JavaClass18

Constructors:

Constructor help us give initial values to the fields of a

class.

Why we should use a constructor:

1)Constructors help us write cleaner code.

2)Constructors give us more control over the values that an end user can

assign to the field of a class.

Syntax of Constructor:

Access modifier className (parameters){

}

Class Dog{

String name;

public Dog(String dogName){

name=dogName;

}

}

package class18;

public class Animal {

protected String name;

String breed;

int age;

double weight;

void printInfo(){

String name="now this will be printed";

System.out.println("name "+this.name+" Breed "+breed+" age "+age+" Weight "+weight);

}

}

package class18;

public class Car{

//Common class has many names like parent class super class

String model;

String make;

int year;

String color;

int topSpeed;

double price;

// if a field or method has private access modifier in parent class child classes can't use it.

private String engineType;

void printCarDetails(){

System.out.println("Model "+model+" Make "+make+" Color "+color);

}

}

class BMW extends Car{

// Child classes base classes

double engineCC;

}

class Tesla extends Car{

}

class Toyota extends Car{

double engineCC;

}

class CarTester{

public static void main(String[] args) {

BMW bmw=new BMW();

bmw.make="BMW";

bmw.color="Black";

bmw.model="x8";

bmw.engineCC=200;

bmw.printCarDetails();

}

package class18;

public class Cat extends Animal{

double height;

public Cat(String catName,String catBreed

){

name=catName;

breed=catBreed;

}

public Cat(String catName,String catBreed,

int catAge,double catWeight){

name=catName;

breed=catBreed;

age=catAge;

weight=catWeight;

}

public void printInfo(){

System.out.println("Name "+name+ " Breed "+breed+

" age "+age+" Weight "+weight);

}

}}

package class18;

public class CatTester {

public static void main(String[] args) {

Cat cat=new Cat("kitty",

"Dsh",10,4);

cat.printInfo();

Cat cat2=new Cat("Chinki","Leo");

cat2.printInfo();

}

}

package class18;

public class Dog extends Animal {

String color;

double height;

public Dog(String name, String breed, String color, int age, double weight) {

this.name = name;

this.breed = breed;

this.color = color;

this.age = age;

this.weight = weight;

}

public Dog(String name, String breed, String color, int age, double weight, double height) {

/\* this.name = name;

this.breed = breed;

this.color = color;

this.age = age;

this.weight = weight;\*/

this(name, breed, color, age, weight);

this.height = height;

//break till 1:30

}

}

package class18;

public class Horse extends Animal{

public Horse(String name,String breed,int age,double weight){

this.name=name;

this.breed=breed;

this.age=age;

this.weight=weight;

}

public static void main(String[] args) {

Horse horseObject=new Horse("Sprit","Stallion",20,400);

horseObject.printInfo();

}

}

package class18;

public class Student {

/\*

Write a java Class Students that have a constructor which takes students name and 3 subject grades.

Inside your class also have a method to Calculate Average Grade. Test Student class for 5

different students with different marks. Your program should print an average mark of each students name.

NOTE: please use different names for instance and local variables.

\*/

String name;

double subj1;

double subj2;

double subj3;

Student(String studentName,double sub1,double sub2,double sub3){

name=studentName;

subj1=sub1;

subj2=sub2;

subj3=sub3;

}

void calculatePrintAvgGrade(){

System.out.println(name+" "+(subj1+subj2+subj3)/3);

}

public static void main(String[] args) {

new Student("Sabah",99,98,97.5).calculatePrintAvgGrade();

}

// 12:00

}

package class18;

public class Task1 {

/\*

Write a java class that will have a constructor: one with parameters and second without any parameters.

Create a separate Test class where you will execute both of the constructors 1 by 1.

\*/

public Task1(){

System.out.println("Empty");

}

public Task1(String str){

System.out.println("Str = "+str);

}

}

package class18;

public class Task3 {

/\*Write a java class that have 4 constructors with 4 different access levels of

constructors(private,public,default,protected) and create 4 objects of this

class: 1 - inside same class; 2 - from outside the class; 3 - from different class inside different package

and observe result.

\*/

private Task3(){

System.out.println("private");

}

Task3(String name){

System.out.println("Default");

}

protected Task3(int age){

System.out.println("protected");

}

public Task3(boolean isTrue){

System.out.println("public");

}

public static void main(String[] args) {

new Task3();

new Task3("Thank you Lubna");

new Task3(10);

new Task3(true);

}

}

package class18;

public class Task3Tester {

public static void main(String[] args) {

// new Task3(); because it private

new Task3("Thank you Lubna");

new Task3(10);

new Task3(true);

}

}

package class18;

public class Task4 {

/\*

//Write program that have static constructor and observe result

\*/

Task4(){

}

void print(){

}

void print2(){

}

public static void main(String[] args) {

Task4 task4=new Task4();

task4.print();

task4.print2();

}

}

package class18;

public class ThisKeywordDemo {

String str="Red";

void print(){

String str="Blue";

System.out.println(this.str);

System.out.println(str);

}

public static void main(String[] args) {

new ThisKeywordDemo().print();

}}