```
1 class Test
2 □ {
3
      public static void main(String[] args)
48
         int x = 100;
        int a = x++;//a=100
 6
         int b = ++x;//b=102
         int c = x++;//102, x=103
 8
         int d=(a<b)?(a<c)?a:(b<c)?b:c;
9
10
         System.out.println(d);
11
12 }
      }
```

## Hello Durga 21

```
1 public class Test
2¤{
3
      public static void main(String[] args)
        int x = 1;
 6
        int y=0;
 7
        if(++x>++y)
 8 =
9
          System.out.print("Hello ");
10
11
        else
12 □
        {
13
          System.out.print("Hi ");
14
        System.out.println("Durga "+x+":"+y);
15
16
     }
17 }
19:02/1:02:01 (0) (3) (8) (8)
                                                                                  - • • • • = • • 5 % #
```

### 10 Heloo India

```
1 class Test
 2 · {
3
       public static void main(String[] args)
 48
         int x=9;
if(x++<10)
 5
 6
 7 □
 8
            System.out.println(x+" Hello India");
 9
10
         else
11 □
         {
            System.out.println(x+" Hello DURGASOFT");
12
13
14
       }
15 }
16
```

Be clear J gets updated to 34 and 34->j is assigned to K

#### **OCJP**

```
public class Test
 2 = {
 3
     public static final int MIN=1;
 4
     public static void main(String[] args)
 5 □
 6
       int x = args.length;
 7
       if(checkLimit(x))
 8 =
 9
         System.out.println("OCJA");
10
       }
11
       else
12 □
       {
         System.out.println("OCJP");
13
14
15
16
     public static boolean checkLimit(int x)
178
18
       return (x>=MIN) ? true : false;
19
20 }
  ◆ Untitled2 SS ◆ Operators_without SS ◆ Test.java SS
For Help, press F1
```

```
150 Ånd given the commands as:
151 javac Test.java
152 java Test
```

## False true

```
163 public class Student
164 □ {
165
          int rollno; I
166
          String name;
167
          public Student(int rollno, String name)
168 □
169
                this.rollno=rollno;
170
                this.name=name;
171
172 }
173 Consider the code
174
175 Student s1= new Student(101,"Durga");
176 Student s2= new Student(101,"Durga");
177 Student s3= s1;
178 boolean b1= s1==s2;
179 boolean b2= s1.name.equals(s2.name);
180 System.out.println(b1+":"+b2);
181
182 What is the result?
183 A) true:true
184 B) true:false
```

In case of line 194- string will be created in String constant pool SCP, line 195- String going to get created in Heap area and SCP area

```
187
188 Q9. Given the code
189
190 public class Test
191⊟{
192
           public static void main(String[] args)
193 ⊟
                String s1= "durga";
String s2= new String("Durga");
194
195
                 //line-1
196
197 ₪
                 {
198
                      System.out.println("Equal");
199
                 }
200
                 else
201 □
                 {
202
                      System.out.println("Not Equal");
203
                }
204
           }
205 }
206
207 Which code to be inserted at line-1 to print Equal
```

