📝 DAY 7 – Do While Loop

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⭐ 1. What is a Do-While Loop?

A do-while loop is similar to a while loop,
BUT the loop body executes at least once, even if the condition is false.

Syntax

```
do {
   statements;
} while (condition);
```

Key Points

Condition is checked after executing the loop body.

Loop runs minimum once, even with false condition.

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⭐⭐ CLASS PROGRAM – 1

Program: Print numbers from 1 to 10 using do-while loop

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Pseudo Code

Start
i = 1

```
Do:
   Print i
   i = i + 1
While i <= 10
End
```

Flow

1. Start with i = 1

2. Print i

3. Increase i

4. Check condition → repeat

Variables Used

i → loop counter

Program

```
class DoWhile1 {
   public static void main(String args[]) {

      int i = 1;

      do {
         System.out.println(i);
         i++;
      } while (i <= 10);
   }
}
```

Output

```
1
2
```

3
...
10

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⭐ ⭐ CLASS PROGRAM – 2

Program: Print even numbers from 1 to 20

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Pseudo Code

```
Start
i = 1
Do:
   If i % 2 == 0:
      Print i
   i = i + 1
While i <= 20
End
```

Flow

Begin at 1

Print only even numbers

Continue until 20

Variables

i → loop counter

Program

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

```
        int i = 1;

        do {
            if (i % 2 == 0)
                System.out.println(i);

            i++;
        } while (i <= 20);
    }
}
```

Output

```
2
4
6
...
20
```

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⭐ ⭐ CLASS PROGRAM – 3

Program: Print sum of numbers from 1 to 10

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Pseudo Code

```
Start
i = 1
sum = 0
Do:
   sum = sum + i
   i = i + 1
While i <= 10
Print sum
End
```

Flow

Add numbers 1 to 10

Print final sum

Variables

i → loop counter

sum → accumulates total

Program

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

        int i = 1, sum = 0;

        do {
            sum += i;
            i++;
        } while (i <= 10);

        System.out.println("Sum = " + sum);
    }
}
```

Output

Sum = 55

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⭐ ⭐ CLASS PROGRAM – 4

Program: Print digits of a number (e.g., 789 → 9 8 7)

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Pseudo Code

```
Start
n = number
Do:
   digit = n % 10
   Print digit
   n = n / 10
While n > 0
End
```

Flow

Extract last digit

Print it

Remove last digit

Continue until number becomes 0

Variables

n → input

digit → extracted value

Program

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

      int n = 789;

      do {
         int digit = n % 10;
         System.out.println(digit);
         n = n / 10;
      } while (n > 0);
```

```
   }
}
```

Output

```
9
8
7
```

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⭐ ⭐ ⭐ ASSIGNMENT PROGRAMS (4)

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⭐ Assignment – 1

Program: Print numbers from 20 to 1 using do-while

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

      int i = 20;

      do {
         System.out.println(i);
         i--;
      } while (i >= 1);
   }
}
```

Output

```
20
19
...
```

1

⭐ Assignment – 2

Program: Count digits of a number (example: 12345)

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

      int n = 12345;
      int count = 0;

      do {
         count++;
         n = n / 10;
      } while (n > 0);

      System.out.println("Digit Count = " + count);
   }
}
```

Output

```
Digit Count = 5
```

⭐ Assignment – 3

Program: Reverse a number (example 654 → 456)

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

      int n = 654;
      int rev = 0;

      do {
         int digit = n % 10;
         rev = rev * 10 + digit;
```

```
        n = n / 10;
      } while (n > 0);

      System.out.println("Reversed Number = " + rev);
   }
}
```

Output

```
Reversed Number = 456
```

⭐ Assignment – 4

Program: Print multiplication table of 6 using do-while loop

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

      int i = 1;

      do {
         System.out.println("6 x " + i + " = " + (6 * i));
         i++;
      } while (i <= 10);
   }
}
```

Output

```
6 x 1 = 6
6 x 2 = 12
...
6 x 10 = 60
```
