Classes and objects:

->Class is a blue print for object

->can have variables and functions

-> we can create n number of objects for a class

Syntax:

Class name

{

Instance variable;

Instance method;

}

class student{

int id;

String name;

void display(){

System.out.println("Id="+id);

System.out.println("name="+name);

}

}

class HelloWorld {

public static void main(String[] args) {

student s1 = new student();

s1.display();

s1.id=01;

s1.name="valar";

s1.display();

}

}

Output:

Id=0

name=null

Id=1

name=valar

**create one more student:**

// Online Java Compiler

// Use this editor to write, compile and run your Java code online

class student{

int id;

String name;

void display(){

System.out.println("Id="+id);

System.out.println("name="+name);

}

}

class HelloWorld {

public static void main(String[] args) {

student s1 = new student();

student s2=new student();

s1.id=01;

s1.name="valar";

s2.id=02;

s2.name="Akshaya";

s1.display();

s2.display();

}

}

Output:

Id=1

name=valar

Id=2

name=Akshaya

constructor:

will be called only object creation

class name and function name is same

don’t return type

but it take arguments

use:

to initialize the values of variable for particular object creation time

type:

default constructor – constructor without args

parameterized constructor – constructor with arguments

**default constructor**

// Online Java Compiler

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import java.util.Scanner;

class student{

int id;

String name;

student(){

Scanner sc = new Scanner(System.in);

System.out.println("Enter Id=");

id = sc.nextInt();

System.out.println("Enter Name=");

name = sc.next();

}

void display(){

System.out.println("Id="+id);

System.out.println("name="+name);

}

}

class HelloWorld {

public static void main(String[] args) {

student s1 = new student();

student s2=new student();

s1.display();

s2.display();

}

}

Output:

Enter Id=01

Enter Name=valar

Enter Id=02

Enter Name=Akshaya

Id=1

name=valarId=2

name=Akshaya

**parameterized constructor:**

import java.util.Scanner;

class student{

int id;

String name;

student(int no, String names){

id=no;

name=names;

}

void display(){

System.out.println("Id="+id);

System.out.println("name="+name);

}

}

class parameterized{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter Id=");

int id = sc.nextInt();

System.out.println("Enter Name=");

String name = sc.next();

student s1 = new student(id,name);

s1.display();

}

}

**This keyword:**

* To refer particular object reference
* When arg in function and class variable are having same name, then to differentiate we can use this keyword

Eg:

import java.util.Scanner;

class student{

int id;

String name;

student(int id,String name){

this.id=id;

this.name=name;

}

void display(){

System.out.println("Id="+id);

System.out.println("name="+name);

}

}

class parameterized{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter Id=");

int id = sc.nextInt();

System.out.println("Enter Name=");

String name = sc.next();

student s1 = new student(id,name);

s1.display();

}

}

Array of objects:

import java.util.Scanner;

class student{

int id;

String name;

student(int id, String name){

this.id=id;

this.name=name;

}

void display(){

System.out.println("Id="+id);

System.out.println("name="+name);

}

}

class parameterized{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

student s[] = new student[2];

for(int i=0;i<s.length;i++){

System.out.println("----------- the student "+(i+1)+" Details --------------");

System.out.println("Enter Id=");

int id = sc.nextInt();

System.out.println("Enter Name=");

String name = sc.next();

s[i]=new student(id,name);

}

for(int i=0;i<s.length;i++){

s[i].display();

}

}

}

----------- the student 1 Details --------------

Enter Id=1

Enter Name=valar

----------- the student 2 Details --------------

Enter Id=

2

Enter Name=anitha

Id=1

name=valar

Id=2

name=anitha

---------- runtime student count----

import java.util.Scanner;

class student{

int id;

String name;

student(int id, String name){

this.id=id;

this.name=name;

}

void display(){

System.out.println("Id="+id);

System.out.println("name="+name);

}

}

class parameterized{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter how many stuednt:");

int no = sc.nextInt();

student s[] = new student[no];

for(int i=0;i<s.length;i++){

System.out.println("----------- the student "+(i+1)+" Details --------------");

System.out.println("Enter Id=");

int id = sc.nextInt();

System.out.println("Enter Name=");

String name = sc.next();

s[i]=new student(id,name);

}

for(int i=0;i<s.length;i++){

s[i].display();

}

}

}

o/p:

Enter how many stuednt:

2

----------- the student 1 Details --------------

Enter Id=1

Enter Name=valar

----------- the student 2 Details --------------

Enter Id=2

Enter Name=anitha

Id=1

name=valarId=2

name=anitha

task:

Write a java program to create a student class and have id,name,tamil,English,maths,social,science,total,percentage variable and result method to calculate total and percentage.

Note:use constructor for initialize the variable values

import java.util.Scanner;

class Student{

    double Tamil, English, Maths, Science, Social, Total, Perc;

    Student(){

        Scanner sc= new Scanner(System.in);

        System.out.print("Enter your Tamil marks:");

        Tamil =sc.nextDouble();

         System.out.print("Enter your English marks:");

        English =sc.nextDouble();

         System.out.print("Enter your Maths marks:");

        Maths=sc.nextDouble();

         System.out.print("Enter your Science marks:");

        Science=sc.nextDouble();

         System.out.print("Enter your Social marks:");

        Social=sc.nextDouble();

    }

    void result(){

        Total=Tamil+English+Maths+Science+Social;

        System.out.println("Your total is "+Total);

        Perc=Total/5;

        System.out.println("Your percentage is "+Perc+"%");

    }

}

public class mainclass{

    public static void main(String args[]){

        Student s1 = new Student();

        s1.result();

    }

}