B is the answer. D -> applying toLowerCase will create a new object – so they s1.toLowercase and s2.toLower case will create two new objects. So only B is correct

```
209 A) String s3=s2;

210 if(s1==s3)

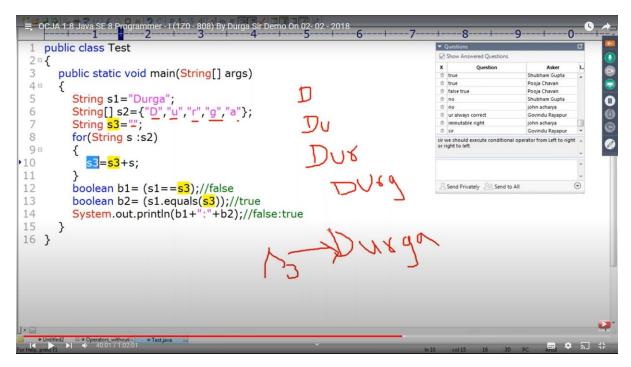
211 B) if(s1.equalsIgnoreCase(s2))

212 C) String s3=s2;

213 if(s1.equals(s3))

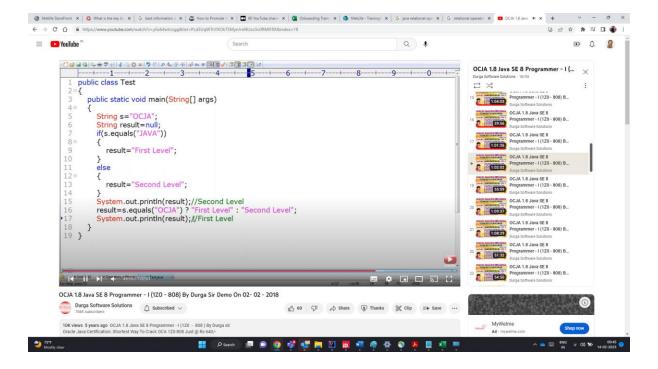
214 D) if(s1.toLowerCase() == s2.toLowerCase())
```

String is immutable. Everytime new object is gonna get created. New object is created in HEAP due to run time execution



### Failure

```
238
239 Q11. Consider the Test class
240
•241 public class Test
242 □ {
           public static void main(String[] args)
243
244 ₪
245
                if(args[0].equals("Durga")?false:true)
246 □
247
                     System.out.println("Success");
248
249
                else
250 ₪
                {
251
                     System.out.println("Failure");
252
                }
253
           }
254 }
255 javac Test.java
256 java Test Durga
257
258 What is the output?
259
```



D

```
-8---+---9---+---
    String s="Color";
  2 String result=null;
  3 if(s.equals("Color"))
  5
       result="Blue";
  6 }
  7 else if(s.equals("Wall"))
       result="Regular";
 10 }
 11 else
 12 □ {
 13
        result="No Result";
 14 }
 15
 16 Which code fragment can replace the if block?
 17
A) s.equals("Color")?result="Blue":s.equals("Wall")?result="Regular": result="No Result";

B) result = s.equals("Color")?"Blue" else s.equals("Wall")? "Regular": "No Result";

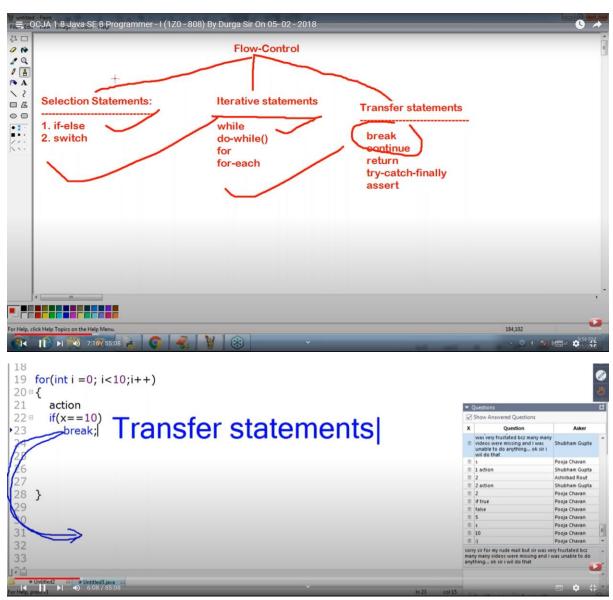
C) result = s.equals("Color")? s.equals("Wall")? "Blue": "Regular": "No Result";
 21 D) result = s.equals("Color")? "Blue" : s.equals("Wall")? "Regular" : "No Result";
For Help, press F1
                                                                                     col 12 21 6F PC
```

```
public class Test
 2 = {
 3
      public static void main(String[] args)
 48
         double discount=0.0;
 5
 6
         int quantity=Integer.parseInt(args[0]);
         // Line-1
 8
 9
10 And the given requirements:
11
12 If the value of the quantity variable is greater than or equal to 90, discount=20
13 If the value of the quantity variable is between 80 and 90 , discount=10
15 Which two code fragments can be independently placed at Line-1 to meet the requirements?
16
17 □ A)
       if (quantity >= 90) { discount=20;}
18
       if (quantity > 80 && quantity < 90) { discount=10;}
19
30 B) 100
       discount=(quantity >= 90) ? 20:0;
31
32
       discount=(quantity > 80)?10:0;
33
34 BC)
35
      discount = (quantity >= 90) ? 20: (quantity > 80) ? 10:0;
```

```
37 D)
38
                  = 80 && quantity < 90)
     if(quantity
39 ₽
40
41
42
43 =
44
        discount=0;
45
46
     if (quantity >= 90)
47 €
48
        discount=20;
49
50
     else
51 €
52
53
54
   E) discount= (quantity>80) ? 10 :( quantity >=90)?20:0;
```

