

CS : FUNDAMENTALS OF PROGRAMING

HOME ASSIGNMENT #02

➤ **SUBMITTED BY:-**

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➤ **CLASS:-**

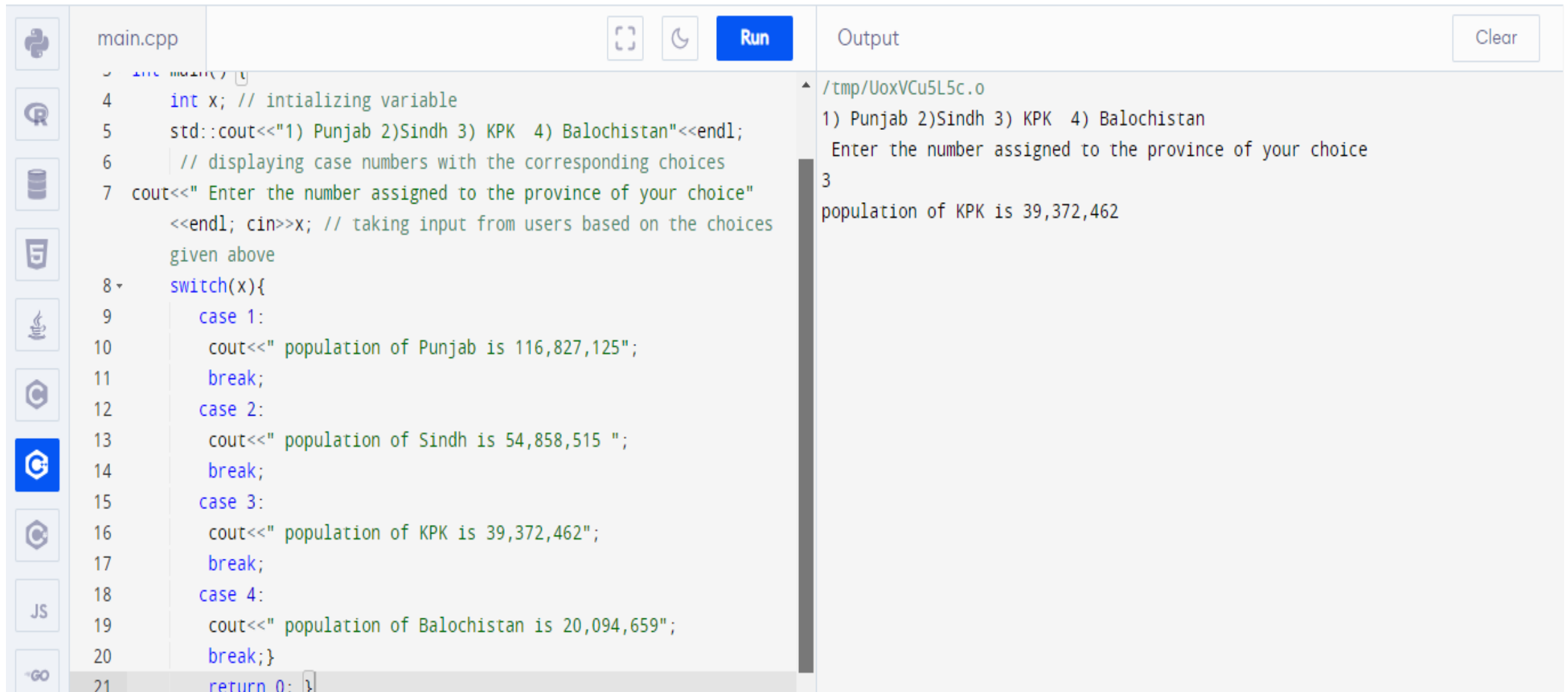
ME-15 (SECTION-C)

➤ **DUE DATE:-**

19/10/2023

TASK # 01

1. Write a C++ program to print the total number of populations in Punjab, Sindh, KPK, and Balochistan using a switch case.



```
main.cpp
1 int main() {
2
3
4     int x; // intializing variable
5     std::cout<<"1) Punjab 2)Sindh 3) KPK  4) Balochistan"<<endl;
6     // displaying case numbers with the corresponding choices
7     cout<<" Enter the number assigned to the province of your choice"
      <<endl; cin>>x; // taking input from users based on the choices
      given above
8     switch(x){
9         case 1:
10             cout<<" population of Punjab is 116,827,125";
11             break;
12         case 2:
13             cout<<" population of Sindh is 54,858,515 ";
14             break;
15         case 3:
16             cout<<" population of KPK is 39,372,462";
17             break;
18         case 4:
19             cout<<" population of Balochistan is 20,094,659";
20             break;}
21     return 0; }
```

