Concepts of Programming
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Introduction to Java

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Primitive :
- -boolean : true/False
- -char :
- -Integer:
  - -byte
  - -short
  - -int
  - -long :8
- -Floating:
  - -float
  - -double :8

unicode:'\u0000' :char default value: blankspace

Non-Primitive:
- -Array
- -String
- -Class

Q. Chart:
- -Name of Data Type
- -Size
- -Range
- -Default values
- -Wrapper Class

```java
class DataType1{

public static void main(String args[])
    boolean b =true;//1 bit
    char c = 'K';
    byte d = -126;//-128 to 127
    short e = 234;
    int f = 12345;
    long g= 123323477343L;


    System.out.println(b);
    System.out.println(c);
    System.out.println(d);
    System.out.println(e);
    System.out.println(f);
    System.out.println(g);
}
}
```

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Who can see what you share here? Recording On

```
C:\Test>java DataType1
true
K
-126
234
12345
123323477343

C:\Test>
```

```
class DataType1{

public static void main(String args[]){
    boolean b =true;//1 bit
    char c = 'K';
    byte d = -126;//-128 to 127
    short e = 234;
    int f = 12345;
    long g= 123323477343L;
    float h = 123.4562343435454F;
    double dl = 233.456565767654657657 6;


    System.out.println(b);
    System.out.println(c);
    System.out.println(d);
    System.out.println(e);
    System.out.println(f);
    System.out.println(g);
    System.out.println(h);
    System.out.println(dl);
}
```

```
true
K
-126
234
12345
123323477343
123.45624
233.45656576765467

C:\Test>
```

Types of asting:

1.Upcasting : smaller capacity into lager capacity data type

```
double dl;//8 bytes
int i=100;//4 bytes
dl = i; // double = int
SOP(dl)//100.0
```

2.Downcasting : bigger size data type into smaller size data type

```
double dl =100.34;//8 bytes
int i;//4 bytes
i = dl; //  int = double
SOP(dl)//100.34
SOP(i)//100
```

/Narrowing

Downcasting

Upcasting /Widening

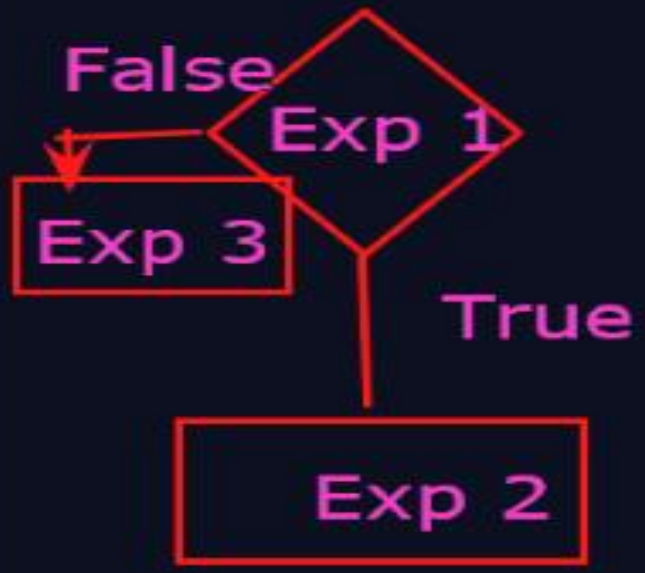
byte --> short --> int --> long --> float ----->double.