### Flow controls

# Selection from available options choose one



If Is expecting boolean x is int so CE- Imompatibe error

```
class Test
 2 □ {
 3
      public static void main(String[] args)
 48
         int_x=1;
 6
         if(X)
 7 □
         {
 8
            System.out.println("Hello");
 9
10
         else
118
         {
12
            System.out.println("Hi");
13
         }
14
      }
15 }
16
```

```
| Second Second
```

# CE. Should use ==

```
1 class Test
2 □ {
3
   public static void main(String[] args)
48
5
    int x=1;
6
     if(x=2)
7 ₪
     {
8
      System.out.println("Hello");
9
10
     else
11 ₪
     {
      System.out.println("Hi");
12
13
   }
                            I
15 }
```

Hi

```
1 class Test
 2 □ {
 3
      public static void main(String[] args)
 48
         int x=1;
 6
         if(x==2)
 7 □
 8
           System.out.println("Hello");
 9
10
         else
118
         {
           System.out.println("Hi");
12
13
         }
14
      }
15 }
```

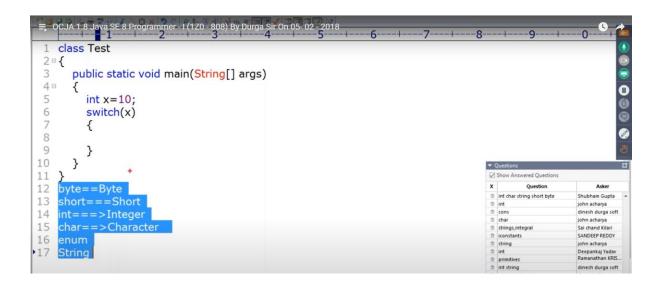
Default is optional, cases are also opt

```
---+---1-----8---+---9---+---0------
 1 class Test
 2 □ {
     public static void main(String[] args)
 48
 5
       switch(x)
 6 □
 7 □
          case 1:
           System.out.println("Jan");
 9 ₪
          case 2:
10
           System.out.println("Jan");
118
          case 3:
12
           System.out.println("Jan");
13 ₪
          case 4:
           System.out.println("Jan");
14
         default:
System.out.println("Jan");
15 □
16
       }
17
18
19
20
     }
21 }
22
.
  ◆ Untitled2 ፡፡ ◆ Untitled3.java ፡፡ ◆ Test.java ፡፡
                                                              col 43 2 00 PC ANSI
```

Curly braces are mandatory for switch. Except switch any where else curly braces are optional

```
---+---<u>1</u>----+---2---+---3----+---4----+---5----+---6---+---7----+---8----+---9----+---0---+--<u>7</u>
 1 class Test
 2 □ {
 3
     public static void main(String[] args)
 48
 5
       int x=10;
       switch(x)
 6
 7
 8
 9
10
     }
11 }
12
  col 10 12 00 PC
```

