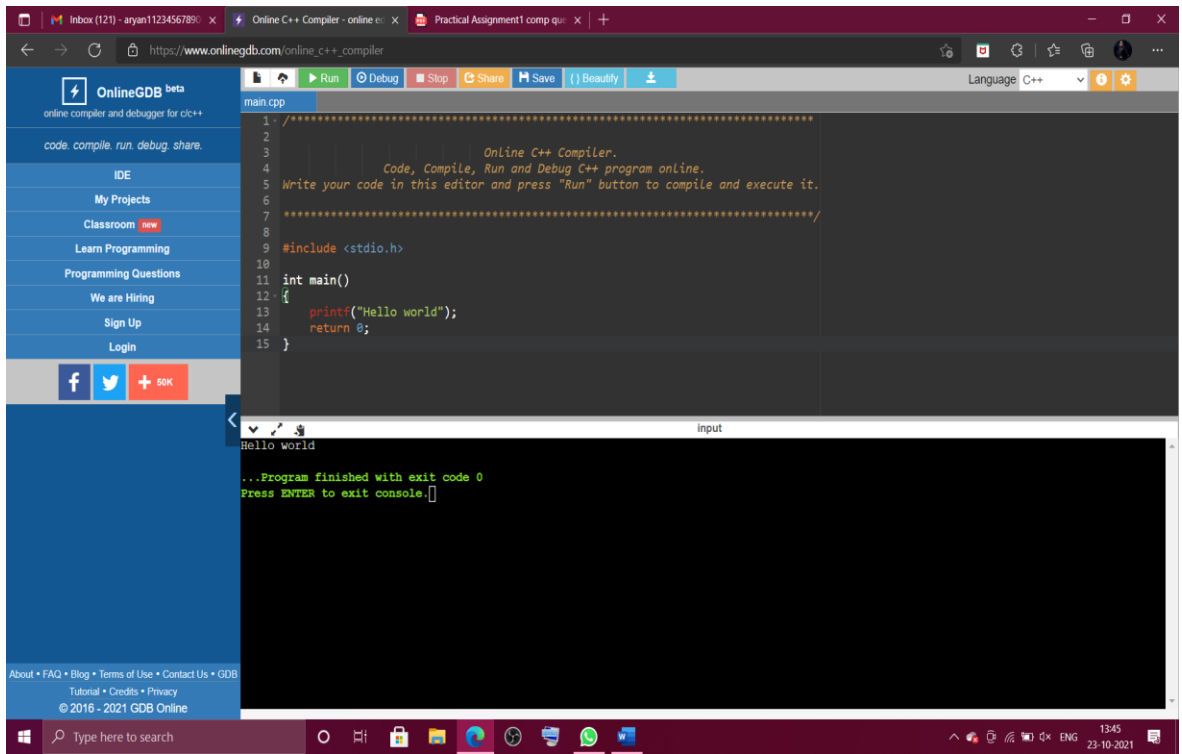


# Computer Assignment-1

## 1. "Hello World" on console display

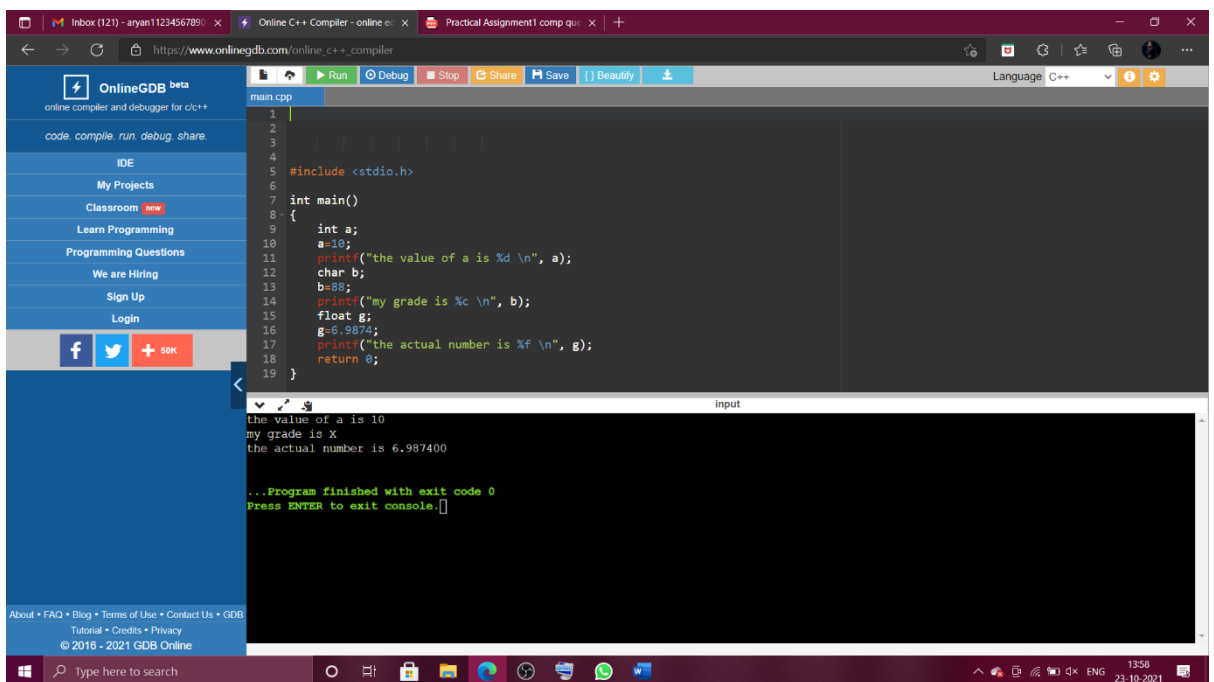


The screenshot shows the OnlineGDB web interface. The code editor contains a C++ program that prints "Hello world". The program is as follows:

```
1 // ***** Online C++ Compiler *****  
2  
3 // Code, Compile, Run and Debug C++ program online.  
4 // Write your code in this editor and press "Run" button to compile and execute it.  
5  
6 // *****  
7  
8 #include <stdio.h>  
9  
10 int main()  
11 {  
12     printf("Hello world");  
13     return 0;  
14 }  
15
```

The console output shows "Hello world" and "...Program finished with exit code 0".

