

**(Established under the Presidency University Act, 2013 of the Karnataka Act 41 of 2013)**

**Course Code : CSE1006 Course Title : Problem solving using java**

1. A Class Instructor wants to develop a an application to store several students marks in CA1.
2. Create an integer array and assign values
3. Print student CA1 marks from the array

import java.util.Scanner;

class OneDimArray

{

public static void main(String args[])

{

int marks[]={7,9,8,6,5}; // create array and intialize

System.out.println("array contains ");

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

System.out.println(marks[i]);

}

}

}

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// rewrite the above program by reading marks dynamically from keyboard using Scanner class methods.

import java.util.Scanner;

class OneDimArray1

{

public static void main(String args[])

{

int marks[]=new int[5];

Scanner sc=new Scanner(System.in);

System.out.println("enter CA1 marks of 5 students");

for(int i=0;i<5;i++){

marks[i]=sc.nextInt();

}

System.out.println("array contains ");

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

System.out.println(marks[i]);

}

}

}

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// rewrite the above program by reading the size of the array dynamically form key board.

import java.util.Scanner;

class OneDimArray2

{

public static void main(String args[])

{

int marks[]; // declaration of an array

int i,size;

Scanner sc=new Scanner(System.in);

System.out.println("enter size of the arrays");

size=sc.nextInt();

marks=new int[size]; // construction of an array

System.out.println("enter CA1 marks of "+size+" students");

for(i=0;i<size;i++){

marks[i]=sc.nextInt();

}

System.out.println("array contains ");

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

System.out.println(marks[i]);

}

}

}

=================

// rewrite the above program using for-each loop for printing.

// replace printing logic in above program using for each loop

System.out.println("array contains "); // print using for each loop

for(int j:marks){

System.out.println(j);

}

}

}

==============

Activity for students:

Define the below array and print using traditional for loop and for each loop.

1. double salary[] = {75000.00, 85000.00,90000.00 };
2. float temp[]={28.5f, 29.4f, 30.1f,31.4f,32.9f};

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// demo of float array to store one week temperatures, calculate average temperature by passing an array to a method

import java.util.Scanner;

class ArrAvg

{

static double average(double temp[]){

double sum=0;

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

sum=sum+temp[i];

}

return(sum/temp.length);

}

public static void main(String args[])

{

double [] temp; // array reference variable

temp=new double[7]; // create physical array in memory

// double temp[]=new double[7];

Scanner sc = new Scanner(System.in);

System.out.println("enter one week temperatures ");

for(int i=0;i<temp.length;i++) // i=0,1,2,3,4

{

temp[i]= sc.nextDouble();

}

System.out.println("array contains ");

for(int i=0;i<temp.length;i++) // i=0,1,2,3

{

System.out.println(temp[i]);

}

System.out.println("average of array is "+ArrAvg.average(temp));

}

}

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import java.util.Scanner;

public class Employee{

  String name;

  int empid;

  double salary,tax;

public void readData(){

  Scanner sc=new Scanner(System.in);

   System.out.println("enter employee name, id and salary");

   name=sc.next();

   empid=sc.nextInt();

   salary=sc.nextFloat();

}

private void calculateTax(){

    if(salary<=50000)

      tax=salary\*5/100;

    else

      tax=salary\*7/100;

}

public void printData()

{

    System.out.println("Employee Details are ");

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

    System.out.println("employee id is "+empid );

    System.out.println("salary is "+salary );

    System.out.println("tax is "+tax);

}

public static void main(String args[]){

Employee emp[]=new Employee[5]; // declaration of array of objects

int i;

for(i=0;i<5;i++) {

  emp[i]=new Employee();   // allocating memory for array of objects

}

for(i=0;i<5;i++) {

emp[i].readData();

emp[i].calculateTax();

}

for(i=0;i<5;i++) {

emp[i].printData();

}

}

}

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Activity : Students can practice array of object programs from module-2 lab sheet. Entire class, instance variables & methods declaration are same, only change can be observed in main() method.

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