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Roll no-03

Div-B

Experiment no-03 Experiment name-Implement java programs based on while ,do while and for loop.

Three types of Conditional statements this second type is loop statement .

- **while loop:** A while loop is a control flow statement that allows code to be executed repeatedly based on a given Boolean condition. The while loop can be thought of as a repeating if statement.

Syntax :

```
while (boolean condition)
{
    loop
    statements...
}
```

- **for loop:** for loop provides a concise way of writing the loop structure. Unlike a while loop, a for statement consumes the initialization, condition and increment/decrement in one line thereby providing a shorter, easy to debug structure of looping.

Syntax:

```
for (initialization condition; testing condition;increment/decrement)
{
    statement(s) }
```

- **do while:** do while loop is similar to while loop with only difference that it checks for condition after executing the statements, and therefore is an example of **Exit Control Loop**. **Syntax:**

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

1. Implement a Java program to print multiplication table of user entered number.

Input-

```
import java.util.Scanner; class
Std10
{ public static void main(String
args[])
{ int
num;
System.out.println("Enter num to print the table");
Scanner aa=new Scanner(System.in);
num=aa.nextInt();
for(int i=1;i<=10;i++) {
```

```

        int table=num*i;
        System.out.println(+table);
    }
}
}

```

Output-

```

D:\class work>javac Std10.java

D:\class work>java Std10.java
Enter num to print the table
2
2
4
6
8
10
12
14
16
18
20

D:\class work>|

```

2. Implement a Java program to accept an integer number from user and check whether it is an Armstrong number or not. (Armstrong number: e. g. $153 = 1^3 + 5^3 + 3^3$)

```
import java.util.Scanner;
```

```

public class Std11
{
    public static void main(String[]
args)
    {
        Scanner aa = new Scanner(System.in);
        System.out.print("Enter an integer number: ");
        int number = aa.nextInt();    int originalNumber
= number;    int sum = 0;

        while (number > 0)
        {
            int digit = number % 10;
            sum += (digit * digit * digit);
            number /= 10;
        }

        if (sum == originalNumber)

```

```

        {
            System.out.println(originalNumber + " is an Armstrong number.");
        }
    else
        {
            System.out.println(originalNumber + " is not an Armstrong number.");
        }
    }
}
}

```

Output-

```

D:\class work>javac Std11.java

D:\class work>java Std11.java
Enter an integer number: 111
111 is not an Armstrong number.

```

3.Program to print numbers less than 5.

```

Input- public class Main {    public
static void main(String[] args) {    int
count = 0;    do {
    System.out.println(count);
    Count++;
    }
    while (count < 5);
    }
}

```

Output-

```

C:\Users\Vaishnavi\Desktop\v\classwork>javac Main.java
C:\Users\Vaishnavi\Desktop\v\classwork>java Main
0
1
2
3
4
C:\Users\Vaishnavi\Desktop\v\classwork>

```