Operators and Expression

byte b=10; short S=15; int i=7; long l=50l; float f=12.5f; double d=17.5d;

short + short

byte (+) byte

short + short

int + int

short + int

Coecion

int

int X = b + s in X = c + s; int X = s + i int X = c + i; float X = i + f double X = f + d; float X = f + f double X = f + d;

char c=65;

Jab ham ine mai sai kisi bhi type par koi operation karenga tab always hama integer value hi milta hai as a reult.

Increment / Decrement

post ++ , post -
++ pre , -- pre

Arithametic

\* / /, // High precedense

+, - Low precedense

Bitwise

2, 1, ~, ~, «,»,»

Relational

<, <=, >, == ,!=

Logical &&, !!

### **⊙** Post increment

Ise mai phela value use hota ha then update hota hai.

#### OPre increment

Ise mai phela value update hota ha then use hota hai

Post increment

$$y = \frac{x+t}{y}$$

Pre increment

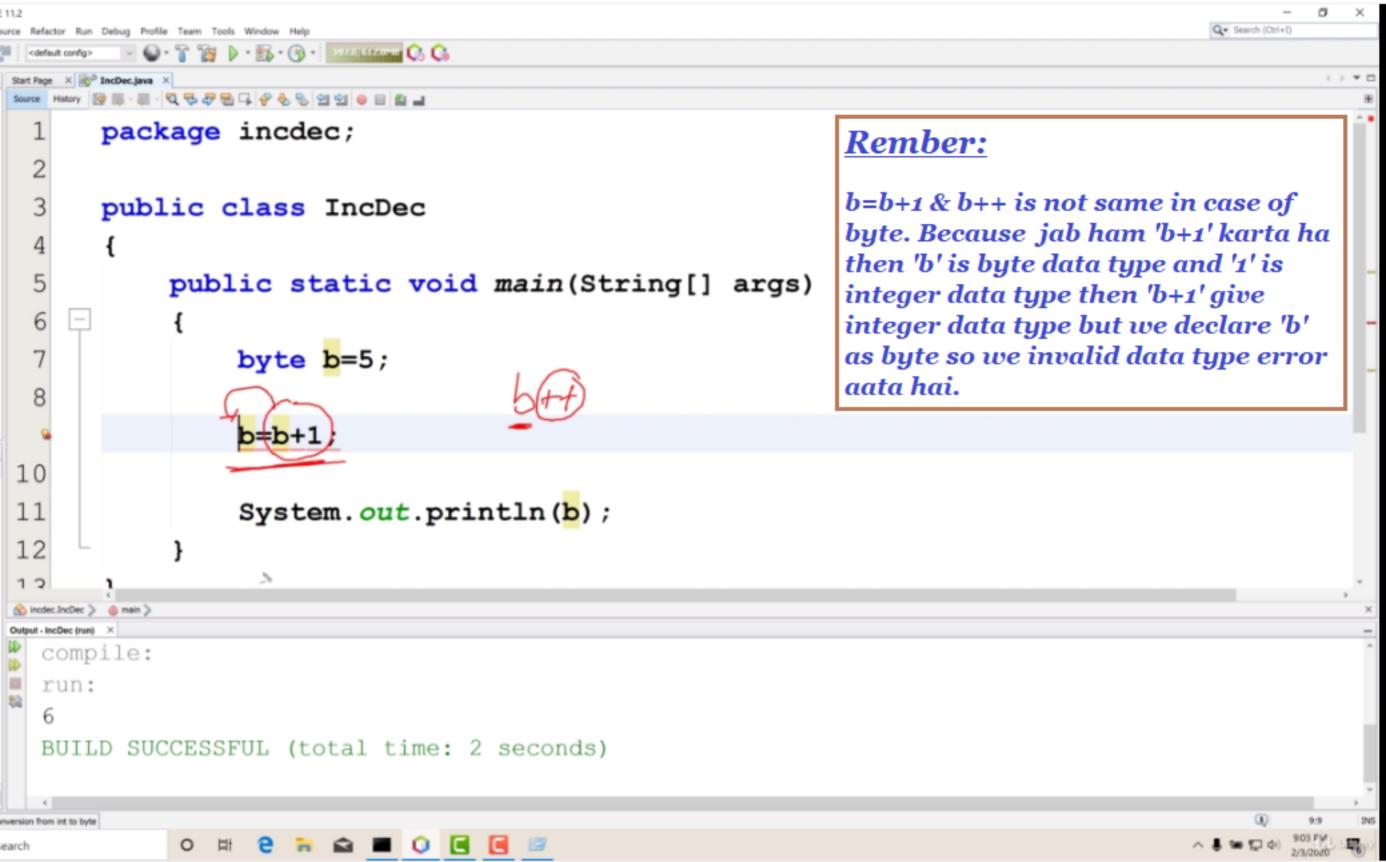
chan 
$$x = 'A';$$
  
 $x + t > 66'B'$   
 $x + t > 66'B'$ 

Arithametic

Bitwise 2, 1, ~, ^, «,»,»

Relational <, <=, >, >= , == ,!=

logical 88, !!



## Bitwise Operators

AND	&	
OR V		/
NoT	~	
XOR	^	
RIGHT SH	>>	
UNSIGNED RIGHT :	>>>	
LEFT SHIFT		<<



# Speed: 0.90x

A	B	A2B
0	0	0
0	1	0
1	0	0
1	1	1

A	B	AB
0	0	0
0	1	1
	0	1
l		

	^	
A 0	B	A^B
0	١	0
-	0	
		0

### Bitwise Operators

$$y \to 00000110$$

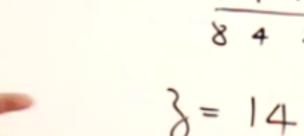
$$y = x = x = 0000010$$

		2	
	A	B	A&B
	0	0	0
	0	1	0
ľ	1	0	0
	1	1	1

A B A B O O O O O O O O O O O O O O O O		1	
0 0 0	A	B	AB
0 1 1	0	0	0
	0	1	
		0	!
	l		

	^\	
A .	B	AMB
0	1	0
-/-	0	
	1	0

$$y \rightarrow 00000100$$
 $y \rightarrow 00000110$ 
 $y = x!y \qquad 0000110$ 



## Bitwise Operators

int 
$$x=10$$
,  $y=6$ , 3;  
int  $x=-10$ ;

		2			
10	f	B		A.	2B/
C		0		0	
C		1		0	
1		0		0	
l		1		1	
		1	•		
A		B	,	AIB	7

A	B	AB
0	0	0
0	1	1
	0	!
1	1	1

	^	
A	B	AMB
0	0	0
0	١	1
-	0	
		0

- ØJava mai koi bhi '-ve' integer hmasa 2's compliment ka form mai save hota hai.
- <u>Note:</u> 1's compliment ka liya ham phela sabhi value koi uska opp. digit sa replace kar deta hai. Then for 2's compliment add '1' in 1's compliment.