

Day-10 - } 06.05.2023

Assignment

for loop:

for (initialization ; condition checking ;
increment / decrement)

```
for (int i=0; i<5; i++)  
{ System.out.println("welcome"); }
```

i=0; 0<5

welcome

i++ ; i = 0+1 = 1 1st

i=1; 1<5

welcome

i++

i = 1+1 = 2 // 2nd

i=2; 2<5

welcome

i++

i = 2+1 = 3 // 3rd

i=3; 3<5

welcome

i++ ; i = 3+1 = 4

i=4; 4<5

welcome ; i++ ; i=5

i=5; 5<5 condition false

for-loop increment:

```
package org.operator;  
public class AssignmentOperator
```

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

```
{ for (int i=0; i<5; i++)
```

```
for (int i=0; i<5; i++) {  
    System.out.println(i);
```

```
}}
```


for loop decrement:-
package org.operator;

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```
public class AssignmentOperator {  
    public static void main(String[] args)  
    {  
        for (int i = 20; i > 0; i--)  
        {  
            System.out.println(i);  
        }  
    }  
}
```

Nested for loop :-

```
for (int i = 1; i <= 2; i++)  
{  
    Syso("outerloop");  
    for (int j = 0; j <= 1; j++)  
    {  
        Syso("innerloop");  
    }  
}
```

i = 1; 1 <= 2
outerloop
j = 0; 0 <= 1
innerloop
j++; j = 1

j = 2; 2 <= 1 condition false
i = 1 + 1 = 2 1st iteration of i

i = 2; 2 <= 2

outerloop

j = 0; 0 <= 1; innerloop

j++; j = 0 + 1 = 1

j = 1; 1 <= 1

innerloop j++; j = 2

j = 2; 2 <= 1 condition
false

i++; i = 2 + 1 = 3;

2nd iteration.

i = 3; 3 <= 2 condition false loop will get terminate.

package org.operator;

```
public class AssignmentOperator {  
    public static void main(String[] args)  
    {  
        for (int i = 1; i <= 3; i++)  
        {  
            System.out.println("outer loop");  
            for (int j = 0; j <= 2; j++)  
            {  
                System.out.println("inner loop");  
            }  
        }  
    }  
}
```


while loop:

Syntax:

```
while (condition)
{ // code of block executed }
```

Example:

```
package org.operator;
public class AssignmentOperator {
    public static void main(String[] args)
    { int i=1;
      while (i<=10)
      { System.out.println(i);
        i++;
      }
    }
}
```

Finding Even Number:

```
package org.operator;
public class AssignmentOperator
{
    public static void main
    (String [] args)
    {
        int i=1;
do
        while (i<=10)
        { if (i%2==0) { System.out.
          println(i); i++;
        }
        }
    }
}
```

do...while:

The loop will always be executed at least once, even if the condition is false, because the code block is executed before the condition is tested.

Syntax ::

do { // code block executed

} while (condition);

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Example ::

```
package org.operator;
public class AssignmentOperator
{
    public static void main(String []
args) {
        int i=1;
        do { System.out.println(i);
            i=i+1;
        } while (i<=5);
    }
}
```

Diff b/w while and do...while

```
package org.operator;
public class AssignmentOperator {
    public static void main(String []
args)
    { int i=6;
      do { System.out.println(i);
          i=i+1;
        } while (i<=5);
      int i=6;
      while (i<=5)
      { System.out.println(i);
        i=i+1;
      }
    }
}
```

Jump Statements ::

break :: - Break statements in java are used to end the on going process. They can be used to terminate for loops, while loops, and do... while loops.

They are also used to come out of switch block, once the matching case has been found.

eg.,

```
package org.operator;  
public class AssignmentOperator {  
    public static void main(String[] args)  
    { for (int i=1; i<=10; i++)  
        { if (i==5)  
            break;  
            System.out.println(i);  
        }  
    }  
}
```

Continue:

the continue statement breaks one iteration (in the loop). if a specified condition occurs, and continues, with the next iteration in the loop.

eg.,

```
package org.operator;  
public class AssignmentOperator {  
    public static void main(String[] args)  
    { for (int i=1; i<=10; i++)  
        { if (i==5)  
            continue;  
            System.out.println(i);  
        }  
    }  
}
```

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NOTES TAKING ::

Looping Statements ::

do.. while

while

for

for-each

```
for (initialization ; condition ; inc/dec)
{
    }
}
```


for (initialization = 0; initialization < 5;
initialization++)

{
 Sysoc("hai");

 i = 0; 0 < 5;

 hai

 i = 3 + 1 = 4;

 i = 6; 6 < 5; // false

 // exit the loop.

for (i = 10; i >= 1; i--) // decrement

{ }

Nested for:

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

{

 // code

 for (j = 0; j < 3; j++)

 {

 // code

 }

}

wakeup:

outloop
inloop
inloop
outloop
inloop
inloop
outloop
inloop
inloop
outloop
inloop
inloop

```
int i = 1; while (condition)
{
    body();
    increment ++;
}
```

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Jump Statements:

break;

continue;

odd & even number

factorial

even number count

odd number count