## 2. A character, integer, decimal number and display them.

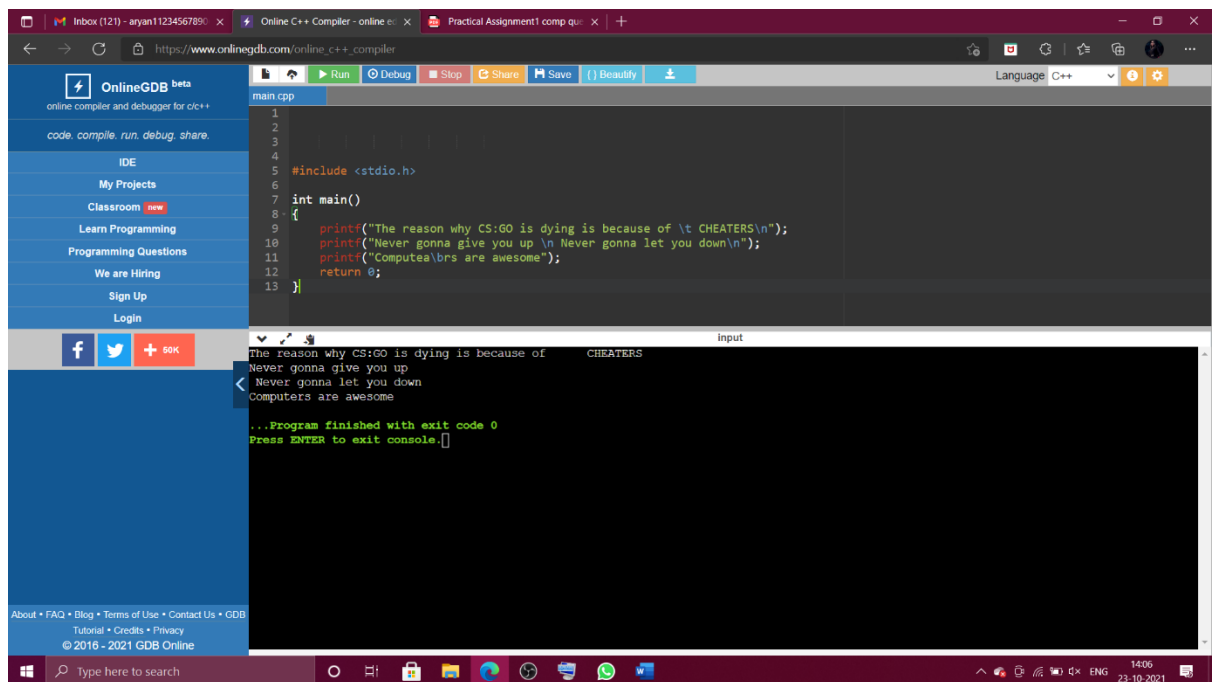


The screenshot shows the OnlineGDB web interface. The code editor contains a C++ program that declares and prints variables of different types. The program is as follows:

```
1  
2  
3  
4  
5 #include <stdio.h>  
6  
7 int main()  
8 {  
9     int a;  
10    a=10;  
11    printf("the value of a is %d \n", a);  
12    char b;  
13    b='X';  
14    printf("my grade is %c \n", b);  
15    float g;  
16    g=6.9874;  
17    printf("the actual number is %f \n", g);  
18    return 0;  
19 }
```

The console output shows the values of the variables: "the value of a is 10", "my grade is X", and "the actual number is 6.987400".

3. format console output using '\n', '\t', '\b' within printf statement.