Output

```
/tmp/UoxVCu5L5c.o
1) Punjab 2)Sindh 3) KPK  4) Balochistan
Enter the number assigned to the province of your choice
3
population of KPK is 39,372,462
```

TASK # 02

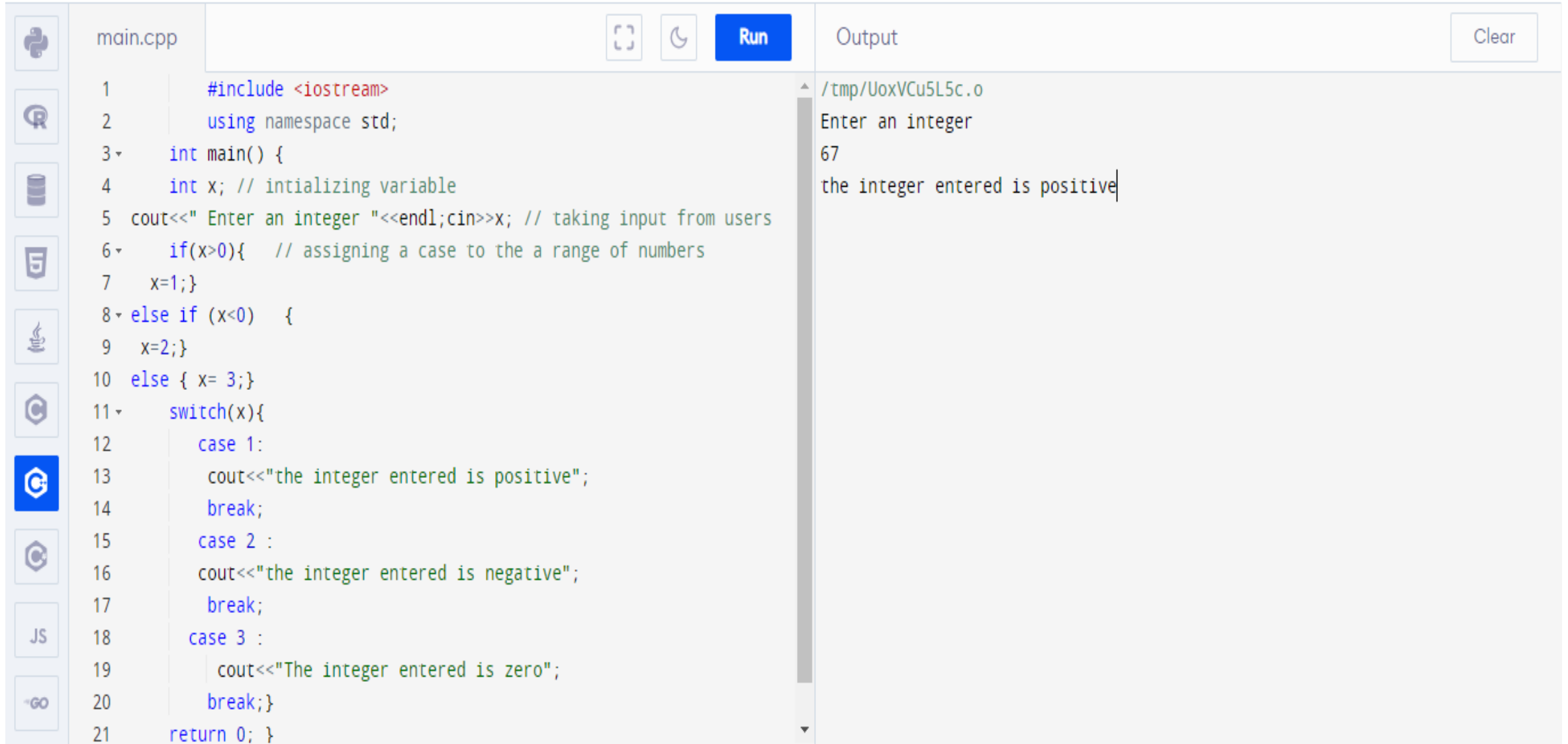
2. Write a C++ program to check whether an alphabet is a vowel or consonant using a switch case.

```
1      #include <iostream>
2      using namespace std;
3      int main() {
4
5      char alphabet; // intializing variable
6      cout<<" Enter an alphabet "<<endl;
7      cin>>alphabet;
8
9      switch(alphabet){
10     case 'a':
11         cout<<"The alphabet entered is a vowel";
12         break;
13     case 'e':
14         cout<<" The alphabet entered is a vowel";
15         break;
16     case 'i':
17         cout<<"The alphabet entered is a vowel";
18         break;
19     case 'o':
20         cout<<"The alphabet entered is a vowel";
21         break;
22     case 'u':
23         cout<<"The alphabet entered is a vowel";
24         break;
25     default :
26         cout<<"The alphabet entered is a consonant";
27         break;
28 }
29 return 0;
30 }
31
```

```
/tmp/UoxVCu5L5c.o
Enter an alphabet
u
The alphabet entered is a vowel
```

