Arrange the following such that the program output is 4 1 2.

- switch(input) ----------1
- { ----------2
- case 2: ----------3
- System.out.print("2 "); ----------4
- } ----------5
- int input = 4; ----------6
- // break; ----------7
- case 1: ----------8
- System.out.print("1 "); ----------9
- default: ----------10
- System.out.print(4); ----------11

Arrange the following such that the program output is 4 1 2.

- switch(input) ----------1 — 2
- { ----------2 — 3
- case 2: ----------3 — 5
- System.out.print("2 "); ----------4 — 10
- } ----------5 — 11
- int input = 4; ----------6 — 1
- // break; ----------7 — 12
- case 1: ----------8 — 4
- System.out.print("1 "); ----------9 — 9
- default: ----------10 — 7 — 6
- System.out.print(4); ----------11 — 8

3) WAP using switch statement that takes three inputs from the method as parameters: operator (+,-,/,*) and 2 numbers. It performs calculation based on numbers and operator entered. Then the result is displayed on the screen.

```
3  public class ClassA
4  {
5      void meth1(String operator, int num1, int num2)
6      {
7          switch(operator)
8          {
9              case "+":
10                 System.out.println("Addition : "+(num1+num2));
11                 break;
12             case "-":
13                 System.out.println("Substraction : "+(num1-num2));
14                 break;
15             case "*":
16                 System.out.println("Multiplication : "+(num1*num2));
17                 break;
18             case "/":
19                 System.out.println("Division : "+(num1/num2));
20                 break;
21         }
22     }
23     public static void main(String[] args)
24     {
25         new ClassA().meth1("+", 2, 98);
26     }
27 }
```

Iteration Statements

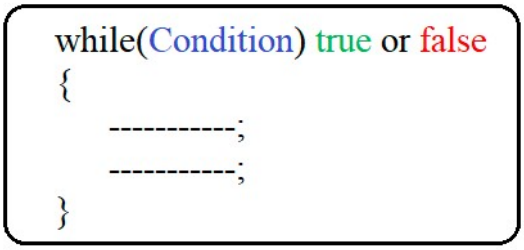
- Java iteration statements enable ***repeated*** execution of part of a program until a certain termination condition is satisfied.
- Java provides four iteration statements:
    1) while
    2) do-while
    3) for
    4) for each loop

Understanding while loop

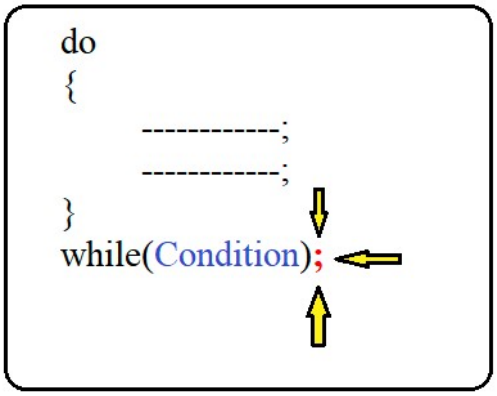
- while loop first checks the condition then enters in to the loop
- Just like 'if' statement, the argument should return boolean value ie., true or false.
- If we don't write braces after while, we can write only one statement which is dependent on 'while'.
- We should not declare any statement in that sentence.

Understanding do-while loop

- do-while first enter the loop and then check the condition.
- In do-while after the while condition we should write semicolon Ex: while (i==0);



while-Syntax



do-while Syntax

```
1  package com.pack1;
2
3  public class ClassA
4  {
5      void meth1(int i)
6      {
7          System.out.println("------meth1()-------");
8          while(i<=5)  // 1<=5 ====> T
9          {
10             System.out.println("i value : "+i);
11             i++;
12         }
13         System.out.println("meth1() execution completed");
14     }
15     public static void main(String[] args)
16     {
17         ClassA aobj=new ClassA();
18         aobj.meth1(1);
19     }
20 }
```

```
------meth1()-------
i value : 1
i value : 2
i value : 3
i value : 4
i value : 5
meth1() execution completed
```

```
11             i++;
12         }
13         System.out.println("meth1() execution completed");
14     }
15     void meth2(int i)
16     {
17         System.out.println("------meth2()-------");
18         while(i<=10)
19         {
20             System.out.println("i value : "+i++);
21             i++;
22         }
23         System.out.println("meth2() execution completed");
24     }
25     public static void main(String[] args)
26     {
27         ClassA aobj=new ClassA();
28         //aobj.meth1(1);
29         aobj.meth2(1);
30     }
31 }
```

```
------meth2()-------
i value : 1
i value : 3
i value : 5
i value : 7
i value : 9
meth2() execution completed
```

Core Java Class-38
Iteration (while, do-while)

```
            i++;
        }
        System.out.println("meth1() execution completed");
    }
    void meth2(int i)
    {
        System.out.println("------meth2()-------");
        while(i<=10)
        {
            System.out.println("i value : "+ ++i);
            i++;
        }
        System.out.println("meth2() execution completed");
    }
    public static void main(String[] args)
    {
        ClassA aobj=new ClassA();
        //aobj.meth1(1);
        aobj.meth2(1);
    }
}
```

```
------meth2()-------
i value : 2
i value : 4
i value : 6
i value : 8
i value : 10
meth2() execution completed
```

```
    }
    void meth3(int i)
    {
        System.out.println("------meth3()-------");
        while(i<=10)
        {
            System.out.println("i value : "+ i++ + ++i);
            i++;
        }
        System.out.println("meth3() execution completed");
    }
    public static void main(String[] args)
    {
        ClassA aobj=new ClassA();
        //aobj.meth1(1);
        //aobj.meth2(1);
        aobj.meth3(1);
    }
}
```

```
------meth3()-------
i value : 13
i value : 46
i value : 79
i value : 1012
meth3() execution completed
```

```
    }
    void meth3(int i)
    {
        System.out.println("------meth3()-------");
        while(i<=10)
        {
            System.out.println("i value : "+ i++ +" "+ ++i);
            i++;
        }
        System.out.println("meth3() execution completed");
    }
    public static void main(String[] args)
    {
        ClassA aobj=new ClassA();
        //aobj.meth1(1);
        //aobj.meth2(1);
        aobj.meth3(1);
    }
}
```

```
------meth3()-------
i value : 1 3
i value : 4 6
i value : 7 9
i value : 10 12
meth3() execution completed
```

