Dt : 14/9/2022

**imp*

Iterative Statements:

=>The statements which are used to execute some selected lines of program repeatedly are known as Iterative Statements.

=>The following are some important iterative statements from Java:

(a)while loop

(b)do-while loop

(c)for loop

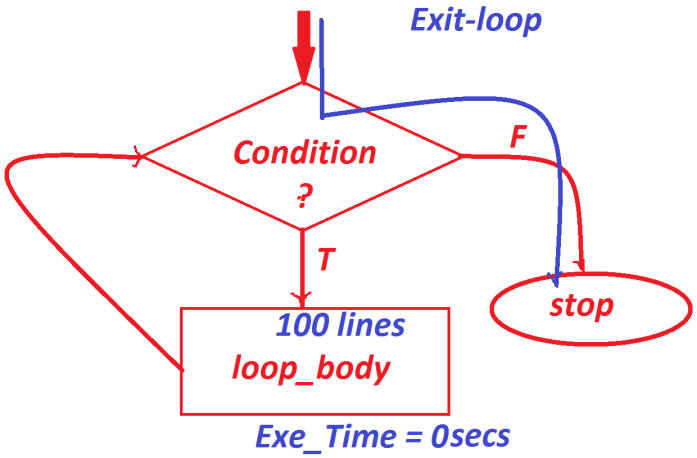
(a)while loop:

=>In while looping structure the condition is checked first and then the loop body is executed,this process is repeated until the condition is false.

syntax:

```
while(condition)
{
 //loop_body
}
```

Flowchart:



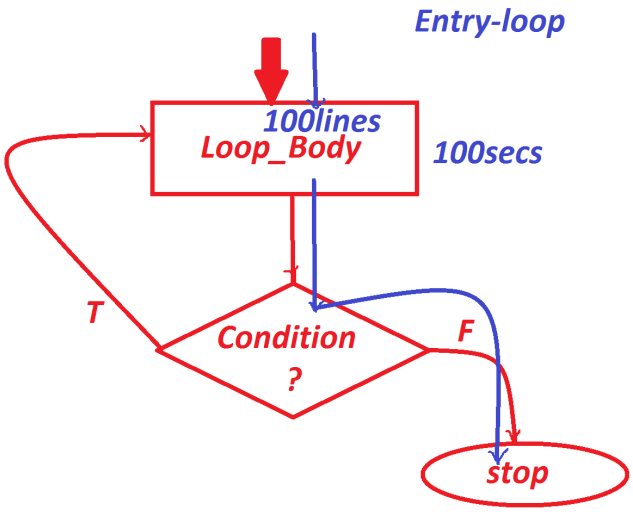
(b)do-while loop:

=>In do-while loop the loop body is executed first and then the condition checked,this process is repeated until the condition is false.

syntax:

```
do
{
 //loop_body
}
while(condition);
```

Flowchart:



Note:

=>In realtime do-while loop is less used when compared to while loop,because in do-while loop the execution time is wasted in executing loop_body for false condition.

(c)for loop:

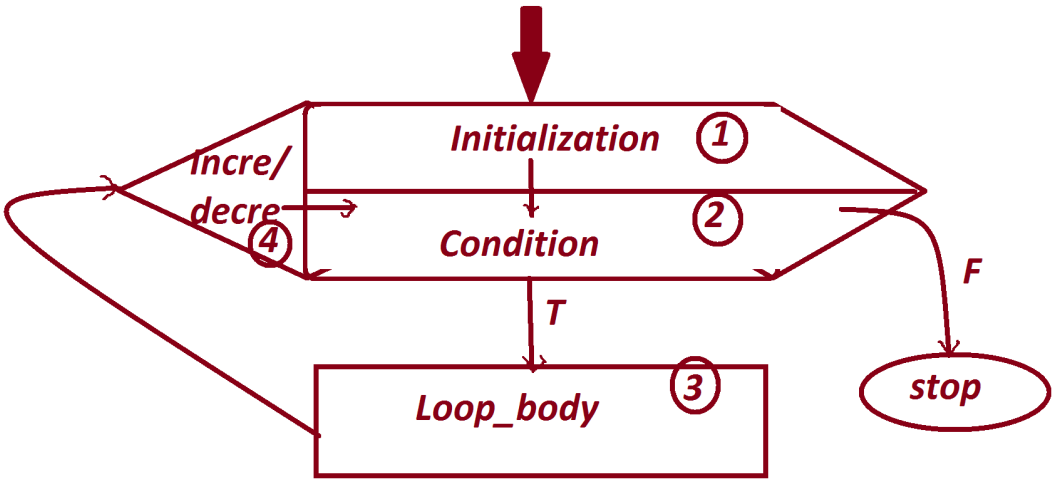
=>for-loop is more simple in representation when compared to while and do-while loops,because the initialization,condition and Incre/decre declared in the same line

syntax:

```
for(Initialization;Condition;Incre/Decre)
{
 //loop_body
```

}

Flowchart:



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Ex-Program:

wap to read a String and display in reverse?

