[4:48 PM, 1/22/2022] Vijay Agrahari: Java Lecture 10

**Java - Introduction to Programming**

Lecture 10

**Arrays In Java**

**Arrays in Java are like a list of elements of the same type i.e. a list of integers, a list of booleans etc**.

**Creating an Array (method 1) - with new keyword**

int[] marks = new int[3]; // initialization of an Array

marks[0] = 97;

marks[1] = 98;

marks[2] = 95;

**Creating an Array (method 2)**

int[] marks = {98, 97, 95};

**Taking an array as an input and printing its elements.**

import java.util.\*;

public class Arrays {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

int size = sc.nextInt();

int numbers[] = new int[size];

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

numbers[i] = sc.nextInt();

}

**//print the numbers in array**

…

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marks[0] = 97;

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import java.util.\*;

public class Arrays {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

int size = sc.nextInt();

int numbers[] = new int[size];

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

numbers[i] = sc.nextInt();

}

//print the numbers in array

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

System.out.print(numbers[i]+" ");

}

}

}

**Homework Problems**

**Take an array of names as input from the user and print them on the screen.**

import java.util.\*;

public class Arrays {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

int size = sc.nextInt();

String names[] = new String[size];

//input

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

names[i] = sc.next();

}

//output

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

System.out.println("name " + (i+1) +" is : " + names[i]);

}

}

}

**Find the maximum & minimum number in an array of integers.**

[HINT : Read about Integer.MIN\_VALUE & Integer.MAX\_VALUE in Java]

import java.util.\*;

public class Arrays {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

int size = sc.nextInt();

int numbers[] = new int[size];

//input

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

numbers[i] = sc.nextInt();

}

int max = Integer.MIN\_VALUE;

int min = Integer.MAX\_VALUE;

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

if(numbers[i] < min) {

min = numbers[i];

}

if(numbers[i] > max) {

max = numbers[i];

}

}

System.out.println("Largest number is : " + max);

System.out.println("Smallest number is : " + min);

}

}

Take an array of numbers as input and check if it is an array sorted in ascending order.

Eg : { 1, 2, 4, 7 } is sorted in ascending order.

**{3, 4, 6, 2} is not sorted in ascending order.**

import java.util.\*;

public class Arrays {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

int size = sc.nextInt();

int numbers[] = new int[size];

//input

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

numbers[i] = sc.nextInt();

}

boolean isAscending = true;

for(int i=0; i<numbers.length-1; i++) { // NOTICE numbers.length - 1 as termination condition

if(numbers[i] > numbers[i+1]) { // This is the condition for descending order

isAscending = false;

}

}

if(isAscending) {

System.out.println("The array is sorted in ascending order");

} else {

System.out.println("The array is not sorted in ascending order");

}

}

}

Apna College