JavaClass16

Types of variables in java with respect to their scope:

There are three types of variables in java with respect to their

scope. Local instance and static.

Local variables:

If a variable is declared inside a block of code like method, loop,

if-condition they are called local variables.

Up-Side of a local variable:

The upside is they exist for a very short amount of time in the memory.

which means other programs on our computer can use that memory.

Down-Side of local variables:

Their scope is very limited. only inside that block in which they are created.

we can't access them outside that block.

When to use:

We should always try to use local variable over instance variables whenever it

is possible.

Instance variables:

The variables which are declared inside a class but outside of block of code are called

instance variables.

Up-side:

We can use these variables inside any block of code that is inside that class.

DownSide:

They occupy the memory for longer than a local variable.

When we should use instance variables:

1) When we need to share a value between two or more methods then we should go with the instance variable.

2) When we are planing to create multiple objects of a class and it is possible that all the objects can have

a different value for that variable.

static variable:

An instance variable with static keyword is called a static variable.

Up-side:

We can share data across the objects with the help of static variable.

Down-side:

They occupy the memory for the longest period.

When to use:

When we want to share something across all the methods.

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Access Modifiers:

Access modifiers are keywords which control the access of fields or methods or the class itself.

There are four access levels and three access modifier keywords. These are only applicable to

instance or static variable not to local variables.

private:

Private is the most restricted one. if we use private keyword with any variable or method.

we can only access it within the same class.

When we should use private access modifier.

We should always try to create variables as private.

The data that we store inside the private variables is secured.

default access modifier:

Default is not a keyword. whenever we don't assign any access modifier keyword like private or

public Java assigns default access level to those variables or methods.

The variables or methods which have default access level can be accessed wihin the same class or in any other

class that is present inside the same package.

Public access modifier:

Public access most unrestricted access modifier. Once used with an variable or method we can access that variable

or method anywhere in our project.

Note:

We can have only one public class in a file and the name of that class should match

the name of the file.

package class16;

public class BankAccount {

private String username;

private String password;

int accountNumber;

public String bankName;

public void printBankName(){

System.out.println(bankName);

}

private void printUserName(){

System.out.println(username);

}

void printAccountNumber(){

System.out.println(accountNumber);

}

}

package class16;

public class Person {

private String password="pass123";

double salary=1000;

public String name="Roman";

public static void main(String[] args) {

Person person1=new Person();

System.out.println(person1.password);

System.out.println(person1.salary);

Bank bank=new Bank();

}

}

class Bank{

}

package class16;

public class PersonTester {

public static void main(String[] args) {

Person person=new Person();

// System.out.println(person.password);

System.out.println(person.salary);

}

}

package class16;

public class Student {

/\*

Create a Class called Students

Create three variables Name , ID and numberOfStudents

Create three objects of the Students Class

Set the value for studentName , studentID and increment the numberOfStudents for each object

Print out total number of students

\*/

String name;

String id;

static int numberOfStudent;

public static void main(String[] args) {

Student roman= new Student();

roman.id="1";

roman.name="Ivan";

Student.numberOfStudent++;

Student sonamKapor= new Student();

sonamKapor.id="2";

sonamKapor.name="Sonam";

Student.numberOfStudent++;

System.out.println(Student.numberOfStudent);

System.out.println(Student.numberOfStudent);

}

}

package class16;

public class SyntaxEmployee {

/\*

Create a Class called SyntaxEmployee:

Create three variables empID , salary and set the CEO to “Sumair”

Create two objects of the class SyntaxEmployee

Set the value of eID, salary for each of the objects

Print out the eID , salary and CEO for each of the objects

\*/

String empId;

double salary;

static String CEO="Sumair";

}

package class16;

public class Task1Tester {

public static void main(String[] args) {

SyntaxEmployee asgharEmp =new SyntaxEmployee();

asgharEmp.empId="123";

asgharEmp.salary=100000;

System.out.println(SyntaxEmployee.CEO);

SyntaxEmployee moazzamEmp =new SyntaxEmployee();

moazzamEmp.empId="123";

moazzamEmp.salary=100000;

System.out.println(SyntaxEmployee.CEO);

}

}