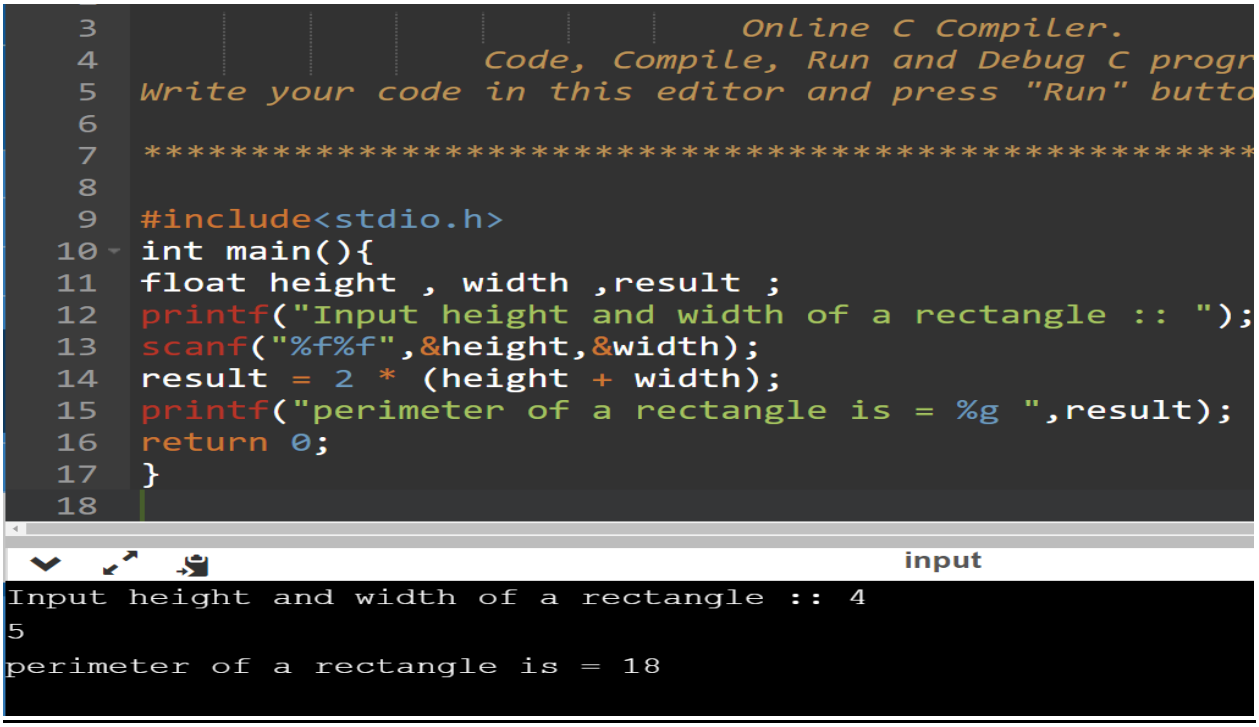


6. Prints the perimeter of a rectangle to take its height and width as input.

Ans-

```
#include<stdio.h>
int main(){
float height , width ,result ;
printf("Input height and width of a rectangle :: ");
scanf("%f%f",&height,&width);
result = 2 * (height + width);
printf("perimeter of a rectangle is = %g ",result);
return 0;
}
```

Output:

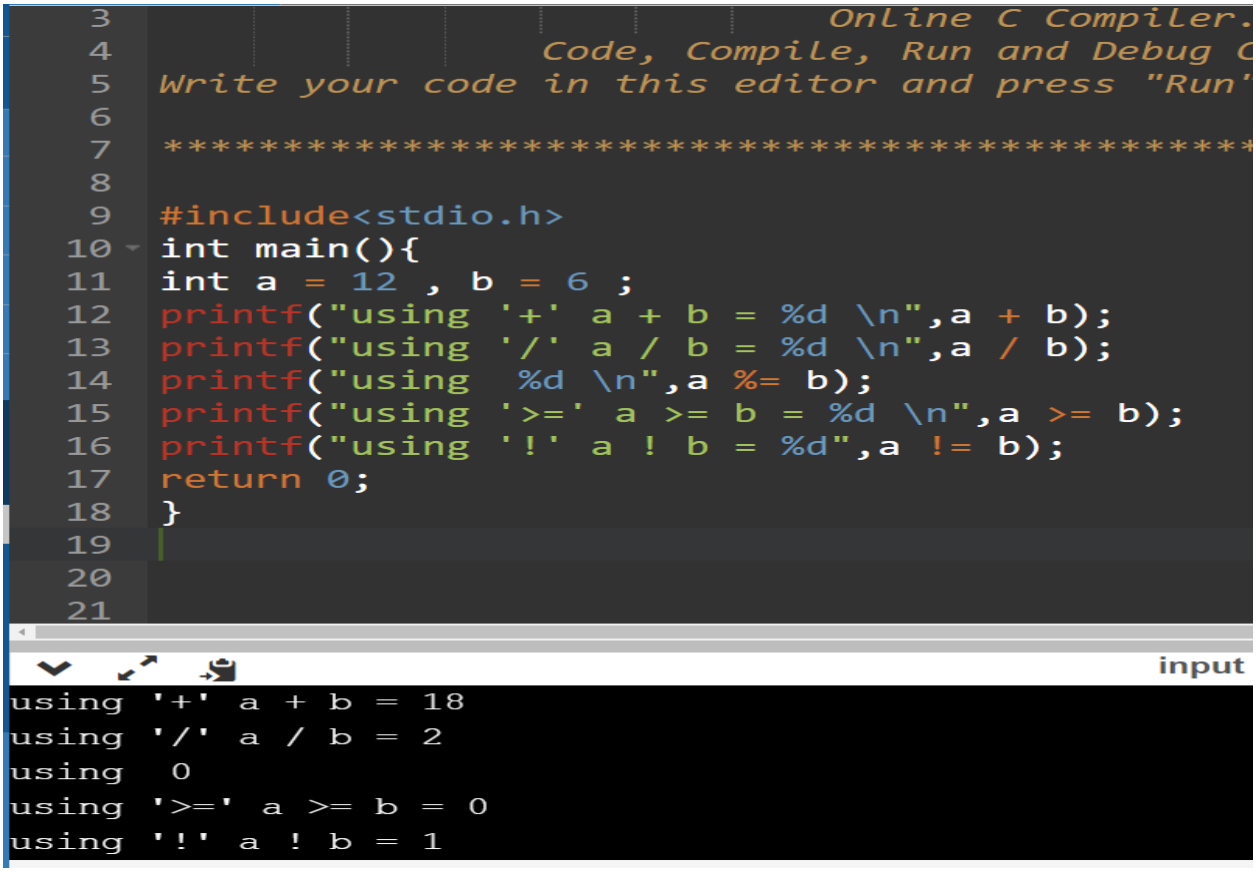


7. By using +, /, %=, >=, ! operators.

Ans:-

```
#include<stdio.h>

int main(){

int a = 12 , b = 6 ;

printf("using '+' a + b = %d \n",a + b);

printf("using '/' a / b = %d \n",a / b);

printf("using  %d \n",a %= b);

printf("using '>=' a >= b = %d \n",a >= b);

printf("using '!' a ! b = %d",a != b);

return 0;

}
```

Output:

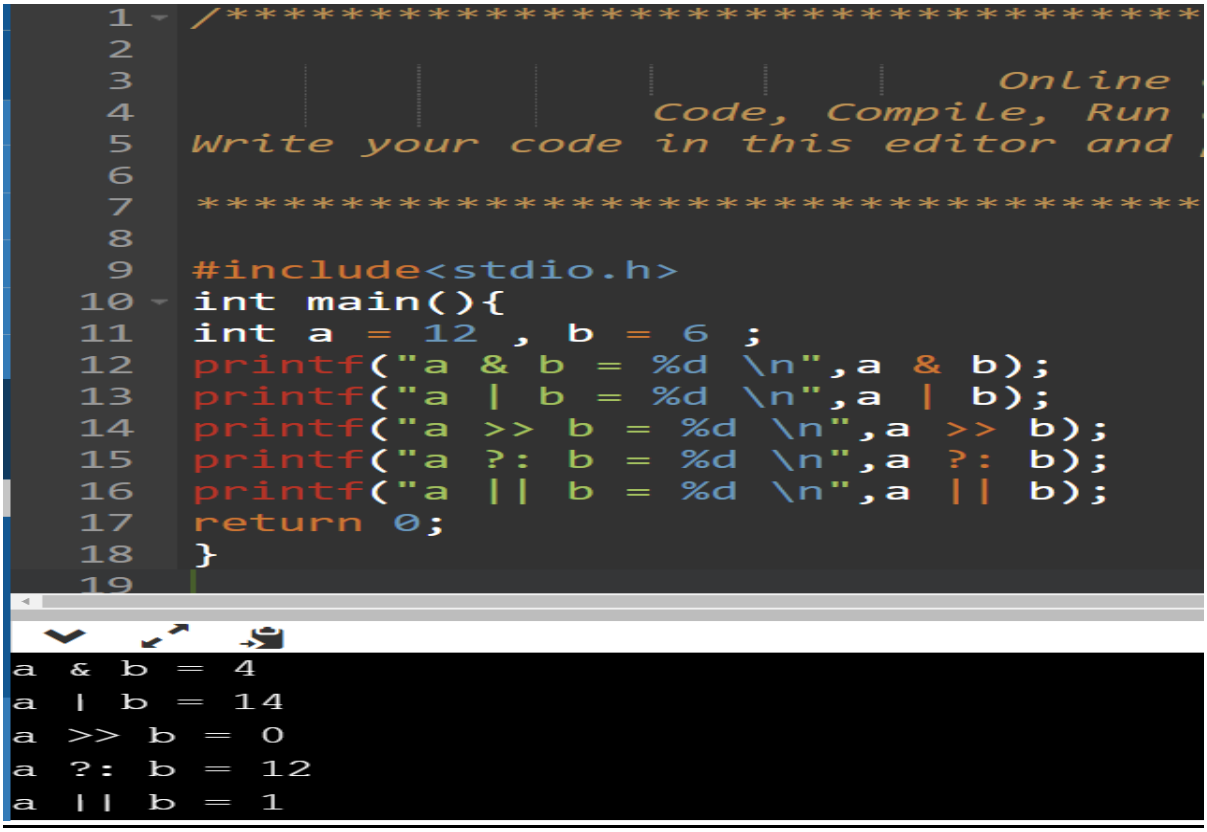


8. By using &, |, >>, ?:, || operators.

Ans:-

```
#include<stdio.h>
int main(){
int a = 12 , b = 6 ;
printf("a & b = %d \n",a & b);
printf("a | b = %d \n",a | b);
printf("a >> b = %d \n",a >> b);
printf("a ?: b = %d \n",a ?: b);
printf("a || b = %d \n",a || b);
return 0;
}
```

Output:

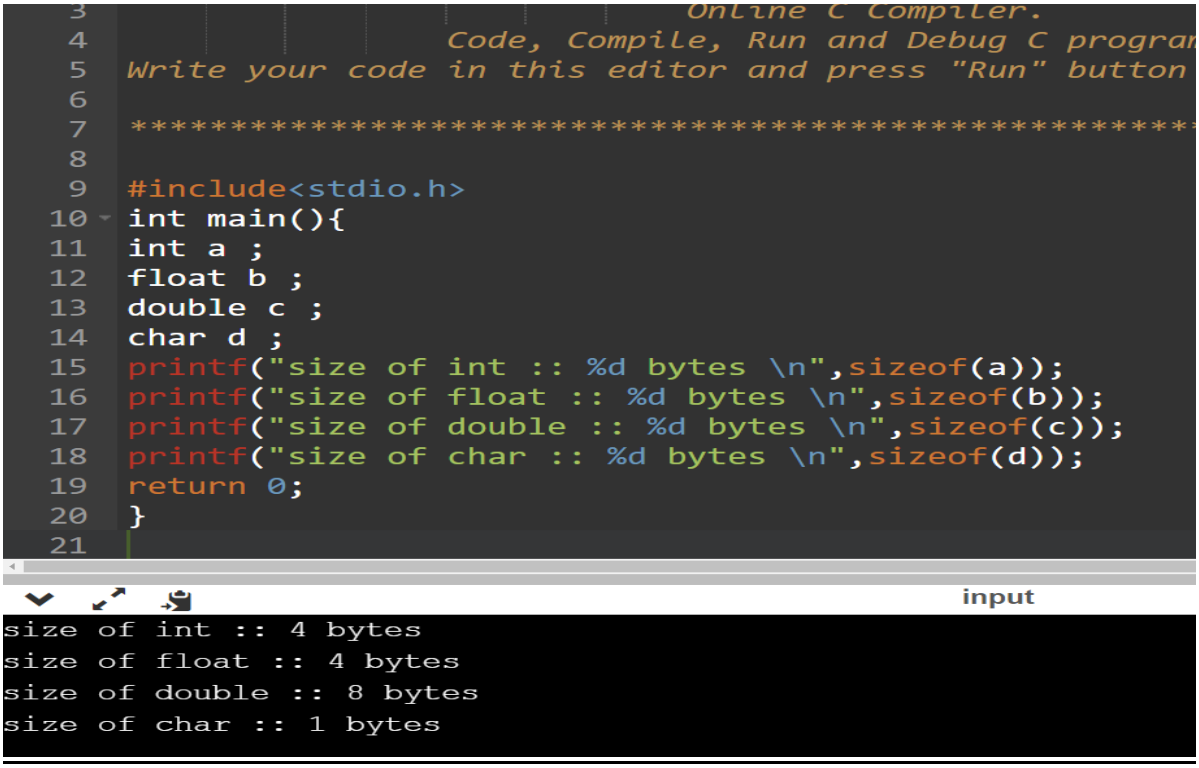


9. Find the Size of int, float, double and char.

Ans:-

```
#include<stdio.h>

int main(){

int a ;

float b ;

double c ;

char d ;

printf("size of int :: %d bytes \n",sizeof(a));

printf("size of float :: %d bytes \n",sizeof(b));

printf("size of double :: %d bytes \n",sizeof(c));

printf("size of char :: %d bytes \n",sizeof(d));

return 0;

}
```

Output:



10. Accepts two item's weight (floating points' values) and number of purchase (floating points' values) and calculate the average value of the items.

Ans:-

```
#include <stdio.h>

int main()

  {

        float w1, c1, w2, c2, tc,average;

   printf("Weight of Item1: ");

        scanf("%f", &w1);

        printf("No.of item1: ");

        scanf("%f", &c1);

        printf("Weight of Item2: ");

        scanf("%f", &w2);

        printf("No. of item2: ");
```

```
scanf("%f", &c2);
tc=c1+c2;
average  = ((w1 * c1) + (w2 * c2)) / tc;
printf("Average Value = %f\n",average );
return 0;
```

Output:-