Primite and wrapper callses are allowed



#### Not allowed

```
18 ------
19 long
20 float
21 double
22 boolean
```

Long is very huge for cases count

Float and double – they have values betweem 0 and 1 – infinte no of so we cant use

Boolean has only two values , having switch for boolean does not fulfill the need of switch

Line 11- We cant use variable as case label, they should be constant expression(value)

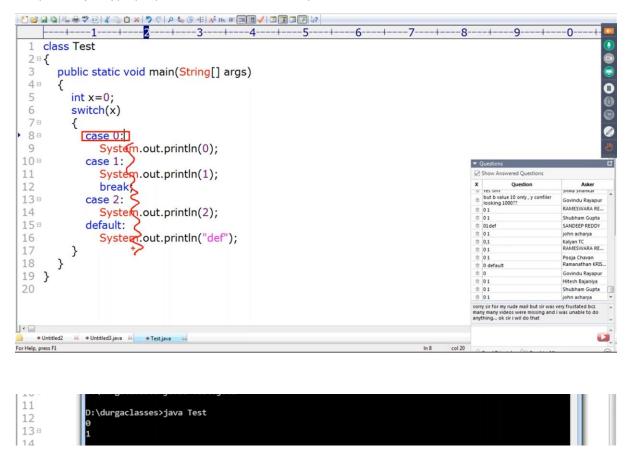
```
1 class Test
 2 □ {
3
    public static void main(String[] args)
48
     int x = 10;
 6
     int y = 20;
 7
     switch(x)
8 □
9 ₪
      case 10:
10
       System.out.println(10);
11 ⊟
      case y:I
        System.out.println(20);
12
13
14
15
    }
16 }
```

Byte b limit is 127 we are using 1000 which could not be converted to bytes

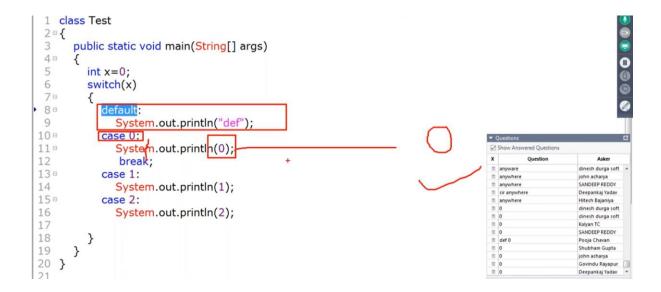
```
class Test
 2 □ {
    public static void main(String[] args)
 48
 5
     byte b=10;
 6
     switch(b)
 7 □
 8 8
       case 10:
 9
         System.out.println(10);
10
        break;
118
       case 100:
12
        System.out.println(100);
13
        break;
       case 1000:
148
15
        System.out.println(1000);
16
     }
17
    }
18 }
```

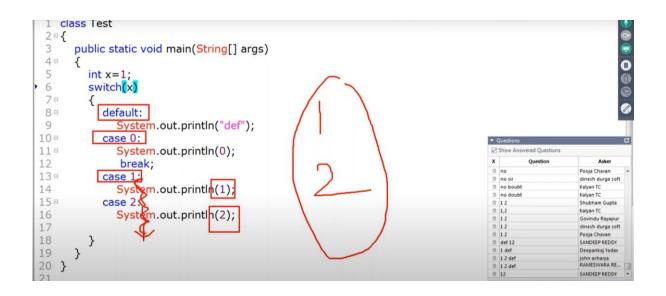
Within the switch if any case label matches from that line all the line statement will be executed. Fall through inside switch, until a break is encountered.

