CEC 101: Computer Programming

Civil Engineering Autumn 2023-24

Practical 3: Operators

1. What is the difference between the pre-increment operator (++x) and the post increment operator (x++)? Provide an example for each.

++x first it assigns the value and then do the increament
x++ first it do the increament and then assigns the value

2. Explain the purpose of the ternary conditional operator (?:). Provide an example of how it is used.

For checking condition-- (age>18) ?: "Yes", "No"

3. Explain the difference between the assignment operator (=) and the equality operator (==) with examples.

Assignment operator assings the value to the variable but equality operator is a relational operator which checks for their equality.

4. Debug the following code to find if a given number n is prime or not.

```
#include <iostream>
using namespace std;
int main(){
int n;
cin>>n;
bool isPrime=1;
for(int i=2;i<n;i++){
if(n%i=0){
isPrime=0;
break;
}
}
if(!isPrime)
cout<<n<<" is prime";
else
cout<<n<<" is not a prime";
return 0;
}
```

5. Find the output of the following program-

```
#include <iostream>
using namespace std;
int main(){
int a,b,c,d;
a=5,b=0,c=0,d=-1;
if(((b&&c)||(d&c))||((b||d)&&((a||b)&&(b||c))))
cout<<"TRUE";
else
cout<<"FALSE";
return 0;
}
```

6. Write a program to enter the values of two variables 'a' and 'b' from keyboard and then check if both the conditions 'a < 50' and 'a < b' are true.

7. Write a program to find if the given number x is prime or not.

8. Evaluate the following expressions-

(a) x = 2%2 + 2 * 2 − 2/2;

(b) Given a = 4, b = 5 and c = 6;

Find ((a < b)||(b > c)&&(a > b)||(!(a > c)))

(c) I = 8, j = 5, x = 0.005, y = -0.01;

Find 5 * ((i/7) + (j * (i − 3))%(x + y − 2 + i))

(d) y = (t = 6, 7 * t + 2);