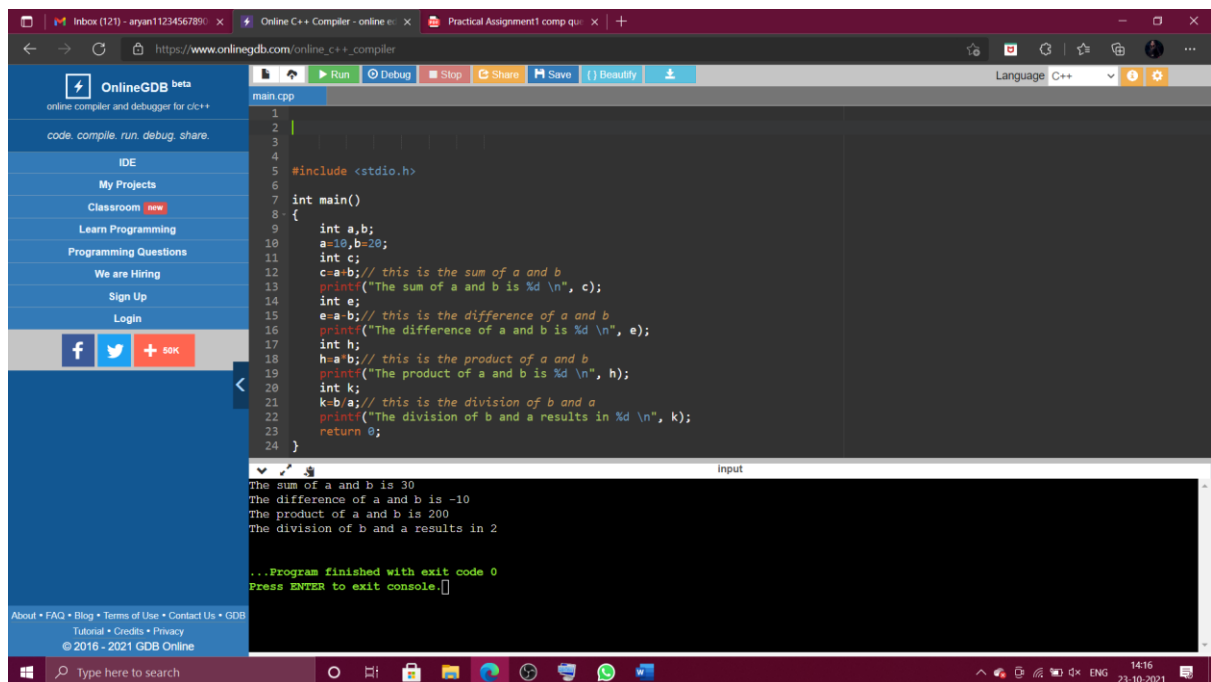


The screenshot shows the OnlineGDB interface with a C++ program in the editor. The program uses `printf` to output text with specific formatting: a tab character (`\t`) and a newline character (`\n`). The console output shows the formatted text, including a tabbed line and a new line.

```
1
2
3
4
5 #include <stdio.h>
6
7 int main()
8 {
9     printf("The reason why CS:GO is dying is because of \t CHEATERS\n");
10    printf("Never gonna give you up \n Never gonna let you down\n");
11    printf("Computers are awesome");
12    return 0;
13 }
```

Input: The reason why CS:GO is dying is because of CHEATERS  
Never gonna give you up  
Never gonna let you down  
Computers are awesome  
...Program finished with exit code 0  
Press ENTER to exit console.

4. add, subtract, multiply, divide numbers.

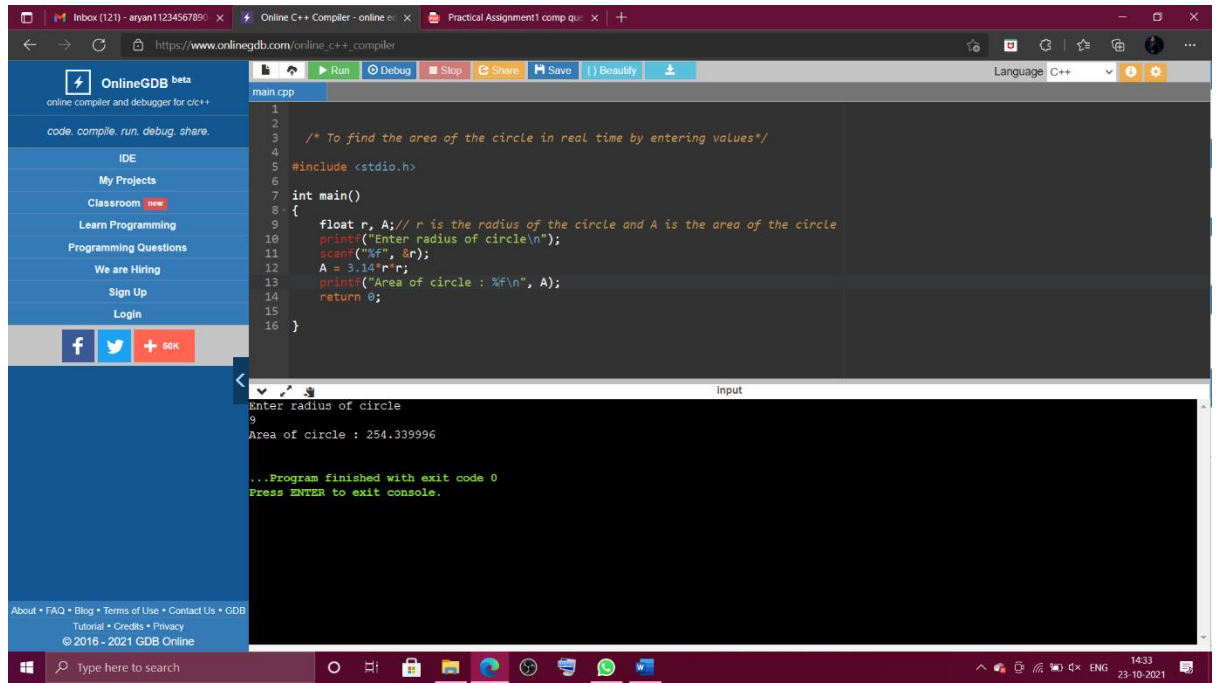


The screenshot shows the OnlineGDB interface with a C++ program in the editor. The program declares variables `a` and `b`, performs addition, subtraction, multiplication, and division, and uses `printf` to output the results with formatted strings. The console output shows the results of these operations.

```
1
2
3
4
5 #include <stdio.h>
6
7 int main()
8 {
9     int a,b;
10    a=10,b=20;
11    int c;
12    c=a+b; // this is the sum of a and b
13    printf("The sum of a and b is %d \n", c);
14    int e;
15    e=a-b; // this is the difference of a and b
16    printf("The difference of a and b is %d \n", e);
17    int h;
18    h=a*b; // this is the product of a and b
19    printf("The product of a and b is %d \n", h);
20    int k;
21    k=b/a; // this is the division of b and a
22    printf("The division of b and a results in %d \n", k);
23    return 0;
24 }
```

Input: The sum of a and b is 30  
The difference of a and b is -10  
The product of a and b is 200  
The division of b and a results in 2  
...Program finished with exit code 0  
Press ENTER to exit console.