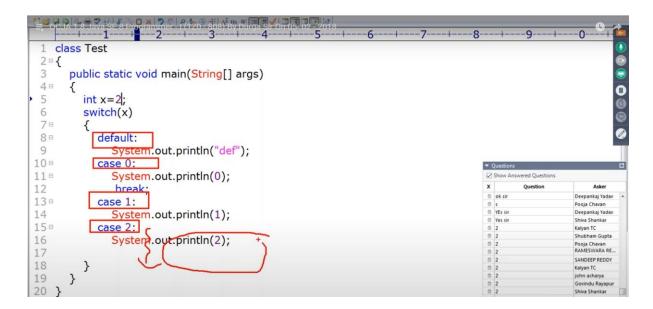
Output below will  $\bf 01$ . If x=1 the output is 1, cos of the break. If x=2 -> 2 def (will be printed in new line println, for type purpose have written the output like  $\bf 01$ )

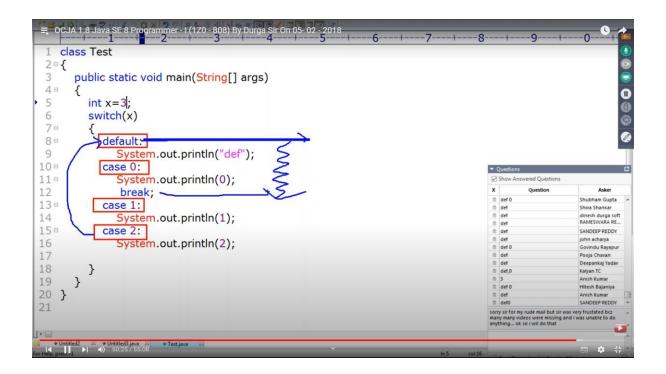


If no case catches match default, you can place the default anywhere

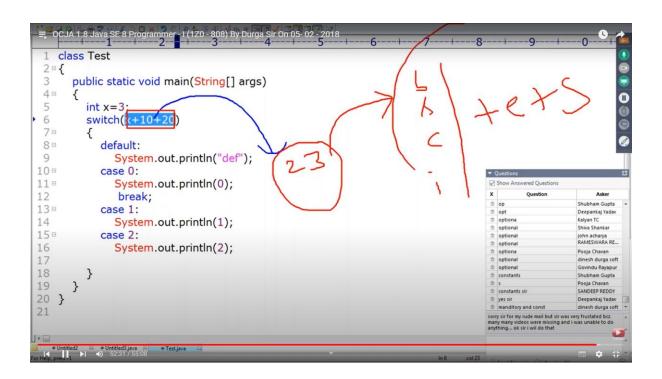












## Case label should be constant expressions

When the variable is final, at compile time only the value of x will be replaced to 3 and the expression 3+0 ->3 will be the case label, so its valid

```
1 class Test
  2 □ {
  3
       public static void main(String[] args)
  48
          final int x=3;
          switch(x+10+20)
  6
  7 □
  8 ₪
             default:
  9
               System.out.println("def");
 10 ₪
             case +0:
               System.out.println(0);
 118
 12
               break;
 13 ₪
             case 1:
 14
               System.out.println(1);
 15 □
             case 2:
 16
               System.out.println(2);
 17
 18
 19
       }
 20 }
21
1.
   ◆ Untitled2 

◆ Untitled3.java 

◆ Test.java 

□
For Help, press F1
1 public class Test
  2 □ {
  3
       public static void main(String[] args)
  48
  5
          String stuff="X";
          String res=null;
  6
  7
          if(stuff.equals("X"))
  8 =
          {
            res="A";
  9
 10
          else if(stuff.equals("Y"))
 11
 12 ₪
          {
 13
            res="B";
 14
 15
          else
 16 □
          {
 17
            res="C";
 18
 19
 20 }
21
22 Which of the following code can replace nested if-else?
J?@ *`
● flow_control_with⇔ ● Untitled2 🌣 ● Untitled3.java 😂
21 resp=stuff.equals("X") ? "A":stuff.equals("Y")?"B":"C";
•22
23
24
 25
 26 Which of the following code can replace nested if-else?
A) res=stuff.equals("X") ? "A" : stuff.equals("Y") ? "B" : "C";

B) res=stuff.equals("X") ? stuff.equals("Y") ? "A" : "B" : "C";

C) res=stuff.equals("X") ? "A" else stuff.equals("Y") ? "B" : "C";

D) res=stuff.equals("X") ? res="A" : stuff.equals("Y") ? "B" : "C";
```

