**3. Program to implement Looping Control Statements.**

**3 a. for loop**

**Aim:**

The aim of this program is to print even numbers from 1 to 10 using a for loop.

**Algorithm:**

1. Start a for loop with i from 1 to 10.
2. In each iteration, check if i is even (i % 2 == 0).
3. If i is even, print the value of i.
4. After the loop, print "Loop Ending".

**Program:**

class ForLoopDemo

{

public static void main(String[] args)

{

for (int i=1; i<=10; i++)

{

if (i%2==0)

System.out.println(i);

}

System.out.println("Loop Ending");

}

}

**Output:**

2

4

6

8

10

Loop Ending

**Result:**

The program successfully demonstrates iterating through numbers 1 to 10, printing even numbers, and confirming the end of the loop execution.

**3b. While Loop**

**Aim:**

The aim of this program is to print even numbers from 1 to 10 using a while loop in Java.

**Algorithm:**

1. Initialize i to 1.
2. Enter a while loop with the condition i <= 10.
3. Check if i is even (i % 2 == 0).
4. Print i if it's even.
5. Increment i by 1 (i++).
6. Continue the loop until i is greater than 10.

**Program:**

class While\_Loop\_Demo

{

//print even numbers ranging from 1 to 10

public static void main(String args[])

{

int i = 1; //initialization

while (i<=10) //condition or termination

{

if (i%2==0)

{

System.out.println(i);

}

i++; //increment

}

}

}

**Output:**

2

4

6

8

10

**Result:** The program successfully demonstrates using a while loop to print even numbers from 1 to 10 in Java.

**3 C. Do …While loop**

**Aim:**

The aim of this program is to demonstrate printing numbers using a do-while loop, specifically printing all numbers starting from 1 and incrementing until the number becomes odd.

**Algorithm:**

1. Initialize i to 1.
2. Enter a do-while loop.
3. Print i.
4. Increment i by 1 (i++).
5. Check if i is even (i % 2 == 0).
6. Repeat steps 3 to 5 until i is not even.

**Program**

class Do\_While\_Loop\_Demo

{

//print even number

public static void main(String args[])

{

int i = 1; //initialization

do

{

System.out.println(i);

i++; //increment

} while (i%2==0);//condition or termination

}

}

**Output:**

2

4

6

8

10

Loop Ending

**Result:**

The program successfully demonstrates the use of a do-while loop to print numbers starting from 1 until an odd number is encountered.