5. compute area of a circle by taking input from the user at run time using scanf()



The screenshot shows the OnlineGDB interface with a C++ program for calculating the area of a circle. The code is as follows:

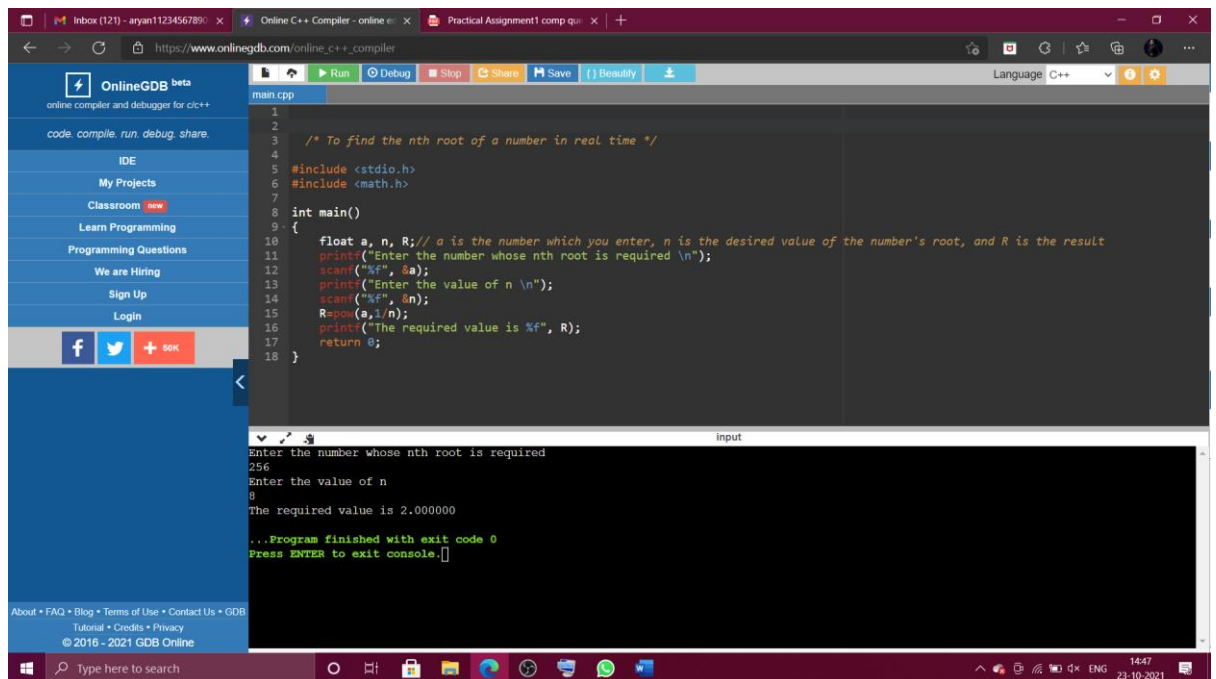
```
1
2
3  /* To find the area of the circle in real time by entering values */
4
5  #include <stdio.h>
6
7  int main()
8  {
9      float r, A; // r is the radius of the circle and A is the area of the circle
10     printf("Enter radius of circle\n");
11     scanf("%f", &r);
12     A = 3.14 * r * r;
13     printf("Area of circle : %f\n", A);
14     return 0;
15 }
16
```

The console output shows the program execution:

```
Enter radius of circle
9
Area of circle : 254.339996

...Program finished with exit code 0
Press ENTER to exit console.
```

6. find Nth root of a number



The screenshot shows the OnlineGDB interface with a C++ program for finding the Nth root of a number. The code is as follows:

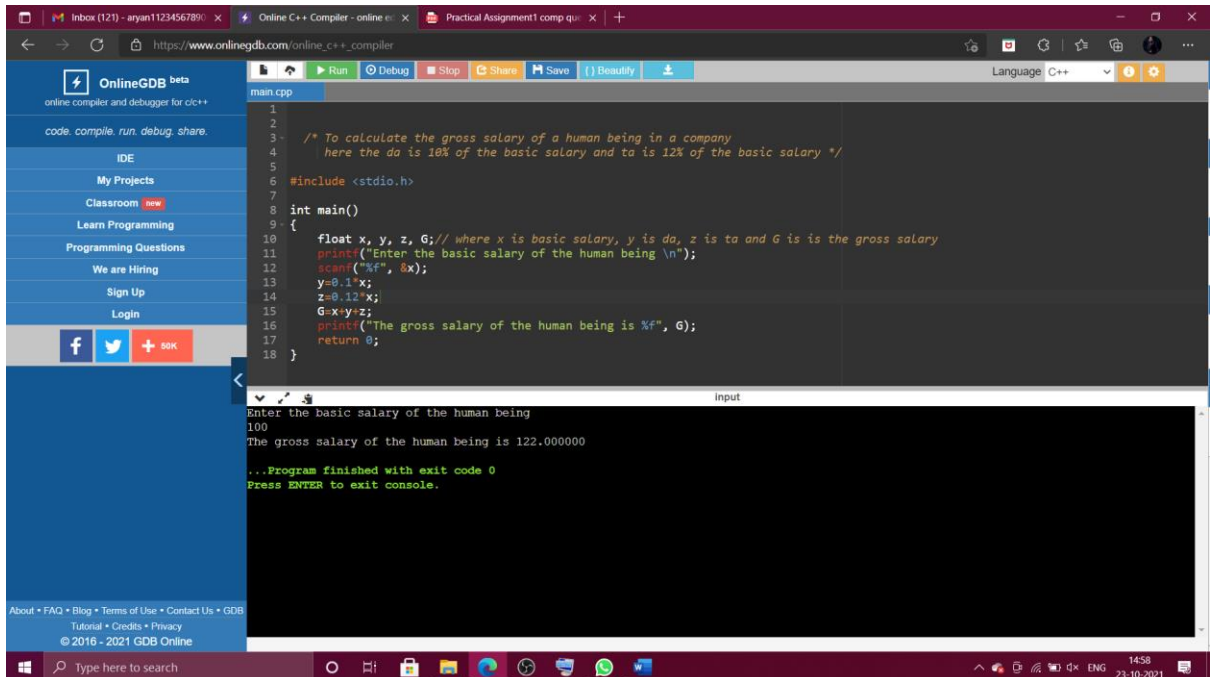
```
1
2
3  /* To find the nth root of a number in real time */
4
5  #include <stdio.h>
6  #include <math.h>
7
8  int main()
9  {
10     float a, n, R; // a is the number which you enter, n is the desired value of the number's root, and R is the result
11     printf("Enter the number whose nth root is required \n");
12     scanf("%f", &a);
13     printf("Enter the value of n \n");
14     scanf("%f", &n);
15     R = pow(a, 1/n);
16     printf("The required value is %f", R);
17     return 0;
18 }
```

The console output shows the program execution:

```
Enter the number whose nth root is required
256
Enter the value of n
8
The required value is 2.000000

...Program finished with exit code 0
Press ENTER to exit console.
```

7. calculate gross salary of a person, where  
 $\text{gross\_salary} = \text{basic} + \text{da} + \text{ta}$  and da is 10% of  
basic and ta is 12% of basic