DemoString2.java

```
package maccess;
import java.util.*;
public class DemoString2 {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the String:");
        String str = s.nextLine();
        int len = str.length();
        System.out.println("====display in forward based on
index===");
        for(int i=0;i<=len-1;i++)
        {
          char ch = str.charAt(i);//get character by index
          System.out.print(ch+" ");
```

```
        }
        System.out.println("\n====Display in reverse=====");
        for(int i=len-1;i>=0;i--)
        {
          char ch = str.charAt(i);
          System.out.print(ch+" ");
        }
        s.close();
    }
}
```

o/p:

Enter the String:

java language programming

====display in forward based on index===

j a v a l a n g u a g e p r o g r a m m i n g

====Display in reverse=====

g n i m m a r g o r p e g a u g n a l a v a j

==========

Assignment:

wap to read a String and check the String is palindrome

String or not?

Note:

=>The reverse of String is equal to the given String is

known as Palindrome String.

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faq:

define ASCII Codes?

=>ASCII stands for 'American Standard Code for Information Interchange', and which is unique code generated for every character entered from the keyboard.

ASCII codes for UpperCase letters : 65 to 90

ASCII codes for LowerCase letters : 97 to 122

ASCII codes for Numbers(0 to 9) : 48 to 57

Ex : DemoASCII.java

```
package maccess;
public class DemoASCII {
	public static void main(String[] args) {
		System.out.println("====UpperCase letters====");
		for(int i=65;i<=90;i++)
		{
		  char ch = (char)i;//TypeCasting-ASCII(int) to char
		  System.out.print(ch+" ");
		}//end of loop
		System.out.println("\n====LowerCase letters====");
		for(int i=97;i<=122;i++)
		{
		  char ch = (char)i;//TypeCasting-ASCII(int) to char
		  System.out.print(ch+" ");
		}//end of loop
		System.out.println("\n====Numbers(0 - 9)====");
		for(int i=48;i<=57;i++)
		{
		  char ch = (char)i;//TypeCasting-ASCII(int) to char
		  System.out.print(ch+" ");
		}//end of loop
	}
}
```

o/p:

====UpperCase letters====

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

====LowerCase letters====

a b c d e f g h i j k l m n o p q r s t u v w x y z

====Numbers(0 - 9)====

0 1 2 3 4 5 6 7 8 9

==========

Assignment:(Soulution)

wap to retrieve character based on index value and check

character is Vowel or Consonent or others?

DemoString3.java

```
package maccess;
import java.util.Scanner;
public class DemoString3 {
	public static void main(String[] args) {
		Scanner s = new Scanner(System.in);
		System.out.println("Enter the String:");
		String str = s.nextLine();
		int len = str.length();
		System.out.println("Enter the index to retrieve char:");
		int index = s.nextInt();
		if(index>=0 && index<=len-1)
		{
			char ch = str.charAt(index);
			int k = (int)ch;//TypeCasting-char to ASCII(int)
			if((k>=65 && k<=90) || (k>=97 && k<=122))
			{
				switch(ch)
				{
				case 'a':
				case 'A':
					System.out.println("char : "+ch);
```

```
                    System.out.println("Vowel...");
                    break;
               case 'e':
               case 'E':
                    System.out.println("char : "+ch);
                    System.out.println("Vowel...");
                    break;
               case 'i':
               case 'I':
                    System.out.println("char : "+ch);
                    System.out.println("Vowel...");
                    break;
               case 'o':
               case 'O':
                    System.out.println("char : "+ch);
                    System.out.println("Vowel...");
                    break;
               case 'u':
               case 'U':
                    System.out.println("char : "+ch);
                    System.out.println("Vowel...");
                    break;
               default:
                    System.out.println("char : "+ch);
                    System.out.println("Consonent...");
               }//end of switch
          }//end of if
          else
          {
               System.out.println("char : "+ch);
               System.out.println("Others...");
          }
        }//end of if
        else
        {
          System.out.println("Invalid index...");
        }
        s.close();
    }

}
```

o/p:

Enter the String:

java

Enter the index to retrieve char:

0

char : j

Consonent...

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