Day 13 – while Loop in Java

Today we will do the same work that we did using for loop, but now using the while loop. First the concept is explained, then full code examples and practice questions are given.

1. What is a while Loop?

A while loop is used when we do not know in advance how many times the loop will execute. The loop runs as long as the condition is true.

Syntax of while loop:

```
initialization;
while(condition) {
    // statements
    increment/decrement;
}
```

Initialization happens first, then the condition is checked. If the condition is true, the loop body runs and the variable is updated.

2. while Loop Examples (Full Code)

Example 1: Print numbers from 1 to 5

```
class Example1 {
    public static void main(String[] args) {
        int i = 1;
        while(i <= 5) {
            System.out.println(i);
            i++;
        }
    }
}
```

Example 2: Print even numbers from 1 to 10

```
class Example2 {
    public static void main(String[] args) {
        int i = 1;
        while(i <= 10) {
            if(i % 2 == 0) {
                System.out.println(i);
            }
            i++;
        }
    }
}
```

Example 3: Print table of 5

```
class Example3 {
    public static void main(String[] args) {
        int n = 5;
        int i = 1;
        while(i <= 10) {
            System.out.println(n + " x " + i + " = " + (n*i));
            i++;
        }
    }
}
```

Example 4: Sum of first 10 natural numbers

```
class Example4 {
    public static void main(String[] args) {
        int i = 1, sum = 0;
        while(i <= 10) {
            sum = sum + i;
            i++;
        }
        System.out.println("Sum = " + sum);
    }
}
```

Example 5: Print numbers in reverse order

```
class Example5 {
    public static void main(String[] args) {
        int i = 10;
        while(i >= 1) {
            System.out.println(i);
            i--;
```

```
        }
    }
}
```

Example 6: Count numbers from 1 to 10

```
class Example6 {
    public static void main(String[] args) {
        int i = 1, count = 0;
        while(i <= 10) {
            count++;
            i++;
        }
        System.out.println("Count = " + count);
    }
}
```

3. Practice Questions

1. Print numbers from 1 to 20 using while loop.

2. Print odd numbers between 1 and 50 using while loop.

3. Find factorial of a number using while loop.

4. Print multiplication table of any number using while loop.

5. Find sum of even numbers from 1 to 100 using while loop.

6. Print squares of numbers from 1 to 10 using while loop.

7. Reverse a number using while loop.