SKILLS

C++
Input & Operators

Lecture- 2

Raghav Garg

Today's checklist

1) Taking Input
2) Operators
3) Typecasting
4) Hierarchy of operators
5) Char and ASCII

Taking input // Let us take a simple example

```
int x;

cout<<”Enter a number\n”;

cin>>x;  // user will give ‘x’ a value.

int y = x*x;

cout<<square of number that you gave is”<<y;
```

Taking input // SUM of 2 given numbers

```
int x;
cout<<Enter first number\n”;
cin>>x;  // user will give ‘x’ a value.
int y;
cout<<Enter second number\n”;
cin>>y;  // user will give ‘y’ a value.
int sum = x+y;
cout<<”sum of the numbers that you gave is”<<sum;
```

Taking Input

Predict the output :

```
main(){
    int p,q;
    cout<<"Enter values of p and q";
    cin>>p>>q;
    cout<<”p =“<<p<<” q ="<<q;
}
```

Types of Operators

- Arithmetic Operators(already done in last lecture)
- Relational Operators
- Logical Operators (will be covered in IF-ELSE)
- Assignment Operators
- Bitwise Operators (will be covered in bit Manipulation)

C++ Relational Operators

`==` Is Equals to

`!=` Not Equals to

`>` Greater Than

C++ Relational Operators

< Less than

≥ Greater than or equals to

≤ lesser than or equal to

C++ Assignment Operators

=

+=

-=

/=

%=

Ques: What is the result of the following code fragment?

```
bool p = false;
bool q = false;
bool r = true;
cout<<(p == q == r);
```

char data type

```
char ch = ‘a’;
```

ASCII values

```
char ch = ‘a’;
```

Typecasting

Ques : Take integer as input and print half of the number.

Ques : Take float input and print the fractional part of the real number.

Hierarchy of operators

```
int i = 2 * 3 / 4 + 4 / 4 + 8 - 2 + 5 / 8 ;

cout<<i;
```

Hierarchy of operators

Category	Operator	Associativity
Postfix	() [] -> . ++ - -	Left to right
Unary	+ - ! ~ ++ - - (type)* &sizeof	Right to left
Multiplicative	* / %	Left to right
Additive	+ -	Left to right
Shift	<<>>	Left to right
Relational	<<= >>=	Left to right
Equality	== !=	Left to right
Bitwise AND	&	Left to right
Bitwise XOR	^	Left to right
Bitwise OR	|	Left to right
Logical AND	&&	Left to right

Ques: What is the result of the following code fragment?

```
int main()
{
    int num1;
    int p = 5, q = 10;
    p += q -= p;
    cout<<p<<" "<<q<<endl;
    return 0;
}
```

Try This!

Predict the output :

```
int main(){
    int i = 2, j = 3, k, l;
    float a, b;
    k = i / j * j ;
    l = j / i * i;
    a = i / j * j ;
    b = j / i * i;
    cout<<k<<" "<<l<<" "<<a<<" "<<b;
}
```

MCQ Time !

MCQ 1

Which of the following is NOT a character constant

(1) ‘Thank You’

(2) ‘Enter values of P, N, R’

(3) ‘23.56E-03’

(4) All the above

MCQ 2

In b = 6.6 / a + 2 * n ; which operation will be performed first?

(1) 6.6 / a

(2) a + 2

(3) 2 * n

(4) Depends upon compiler

MCQ 3

The expression, a = 7 / 22 * (3.14 + 2) * 3 / 5 ; evaluates to

(1) 8.28

(2) 6.28

(3) 3.14

(4) 0

MCQ 4

The expression x = 4 + 2 % - 8 evaluates to

(1) -6

(2) 6

(3) 4

(4) None of the above

THANK YOU