TASK # 03

3. Write a C++ program to check whether a number is positive, negative, or zero using a switchcase.



```
main.cpp
1  #include <iostream>
2  using namespace std;
3  int main() {
4  int x; // intializing variable
5  cout<<" Enter an integer "<<endl;cin>>x; // taking input from users
6  if(x>0){ // assigning a case to the a range of numbers
7  x=1;}
8  else if (x<0) {
9  x=2;}
10 else { x= 3;}
11 switch(x){
12     case 1:
13         cout<<"the integer entered is positive";
14         break;
15     case 2 :
16         cout<<"the integer entered is negative";
17         break;
18     case 3 :
19         cout<<"The integer entered is zero";
20         break;}
21 return 0; }
```

Output

```
/tmp/UoxVCu5L5c.o
Enter an integer
67
the integer entered is positive
```

TASK # 04

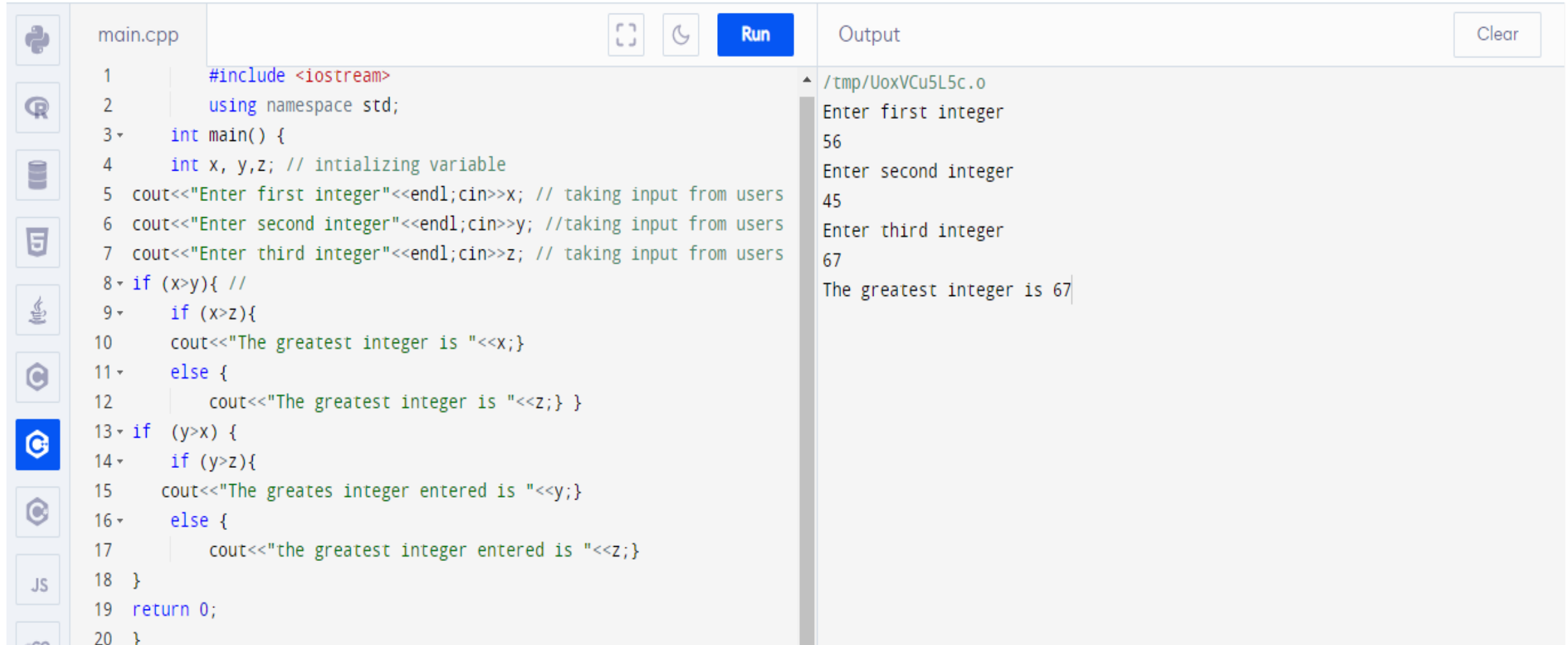
4. Write a C++ to find out whether a person is an adult, teenager, or child using nested if-else.

```
1      #include <iostream>
2      using namespace std;
3      int main() {
4      int x; // intializing variable
5
6      cout<<"Enter your age in numbers"<<endl;
7      cin>>x; // taking input from users
8
9      if (x>=0){ // age can only be positive
10     if (x<13){
11         cout<<"This person is a child";}
12     else if (x>=13&&x<=19){
13         cout<<"This peron is a teenager";}
14     else {
15         cout<<"This person is an adult";}
16     }
17 else {
18     cout<<"invalid age entered";
19 }
20 return 0; }
```