## A B F. if u take string case label should also be strings

```
public static void main(String[] args)
 48
        //line-1
        switch(x)
  6
  7 □
        {
 8 =
           case 10:
 9
             System.out.println("Ten");
             break;
 10
 11 □
           case 20:
             System.out.println("Twenty");
 12
13
             break;
 14
        }
15
      }
16 }
17 //byte,short,int,char+wrapper classes+enum+string
18 Which 3 code fragments can be independently inserted at line-1 to print Ten
19 A) byte x = 10;
20 B) short x = 10;
21 C) String x = "10";
22 D) long x = 10;
23 E) double x = 10;
24 F) Integer x = new Integer(10);
 ◆flow_control_withc

◆ Untitled2

■ Test.java

□
For Help, press F1
```

Α

```
CJA 1.8 Java SE 8 Programmer - I (1Z0 - 808) By Durga Sir On 06-02 - 2018
    public class Test
 3
       public static void main(String[] args)
 48
 5
         boolean b = true;//line-1
 6
         switch(b)
 7 ₪
 8 =
            case true://line-2
 9
               System.out.print("True");
10
               break;
11 ₪
            default:
               System.out.print("default");
12
13
         System.out.println("Done");
14
15
       }
16 }
18 Which of the following changes are required to print TrueDone?
19 A) Replace line-1 with String b="true";
20
      Replace line-2 with case "true";
21
•22 ■ B) Replace line-1 with boolean b=1;
23
     Replace line-2 with case 1;
24 C) remove break statement
25 D) remove the default section
```

### Green

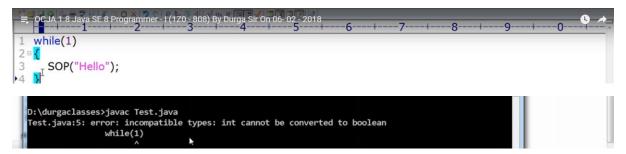
```
CJA 1.8 Java SE 8 Programmer - I (120 - 808) By Durga Sir On 06-02 - 2018
 1 public class Test
 2 □ {
 3
       public static void main(String[] args)
 48
         String color="Green";
 6
         switch(color)
 7 B
 88
            case "Red":
 9
              System.out.println("Red");
            case "Blue":
10 ₪
              System.out.println("Blue");
11
12
              break;
            case "Green":
13 =
              System.out.println("Green");
14
15
              break;
16 ₪
            default:
17
              System.out.println("Default");
18
         }
19
20
      }
21 }
22 What is the output?
```

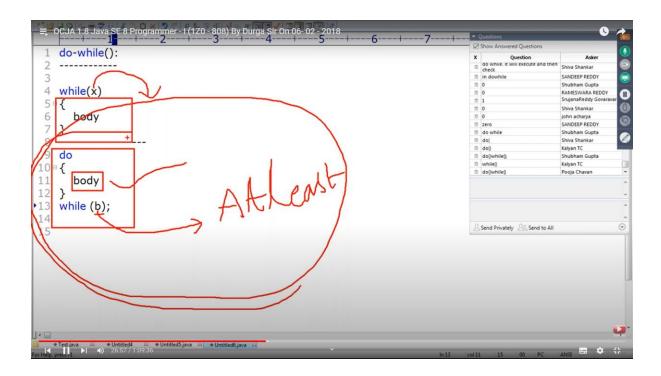
D

```
➡ OCJA 1.8 Java SE 8 Programmer - I (1Z0 - 808) By Durga Sir On 06-02 - 2018
112 A) Red
113
        Blue
114 B) Green
115
         Default
116 C) Default
117 D) Green
118
119
120 Q. Which of the following is true about switch statement?
121
A) It should contain the default section
B) The break statement, at the end of each case block is mandatory
C) Its case lable literals can be changed at runtime
122
125
       D) Its expression must evaluate a single value
```