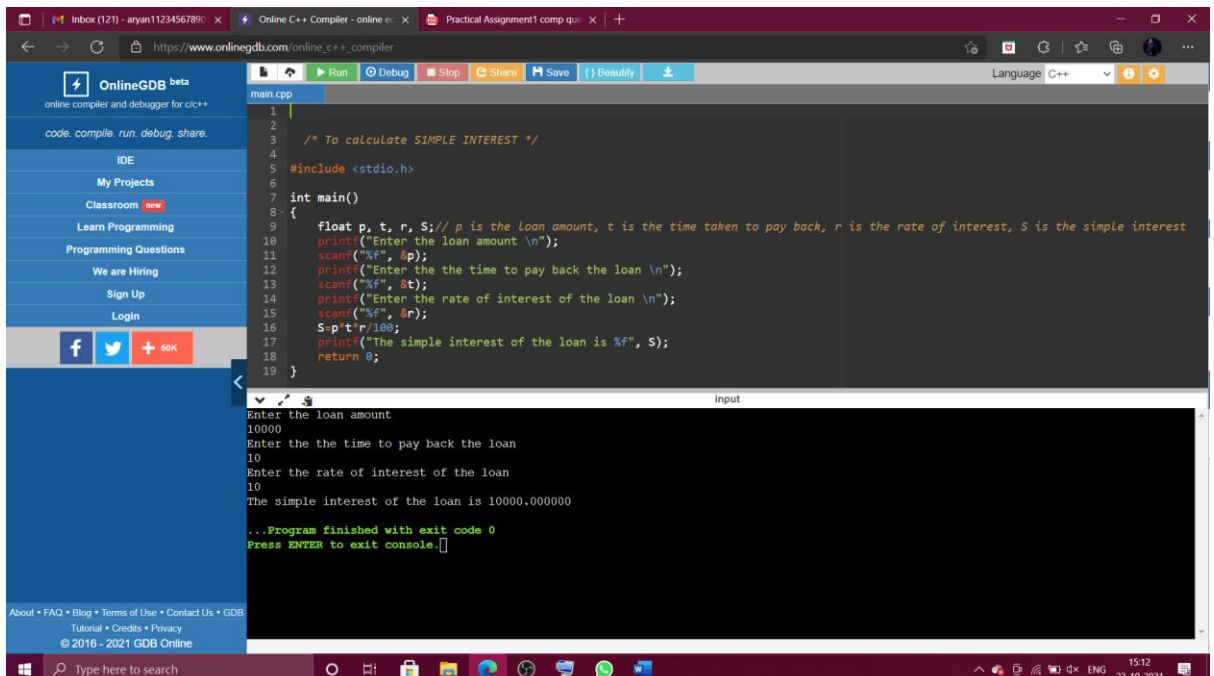
The screenshot shows the OnlineGDB web interface. The code in main.cpp is as follows:

```
1
2
3  /* To calculate the gross salary of a human being in a company
4     here the da is 10% of the basic salary and ta is 12% of the basic salary */
5
6  #include <stdio.h>
7
8  int main()
9  {
10     float x, y, z, G; // where x is basic salary, y is da, z is ta and G is the gross salary
11     printf("Enter the basic salary of the human being \n");
12     scanf("%f", &x);
13     y = 0.1 * x;
14     z = 0.12 * x;
15     G = x + y + z;
16     printf("The gross salary of the human being is %f", G);
17     return 0;
18 }
```

The console output shows the program execution:

```
Enter the basic salary of the human being
100
The gross salary of the human being is 122.000000
...Program finished with exit code 0
Press ENTER to exit console.
```

8. compute simple interest



The screenshot shows the OnlineGDB web interface. The code in main.cpp is as follows:

```
1
2
3  /* To calculate SIMPLE INTEREST */
4
5  #include <stdio.h>
6
7  int main()
8  {
9     float p, t, r, S; // p is the Loan amount, t is the time taken to pay back, r is the rate of interest, S is the simple interest
10     printf("Enter the loan amount \n");
11     scanf("%f", &p);
12     printf("Enter the the time to pay back the loan \n");
13     scanf("%f", &t);
14     printf("Enter the rate of interest of the loan \n");
15     scanf("%f", &r);
16     S = p * t * r / 100;
17     printf("The simple interest of the loan is %f", S);
18     return 0;
19 }
```

The console output shows the program execution:

```
Enter the loan amount
10000
Enter the the time to pay back the loan
10
Enter the rate of interest of the loan
10
The simple interest of the loan is 10000.000000
...Program finished with exit code 0
Press ENTER to exit console.
```

9.