Selenium Class 6 - Java Program Structure

i) Java Program Structure

ii) Java Sample Program

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i) Java Program Structure

1) Documentation Section

> It includes the comments to tell the program's purpose, it improves the readability of the program

2) Package Statement

> It includes statement that provides a package declaration

3) Import Statement/s

We import predefined and user defined libraries using "import" keyword

Ex:

import java.io.Console;

java - Project

io - Package

Console - Class

```
import java.io.*;
```

java - Project

io - Package

io.* - import all classes from io package

Predefined/Built-in,

All libraries in Java are predefined, but a few libraries only automatically loaded in every Java program.

4) Class Definition

Ex:

```
public class Sample{
.
}
```

5) Interface Section

It includes method declaration

6) main Method (java program execution starts from main method)

```
public static void main (String [] args){
....
}
```

public - Access Modifier

static - Non Access Modifier (use main Method without invoking any Object)

void - Returns nothing

main - Method name

(String [] args) -?

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7) Declaration Statement/s

We declare Variables and Constants

int a;

a=100;

int b=200;

b=300;

c=400;

final int y=1000; (Constant)

y=2000; //Incorrect

Variables vs. Constants

int a;//Correct

a=10;

a=30;

int b=200;

b=400;

----

final int x; //Incorrect

final int y=300; //Correct

y=300; //Incorrect

----

8) Normal Statements

c=a+b;

System.out.println("Hello");

System - Predefined Class

out - Object

println - Method

"Hello" - Message

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9) Code Blocks

Conditions,

Loops,

Methods, etc...

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10) Object Creation Statement

Note 1: We can create Object at beginning of the program or middle of the program or end of the program

Note 2: Usually we create Object/Instance of the Class within main method, but we can also create Objects outside of the main method

Syntax:

ClassName objectName= new ClassClassName();

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ii) Java Sample Program

```
//It is a Sample Program to Understand the Java program Structure and Syntax.
package abcd;

public class Sample {
//Create a Method with Arguments and return a value (Non Static method)
public int add(int a, int b){
int result;
result=a+b;
return result;
}
//Create a method without Arguments and returns nothing (Non Static method)
public void comparison(){
int x=100, y=20;

if (x>y){
System.out.println("X is a Big Number");
}

else{
System.out.println("Y is a Big Number");
}
}
//Create a Method with Arguments and return a value (Static method)
public static int sub(int a, int b){
```

```
int result=a-b;
return result;
}
//Create a Method without and returns nothing (Static method)
public static void comparision2(){
int a=100, b=200;

if (a>b){
System.out.println("A is a Big Number");
}
else{
System.out.println("B is a Big Number");
}
}
public static void main (String [] args){
//Create Object to call Non Static methods
Sample obj = new Sample();
int res = obj.add(100, 200);
System.out.println(res);//300
//Or
System.out.println(obj.add(100, 200));//300

obj.comparison();//X is a Big Number

//Call Static Methods using Class name
res = Sample.sub(100, 50);
System.out.println(res);//50
```

```
//Or
System.out.println(Sample.sub(200, 100));//100

Sample.comparision2();//B is a Big Number

//Call Static Methods without using Class name
int x= sub(10, 5);
System.out.println(x);//5

System.out.println(sub(20,10));//10

comparision2();//B is a Big Number

int a;//Variable Declaration
a=100; //Initialization
int b=200; //Variable Declaration with Initialization
int c, d, e; //Declare multiple variables
int f=40, g=50, h=60; //Declare multiple variables with initialization

double l=123.45678;
char m='*';
boolean p=true;
String q="Selenium Testing";

System.out.println(q);//Selenium Testing
System.out.println(l);//123.45678
System.out.println("Hello Java");
```

```
final int price =100;
System.out.println(price);

if (a>b){
System.out.println("A is a Big Number");
}
else
{
System.out.println("B is a Big Number");
}

char grade ='U';
switch (grade){
case 'A':
System.out.println("Excellent");
break;
case 'B':
System.out.println("Good");
break;
case 'C':
System.out.println("Better");
break;

default:
System.out.println("Invalid Grade");
}
```

```
//Print 1 to 5 Numbers except 4 using for loop
for (int i=1; i<=5; i++){
if (i != 4)    {
System.out.println(i);
}
}
//Print 1 to 5 numbers using while loop
int j=10;
while (j<=15){
System.out.println(j);
j++;
}

//do while loop
int k=100;
do
{
System.out.println(k);
k++;
} while (k<=8);

//Enhanced for loop
String [] tools ={"Selenium", "UFT", "RFT", "SilkTest"};

for (String mytool: tools){
System.out.println(mytool);
}
}
}
---------------------------------------------------------
```