/\*

Unary

means single it operates on only one operand

eg +5,-8.8,a++ ,--a

b

a

\*/

-5

**import** **static** java.lang.System.***out***;

+7

**public** **class** Myclass {

//a=-a

**public** **static** **void** main(String[] args) {

**int** a=-5;

**int** b= +7;

***out***.println(a); //-5

5

***out***.print(-a); //5 -(-5)

Int x=-a; //5

***out***.print(b); //7

***out***.print("+"+b); //+7

***out***.print(-b); //-7

}

}

/\*

Binary means two it operates on two operand

eg 5+3

\*/

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a;

// l to r

5+12/2\*3-1

a=5+12\*2/3-1;

/\*

5+24/3-1

5+8-1

13-1

12

\*/

***out***.println(a); //12

}

}

/\*

pre increment

a=5;

Int x=5;

Int a=++x;

++a;

a=a+1;

\*/

**import** **static** java.lang.System.***out***;

a=a+1

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b;

a=5;

5

6

5

6

a

b

2000

2004

2008

b=5;

***out***.println(++a); //6

***out***.println(b+1); //6

***out***.println(b); //5

***out***.println(a); //6

}

}

/\*

pre decrement

5

4

5

4

a

b

2000

2004

2008

a=5;

--a;

a=a-1;

\*/

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b;

a=5;

b=5;

***out***.println(--a); //4

***out***.println(b-1); //4

***out***.println(b); //5

***out***.println(a); //4

}

}

/\*

5

6

5

6

a

b

2000

2004

2008

post increment

a=5;

a++;

a=a+1;

\*/

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

Int a=5;

Int b= a++;//5

Int c=++a;//7

**public** **static** **void** main(String[] args) {

**int** a,b;

a=5;

b=5;

***out***.println(a++); //5

***out***.println(b+1); //6

***out***.println(b); //5

***out***.println(a); //6

}

}

/\*

post decrement

a=5;

a--;

5

4

5

4

a

b

2000

2004

2008

a=a-1;

\*/

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b;

a=5;

b=5;

***out***.println(a--); //5

***out***.println(b-1); //4

***out***.println(b); //5

***out***.println(a); //4

}

}

//% gives remainder2

% /

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b,c;

0

2

5

2

0

2

5

2

1

41

a=5;

b=2;

c=a % b;//1

***out***.println(c);//1

c=b % a;

***out***.println(c); //2

}

}

Logical &&

//&&

False && True=False

False && False=False

True && False=False

True && True=True

True && True=True

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b,i;

a=0;

I=5

b=0;

**for**(i=0;i<5;i++)

{

1 2 3 4 6

0 0 1 2 3

**if**((++a>2)&&(++b>2))//F

{

a++;

}

***out***.println(a); //1 2

***out***.println(b); // 0

}

}

}

//bit wise &

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

False & True=False

False & False=False

True & False=False

True & True=True

True && True=True

**public** **static** **void** main(String[] args) {

**int** a,b,i;

a=0;

b=0;

I=0;

while(i<5)

{

I++;

}

**for**(i=0;i<5;i++)//0 1 2 3 4 5

{

**if**((++a>2)&(++b>2))

{

2🡺0010

3🡺0011

0 010🡺2

a++;

}

***out***.println(a); //1 2 4 6 8

***out***.println(b); // 1 2 3 4 5

}

5 &1🡺 101 -001🡺1

4&1🡺100 -001🡺0

}

}

**import** **static** java.lang.System.***out***;

2🡺 010

3 🡺011

2🡺 010

2🡺 010

1 🡺001

000

public class Main

{

public static void main(String[] args) {

int a,b;

a=2;//010 //010

b=3;//011 //011

System.out.println(a & b); //010 //2

}

}

**import** **static** java.lang.System.***out***;

True || False=True

True || True=True

False ||True= True

False || False=False

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b,i;

a=5;

b=0;

**for**(i=0;i<5;i++)

{

**if**((++a>2)||(++b>2))

{

a++;

}

***out***.println(a); //7 9 11 13 15

***out***.println(b); // 0 0 0 0 0

}

}

}

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

True | False=True

True | True=True

False |True= True

False | False=False

**public** **static** **void** main(String[] args) {

**int** a,b,i;

a=5;

b=0;

**for**(i=0;i<5;i++)

{

**if**((++a>2)|(++b>2))

2🡺010

3🡺011

🡺 0 11🡺

{

a++;

}

***out***.println(a); //7 9 11 13 15

2|1🡺010 -0🡺0

***out***.println(b); //1 2 3 4 5

}

}

}

public class Main

2🡺010

3🡺011

3🡺011

2🡺010

1🡺001

3🡺011

{

public static void main(String[] args) {

int a,b;

a=2;//010 //010

b=1;//001 //011

System.out.println(a | b); // 011 //011 3

}

}

//Swap two number

A=2 b=3 A 🡺3 B==>2

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b,t;

2

3

2

t

b

a

2

3

3

2

3

3

2

2

a=2;

b=3;

t=a;

a=b;

b=t;

***out***.println(a+" "+b);//3 2

}

}

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b;

a=19;

b=10;

a=a+b; // 2+3🡺5

b=a-b; //5-3🡺2

a=a-b; //5-2🡺3

***out***.println(a+ ""+b);

}

}

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

**int** a,b;

a=2;

b=3;

a=a\*b; //2\*3🡺6

b=a/b; //6/3🡺2

a=a/b; //6/2🡺3

***out***.println(a+ ""+b);

}

}

^ same bit 0 opposite bit 1

0^0=0

1^1=0

0^1=1

1^0=1

**import** **static** java.lang.System.***out***;

**public** **class** Myclass {

**public** **static** **void** main(String[] args) {

2🡺010

3🡺011

1🡺 0 01

**int** a,b;

a=2;

b=3;

2 1

3

a

b

1

3 2

a

b

1

3

a

2

b

a=a^b;//1

1🡺001

2🡺010

3🡺 011

1🡺001

3🡺011

2 🡺 010

b=a^b;//2

a=a^b;//3

***out***.println(a+ ""+b);

}

}

a=2=010 a=a^b

b=3=011

a=1=001

a=1=001 b=a^b

b=3=011

b=2=010

a=1=001 a=a^b

b=2=010

a=b=011