

ASSIGNMENT 1 C++ operators

DATE: 23/03/2021 Tuesday

CODE:

```
#include <iostream>
#include <string>
using namespace std;

int main()
{

    //ARITHMETIC OPERATORS

    cout<<"Testing ARITHMETIC OPERATORS: \n";

    {
        int op1=3,op2=4;
        float op3=10.1,op4=5.4;
        cout<<"Operands are op1 = "<<op1<<" op2 = "<<op2;
        cout<<" op3 = "<<op3<<" op4 = "<<op4;
        cout<<endl;
        cout<<"op1 + op2 = "<<op1+op2<<endl;
        cout<<"op1 - op2 = "<<op1-op2<<endl;
        cout<<"op3 * op4 = "<<op3*op4<<endl;
        cout<<"op3 / op4 = "<<op3/op4<<endl;
        cout<<"op2 % op1 = "<<op2%op1<<endl;

        int x=4,y;
        y = ++x;
        cout<<"PreIncrement:Value of x = "<<x;
        cout<<endl;
        cout<<"PreIncrement:Value of y = "<<y;
        cout<<endl;

        y = x--;
        cout<<"PostDecrement:Value of x = "<<x;
        cout<<endl;
        cout<<"PostDecrement:Value of y = "<<y;
        cout<<endl;
    }
}
```

```
cout<<"\n\n";
```

```
//LOGICAL OPERATORS
```

```
cout<<"Testing LOGICAL OPERATORS: \n";
```

```
{  
    int a=10, b=8,c=12,d=14;  
  
    if(!(a==0))  
        cout<<"a is not zero"<<endl;  
    else  
        cout<<"a is zero"<<endl; if((a>b)&&(c<d))  
            cout<<"Logical AND is true"<<endl;  
        else  
            cout<<"Logical AND is false"<<endl;  
  
    if((a<c)|| (b<d))  
        cout<<"Logical OR is true"<<endl;  
    else  
        cout<<"Logical OR is false"<<endl;  
}
```

```
cout<<"\n\n";
```

```
//RELATIONAL OPERATORS
```

```
cout<<"Testing RELATIONAL OPERATORS: \n";
```

```
{  
    int a=10, b=8,c=12,d=14;  
  
    if(a==b)  
        cout<<"a is equal to b"<<endl;  
    else  
        cout<<"a is not equal to b"<<endl;  
  
    if(c!=d)  
        cout<<"c is not equal to d"<<endl;  
    else  
        cout<<"c is equal to d"<<endl;  
  
    if((a+b) <= (c+d))
```

```

        cout<<"(a+b) less than/equal to (c+d)"<<endl; if((a-b)>=(d-c))
        cout<<"(a-b) greater than/equal to (d-c)"<<endl;
    }

```

```

    cout<<"\n\n";

```

```

//BITWISE OPERATORS

```

```

    cout<<"Testing BITWISE OPERATORS: \n";

```

```

{
    int a=8,b=4,c;

    c = a&b;
    cout<<"Result of & : "<<c<<endl;
    c = a|b;
    cout<<"Result of | : "<<c<<endl;
    c = a^b;
    cout<<"Result of ^ : "<<c<<endl;

    c = a<<2;
    cout<<"Result of << by 2 bits : "<<c<<endl; c = b>>2;
    cout<<"Result of >> by 2 bits : "<<c<<endl;

    c = ~3;
    cout<<"Result of ~ : "<<c<<endl;
}

```

```

    cout<<"\n\n";

```

```

//ASSIGNMENT OPERATORS

```

```

    cout<<"Testing ASSIGNMENT OPERATORS: \n";

```

```

{
    int x,y;

    cout<<"Enter input variable y: "; cin>>y;
    x = y;
    cout<<"\nValue of x = "<<x<<endl;

    int a = 3,b = 5,c = 8;
    a += b;
}

```

```

    c -= b;
    cout<<"\na += b: "<<a;
    cout<<"\nc -= b: "<<c;

    a *= b;
    b /= c;
    cout<<"\na *= b: "<<a;
    cout<<"\nb /= c: "<<b;

}

cout<<"\n\n";

//REMAINING OPERATORS

cout<<"Testing REMAINING OPERATORS: \n";

{
    int x,y;

    x = (y=3,y+4);
    cout<<"Value of x = "<<x;

    y = (x<5)?0:1;
    if(y == 0)
        cout<<"\nVariable x is less than 5"<<endl;
    else
        cout<<"\nVariable x is greater than 5"<<endl;

    cout<<"sizeof(x): "<<sizeof(x)<<"\t"<<"sizeof(y): "<<sizeof(y);

}

return 0;

}

```

OUTPUT:

Testing ARITHMETIC OPERATORS:

Operands are op1 = 3 op2 = 4 op3 = 10.1 op4 = 5.4

op1 + op2 = 7

op1 - op2 = -1

op3 * op4 = 54.54

op3 / op4 = 1.87037

op2 % op1 = 1

PreIncrement:Value of x = 5

PreIncrement:Value of y = 5

PostDecrement:Value of x = 4

PostDecrement:Value of y = 5

Testing LOGICAL OPERATORS:

a is not zero

Logical AND is true

Logical OR is true

Testing RELATIONAL OPERATORS:

a is not equal to b

c is not equal to d

(a+b) less than/equal to (c+d)

(a-b) greater than/equal to (d-c)

Testing BITWISE OPERATORS:

Result of & : 0

Result of | : 12

Result of ^ : 12

Result of << by 2 bits : 32

Result of >> by 2 bits : 1

Result of ~ : -4

Testing ASSIGNMENT OPERATORS:

Enter input variable y: 42

Value of x = 42

a += b: 8

c -= b: 3

a *= b: 40

b /= c: 1

Testing REMAINING OPERATORS:

Value of x = 7

Variable x is greater than 5

sizeof(x): 4 sizeof(y): 4

...Program finished with exit code 0

Press ENTER to exit console.