Core Java Class-38
Iteration (while, do-while)

```
24      }
25      void meth3(int i)
26      {
27          System.out.println("------meth3()-------");
28          while(i<=10)
29          {
30              //System.out.println("i value : "+ i++ +" "+ ++i);
31              System.out.println("i value : "+ (i++ + ++i));
32              i++;
33          }
34          System.out.println("meth3() execution completed");
35      }
36      public static void main(String[] args)
37      {
38          ClassA aobj=new ClassA();
39          //aobj.meth1(1);
40          //aobj.meth2(1);
41          aobj.meth3(1);
42      }
43  }
```

```
------meth3()-------
i value : 4
i value : 10
i value : 16
i value : 22
meth3() execution completed
```

```
35      }
36      void meth4(int i, int j)
37      {
38          System.out.println("------meth4()-------");
39          while(i<=5)
40          {
41              while(j>=0)
42              {
43                  System.out.println(i+++" "+j--);
44              }
45              System.out.println("--------------");
46          }
47          System.out.println("meth4() execution completed");
48      }
49      public static void main(String[] args)
50      {
51          ClassA aobj=new ClassA();
52          //aobj.meth1(1);
53          //aobj.meth2(1);
54          //aobj.meth3(1);
55          aobj.meth4(1, 5);
56      }
```

```
------meth4()-------
1 5
2 4
3 3
4 2
5 1
6 0
--------------
meth4() execution completed
```

Core Java Class-38
Iteration (while, do-while)

```
    }
    void meth4(int i, int j)
    {
        System.out.println("------meth4()-------");
        while(i<=5)
        {
            while(j>=1)
            {
                System.out.println(i+++" "+j--);
            }
            System.out.println("--------------");
        }
        System.out.println("meth4() execution completed");
    }
    public static void main(String[] args)
    {
        ClassA aobj=new ClassA();
        //aobj.meth1(1);
        //aobj.meth2(1);
        //aobj.meth3(1);
        aobj.meth4(1, 5);
    }
}
```

```
------meth4()-------
1 5
2 4
3 3
4 2
5 1
--------------
meth4() execution completed
```

```
        while(i<=5)
            //int x=50; // C.E we should not write any declarati
            System.out.println("i value : "+i);
            i++;
        System.out.println("meth5() execution completed");
    }
    void meth6(int i)
    {
        System.out.println("------meth6()-------");
        while(true)
        {
            System.out.println("i value : "+i);
            i++;
            break;
        }
        System.out.println("meth6() execution completed"); // C.
    }
    public static void main(String[] args)
    {
        ClassA aobj=new ClassA();
        //aobj.meth1(1);
        //aobj.meth2(1);
        //aobj.meth3(1);
```

```
------meth6()-------
i value : 1
meth6() execution completed
```

Core Java Class-38
Iteration (while, do-while)

```java
public class ClassA
{
    void meth1(int i)
    {
        System.out.println("------meth1()-------");
        while(i<=5)
        {
            System.out.println("i value : "+i);
            i++;
        }
        System.out.println("meth1() execution completed");
    }
    void meth2(int i)
    {
        System.out.println("------meth2()-------");
        while(i<=10)
        {
            System.out.println("i value : "+ ++i);
            i++;
        }
        System.out.println("meth2() execution completed");
    }
    void meth3(int i)
    {

        System.out.println("------meth3()-------");
        while(i<=10) // 13<=10
        {
            //System.out.println("i value : "+ i++ +" "+ ++i);
            System.out.println("i value : "+ (i++ + ++i));//10+12
            i++;
        }
        System.out.println("meth3() execution completed");
    }
    void meth4(int i, int j)
    {
        System.out.println("------meth4()-------");
        while(i<=5) // 6<=5
        {
            while(j>=1)
            {
                System.out.println(i+++" "+j--);// 5 1  i=6 j=0
            }
            System.out.println("--------------");
```

```
46          System.out.println("meth4() execution completed");
47      }
48      void meth5(int i) // Infinite loop
49      {
50          System.out.println("------meth51()-------");
51          while(i<=5)
52              //int x=50; // C.E we should not write any declarative code in this line
53              System.out.println("i value : "+i);
54              i++;
55          System.out.println("meth5() execution completed");
56      }
57      void meth6(int i)
58      {
59          System.out.println("------meth6()-------");
60          while(true)
61          {                                                          Line: 71
62              System.out.println("i value : "+i);
63              i++;
64              break;
65          }

66          }
67          System.out.println("meth6() execution completed"); // C.E because of Unreachable code
68      }
69      void meth7(int i)
70      {
71          System.out.println("------meth7()-------");
72          do
73          {
74              System.out.println("i value : "+i);
75              i++;
76          }
77          while(i<=5);
78          System.out.println("meth7() execution completed");
79      }

80      public static void main(String[] args)
81      {
82          ClassA aobj=new ClassA();
83          aobj.meth1(100);
84          //aobj.meth2(1);
85          //aobj.meth3(1);
86          //aobj.meth4(1, 5);
87          //aobj.meth5(1);
88          //aobj.meth6(1);
89          aobj.meth7(100);
90      }
91  }
```