/tmp/UoxVCu5L5c.o
Enter your age in numbers
34
This person is an adult

TASK # 05

5. Write a C++ program that takes three number from the user and find the greatest number out of the three numbers using nested if-else statements.



The screenshot shows a C++ IDE with a file named `main.cpp`. The code is as follows:

```
1  #include <iostream>
2  using namespace std;
3  int main() {
4      int x, y, z; // intializing variable
5      cout<<"Enter first integer"<<endl;cin>>x; // taking input from users
6      cout<<"Enter second integer"<<endl;cin>>y; //taking input from users
7      cout<<"Enter third integer"<<endl;cin>>z; // taking input from users
8      if (x>y){ //
9          if (x>z){
10             cout<<"The greatest integer is "<<x;}
11         else {
12             cout<<"The greatest integer is "<<z;} }
13     if (y>x) {
14         if (y>z){
15             cout<<"The greates integer entered is "<<y;}
16         else {
17             cout<<"the greatest integer entered is "<<z;}
18     }
19     return 0;
20 }
```

The IDE also shows the output of the program:

```
/tmp/UoxVCu5L5c.o
Enter first integer
56
Enter second integer
45
Enter third integer
67
The greatest integer is 67
```

TASK # 06

6. Write a C++ program to check whether the alphabet entered by the user is Vowel or Consonant using nested if-else.

main.cpp		Run	Output	Clear
	<pre>1 #include <iostream> 2 using namespace std; 3 4 int main() { 5 char alphabet; 6 7 cout<<"Enter alphabet"<<endl; 8 cin>>alphabet; 9 10 if (alphabet!= 1){ 11 if (alphabet=='a' alphabet=='e' alphabet=='i' alphabet 12 == 'o' alphabet=='u'){ 13 cout<<"The alphabet entered is a vowel";} 14 else { 15 cout<<"Alphabet entered is a consonant";} 16 } 17 else { 18 cout<<"Invalid entry";} 19 } 20 return 0; 21 }</pre>	 	<pre>/tmp/UoxVCu5L5c.o Enter alphabet g Alphabet entered is a consonant</pre>	

- The first three tasks of this assignment use the switch statements. The switch case is utilized when one of many conditions is supposed to be executed. Each condition is given a specific case number and when that case number is entered by the user, the condition linked to the respective case number is executed by the computer.
- The last three tasks use a special type of if statements which is the nested if statement. In a nested if statement, several if conditions are present in the scope of the principle if statement. Nested IF functions allow you to test multiple criteria within an already specified condition