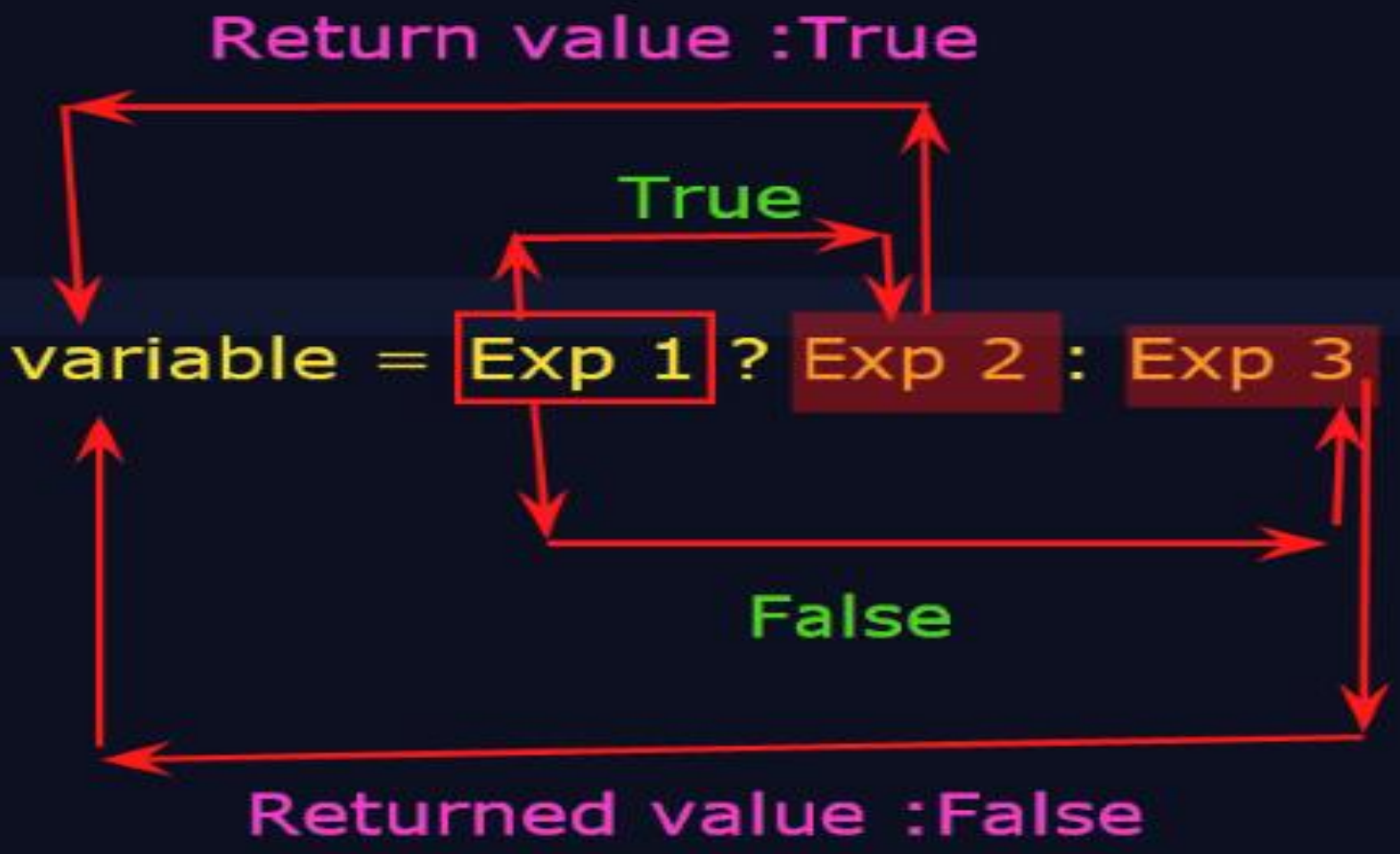
1 2 4 8 4 8

char
2

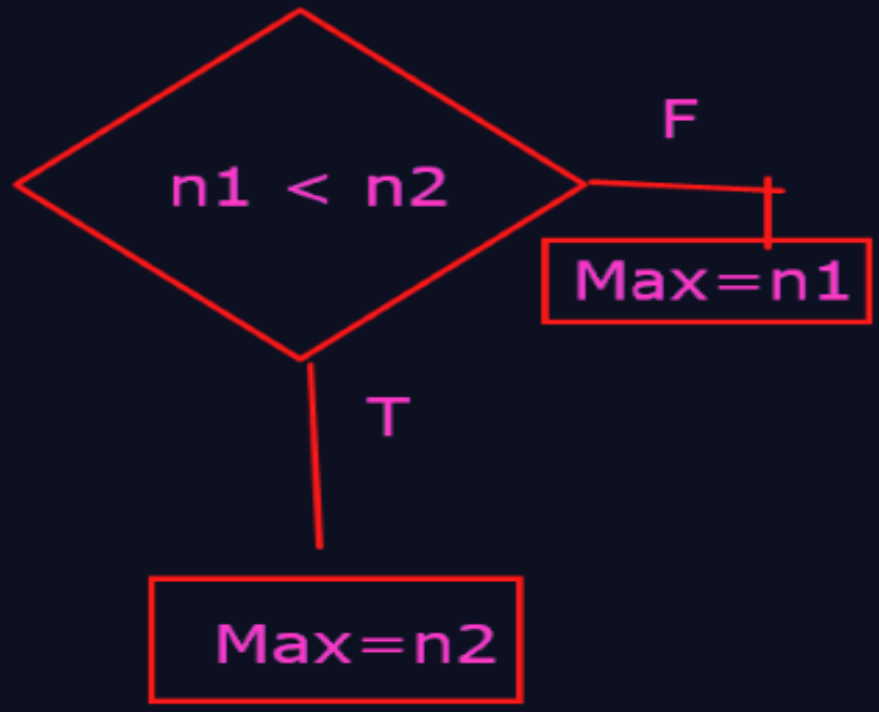
```
    float i1;
    double dl1 = 100.9845656;
    i1= (float)dl1;//downcasting
    System.out.println(dl1);
    System.out.println(i1);

    int i2;
    double dl2 = 100.9845656;
    i2= (int)dl2;//downcasting
    System.out.println(dl2);
    System.out.println(i2);

    byte i3;// size 1
    double dl3 = 1565.9845656;// size=8
    i3= (byte)dl3;//downcasting
    System.out.println(dl3);
    System.out.println(i3);


}
}
```

```
variable = Exp 1 ? Exp 2 : Exp 3

if(Exp 1)
{
    variable = Exp 2
}
else
{
    variable = Exp 3
}
```

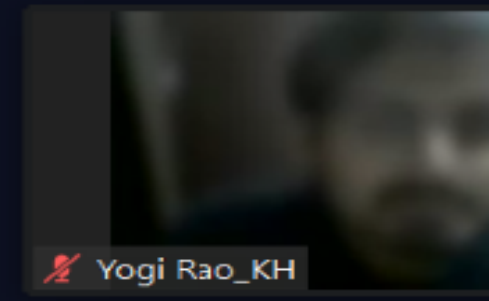




```
class Tern1{

public static void main(String args[]){


    int n1=10, n2=20;

    int max=(n1>n2)? n1 : n2;

    System.out.println("Max= "+max);
    //-------------------------------------
    //int max = (n1<n2)?n1+n2:n2-n1;

    //-------------------------------------
    char s = (i%2 == 0)? 'E' : 'O';
    System.out.println("Number is "+());
    //-------------------------------------

    boolean s = (i%2 == 0)? true : false;
    System.out.println("Number is "+s);


}
}
```



n1<n2
T:n1+n2
F:n2-n1



int max = (n1<n2)?(n1+n2):(n2-n1)