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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-

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= 13+53+33)

```
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 that 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>
```