**Question**

1)import java.util.Scanner;

public class ArrayChallange

{

public static Scanner scanner= new Scanner(System.in);

public static void main(String args[]){

int[] myIntArray = getIntegers(5);

printArray(myIntArray);

System.out.println("Average is "+getAverage(myIntArray));

}

public static int[] getIntegers(int number){

System.out.println("Please Enter "+number+" integer values");

int intArray[] = new int[number];

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

intArray[i] = scanner.nextInt();

}

return intArray;

}

public static void printArray(int[] intArray){

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

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

}

}

public static double getAverage(int[] intArray){

int sum = 0;

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

sum += intArray[i];

}

return (double) sum / (double) intArray.length;

}

}

2)import java.util.Scanner;

public class ArraySorting {

public static Scanner scanner= new Scanner(System.in);

public static void main(String args[])

{

int[] myIntArray = getIntegers(5);

sortArray(myIntArray);

printArray(myIntArray);

}

public static int[] getIntegers(int number)

{

System.out.println("Please Enter "+number+" integer values");

int intArray[] = new int[number];

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

intArray[i] = scanner.nextInt();

}

return intArray;

}

public static void printArray(int[] intArray){

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

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

}

}

public static void sortArray(int[] intArray){

boolean flag = true;

while(flag){

flag= false;

for(int i=0; i< intArray.length-1; i++){

if(intArray[i] <= intArray[i+1]){

int temp = intArray[i];

intArray[i] = intArray[i+1];

intArray[i+1] = temp;

flag = true;

}

}

}

}

}

3) import java.util.Arrays;

public class ArrayContains {

public static void main(String args[]){

int[] myIntArray = {43,32,53,23,12,34,3,12,43,32};

int number = 362;

Arrays.sort(myIntArray);

if(Arrays.binarySearch(myIntArray, number) >= 0){

System.out.println("Number "+number+" is present in array.");

}else{

System.out.println("Number "+number+" not found in array.");

}

}

}

4) import java.util.Arrays;

public class ArrayReverse {

public static void main(String args[]) {

int[] myIntArray = { 43, 32, 53, 23, 12, 34, 3, 12, 43, 32 };

System.out.println("Original Array " + Arrays.toString(myIntArray));

// Reverse Array

int temp;

int ArraySize = myIntArray.length;

for (int i = 0; i < (ArraySize / 2); i++) {

temp = myIntArray[i];

myIntArray[i] = myIntArray[ArraySize - (i + 1)];

myIntArray[ArraySize - (i + 1)] = temp;

}

System.out.println("Reversed Array " + Arrays.toString(myIntArray));

}

}

5) public class ArrayRemove {

public static void main(String args[]) {

int[] myIntArray = { 12, 13, 14, 15, 16 };

System.out.println("Original Array " + Arrays.toString(myIntArray));

int index = findIndexOf(myIntArray, 14);

int[] newIntArray = removeElement(myIntArray, index);

System.out.println("New Array " + Arrays.toString(newIntArray));

}

public static int[] removeElement(int[] intArray, int index) {

int[] myNewArray = new int[intArray.length - 1];

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

myNewArray[i] = intArray[i];

}

for (int i = index + 1; i < intArray.length; i++) {

myNewArray[i - 1] = intArray[i];

}

return myNewArray;

}

public static int findIndexOf(int[] intArray, int element) {

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

if (intArray[i] == element)

return i;

}

return -1;

}

6) public class ArraySecondHighest {

public static void main(String args[]) {

int[] myIntArray = { 12, 13, 14, 15, 16, 89, 23, 1, 90, 100 };

Arrays.sort(myIntArray);

System.out.println("Second Highest "

+ myIntArray[myIntArray.length - 2]);

}

}

7) public class ArrayCopy {

public static void main(String args[]) {

String[] myStringArray = { "Alice", "Bob", "Tim", "John", "Denice" };

System.out.println("Array " + Arrays.toString(myStringArray));

String[] newStringArray = Arrays.copyOf(myStringArray, myStringArray.length);

System.out.println("Copied Array " + Arrays.toString(newStringArray));

}

}

8) import java.util.Arrays;

public class ArrayRandomValues {

public static void main(String args[]) {

int[] myIntArray = new int[100];

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

myIntArray[i] = (int) (Math.random() \* 100);

}

System.out.println(Arrays.toString(myIntArray));

double[] myDoubleArray = new double[100];

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

myDoubleArray[i] = Math.random() \* 100;

}

System.out.println(Arrays.toString(myDoubleArray));

}

}

9) public class findDuplicate {

public static void main(String args[]) {

String[] myStringArray = { "Alice", "Bob", "Tim", "John", "Tim",

"Denice" };

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

String toCompare = myStringArray[i];

for (int j = i + 1; j < myStringArray.length; j++) {

if (toCompare.equals(myStringArray[j])) {

System.out.println("Duplicate Name " + toCompare);

}

}

}

}

}