Chapter: 3.3
Increment and Decrement Operators

Advanced College of Engineering And Management.

Increment and Decrement Operators

- Increment Operator : Increment the value of a variable by one
- Decrement Operator : Decrement the value of a variable by one

Increment

```
int a=5;
a++;
a=6;
```

Decrement

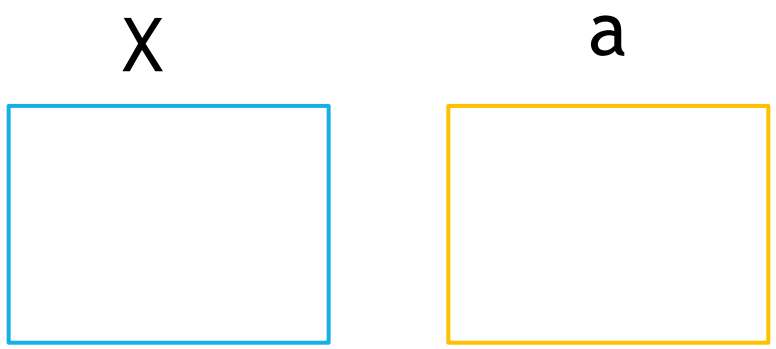
```
int a=5;
a--;
a=4;
```

//a++ is same as a=a+1 and a-- is same as a=a-1

Types of Increment and Decrement Operators

Pre Increment

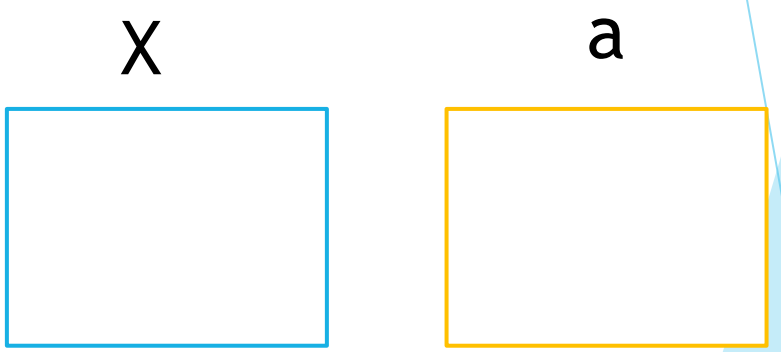
x=++a;



Increase
Assign

Post Increment

x=a++;



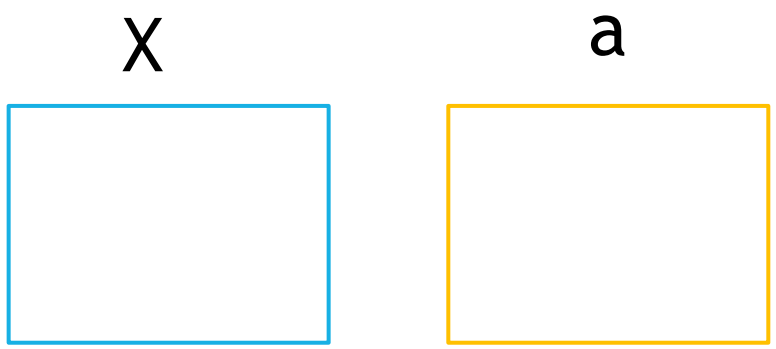
Assign
Increase

Suppose a= 5;

Types of Increment and Decrement Operators

Pre Decrement

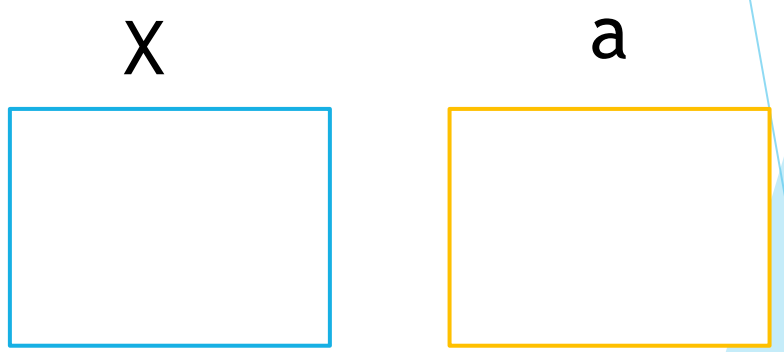
```
x=--a;
```



Decrease
Assign

Post Decrement

```
x=a--;
```



Assign
Decrease

Suppose a= 5;

Example1

```
#include<stdio.h>
#include<conio.h>
void main(){
    int a=5,x;
    x=++a;
    printf("a =%d and x =%d",a,x);
}
```

Output

a=6 and x=6

Example2

Output

```
#include<stdio.h>
#include<conio.h>
void main(){
    int a=5,x;
    x=a++;
    printf("a =%d and x =%d",a,x);
}
```

Example3

```
#include<stdio.h>
#include<conio.h>
void main(){
    int a=5,x;
    x= a++ + a++;
    printf("a =%d and x =%d",a,x);
}
```

x= a++ + a++;

Example4: a=5

```
x=  ++a  +  ++a;
```

Example5: a=5

```
x=  ++a  +  a ++;
```

Example6: a=5

```
x=  ++a  +  a ++ + ++a;
```

Example7: a=5

```
x=  a ++  +  ++a + ++a;
```

Example8: a=5

```
x=  a ++  +  ++a + a ++ + ++a;
```

Example9: a=5

```
x=  a --   +  ++a + a ++ + --a;
```

Example10: a=5

```
x=++a * ++a + ++a;
```

Give the output of the following

```
#include<stdio.h>
int main()
    {
    int x=3, y=5,z=7;
    int a, b;
    a=x*2+y/5-z*y;
    b=++x*(y-3)/2 - ++y;
    printf("a=%d",a);
    printf("b=%d",b);
     return 0;
    }
```

Give the output of the following

```
#include<stdio.h>
int main()
    {
    int a=2, b=3, c;
    a=(b++)+(++b)+a;
    c=a>b?a:b;  b=(a++)+(b--)+a;
    printf("a=%d\n b=%d\n c=%d", a, b, c);
     return 0;
    }
```

Tutorial II [Part 1]

1. WAP to add two numbers.
2. WAP to find product of two numbers.
3. WAP to calculate area and circumference of a circle having radius r (input r from user).
4. WAP to convert temperature in Centigrade into Fahrenheit.
5. WAP to find sum and average of 5 numbers.
6. WAP to take marks of 5 subjects from student and calculate Total marks and percentage.
7. WAP to convert Cartesian coordinates to polar coordinates.
8. WAP to calculate Simple Interest.

Tutorial II [Part 2]

1. WAP to read height and base of triangle and calculate its area.
2. WAP to read three sides of triangle and calculate its area.
3. WAP for asking cost of pen in paisa. Convert it into nearest rupee and paisa.
4. WAP to enter 4- digit number and find the sum of first and last digit of the number.
5. WAP to enter 4-digit number and find the sum of its digits. Basic salary of Ram is input through the keyboard. His medical allowance is 10% of basic salary, house rent allowance is 8% of his basic salary and provident fund is 10% of basic salary. WAP to find his net salary.
6. WAP to find the area of triangle, if the length of sides of triangle a, b, c is given by user.
7. WAP to find area of circle. Ask radius to user and also define value of PI as symbolic constant.
8. Write conditional operator to evaluate the following functions
   - y=2.4x + 3, for x<=2
   - y=3x – 5, for x>2