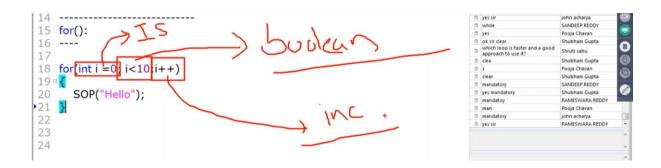
While loop: if you don't know the no of iteration in advance. If we know in advance then for loop I=? and I<=50;

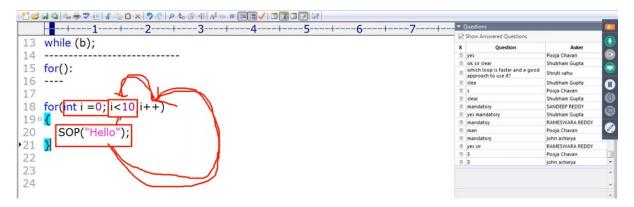
# 1 is int, expecting boolean



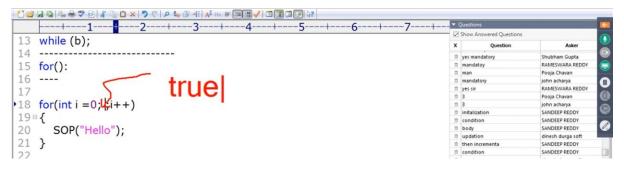








This will go infitely, default value of the condition is true



Initialization section execited once , increment will be executed as it gets incremented and then the condition will be checked

```
--+---4---+---5---+---6---+---7---+---8----+--9---+---0---+--7
         --1-
  class Test
 2 = {
 3
     public static void main(String[] args)
 48
 5
 6
       for(System.out.println("Hello Boss You are Sleeping");i<3}System.out.println("No Boss U only
       sleeping"))
 78
       {
8
 9
10
     }
11 }
```

```
D:\durgaclasses>java Test
Hello Boss You are Sleeping
No Boss U only sleeping
No Boss U only sleeping
No Boss U only sleeping

No Boss U only sleeping

D:\durgaclasses>
```

#### Infinite

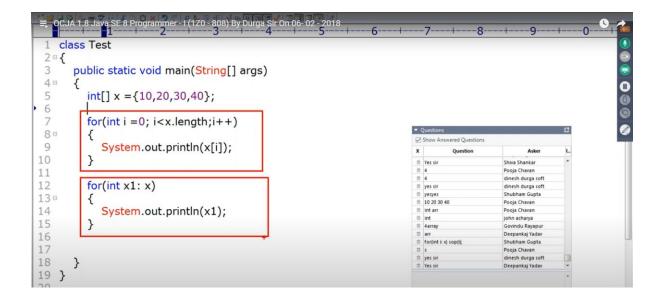
;- does not print anything but the program keeps running. Loop will not terminate, infite loop

```
for-each loop:

Enhanced for loop

1.5 version

Specially designed loop to retrieve elements fo arrays and collections
```



For each is going to read elements in forward direction unlike for loop which is bidirection

```
1 class Test
 2 □ {
 3
    public static void main(String[] args)
 48
     int[] x = \{10, 20, 30, 40\};
 6
      for(int i = x.length-1; i > = 0;i--)
 8 ₪
 9
       System.out.println(x[i]);
     }
10
11
12
      for(int x1: x)
13 ₪
14
       System.out.println(x1);
15
16
17
18
19 }
20
```

Using ForEach we can use customized increment, by default its going to increment by 1 that is the next element

```
| class Test | cla
```

For each is not general purpose and can be applied only to arrays and collections, Below there is no array of collections

```
1 class Test
2 □ {
3
   public static void main(String[] args)
48
5
     for(int i = 0; i < 10; i++)
6 □
     {
      System.out.println("Hello");
8
     }
9
10
11 8
       System.out.println(x1);
12
13
   }
14
15 }
```