**Chandigarh University**

**University Institute of Computing**

**Assignment-I**

**Subject Code: CAT-751 Subject Name: Advanced Java Programming**

**Group No-: II**

**Assignment Announced: 17-01-2018  
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Q1. Write a program to initialize an integer array and find the maximum and minimum value of an array

Ans: class MinMaxExample {

public static void main(String args[]){

int array[] = new int[]{10, 11, 88, 2, 12, 120};

// Calling getMax() method for getting max value

int max = getMax(array);

System.out.println("Maximum Value is: "+max);

// Calling getMin() method for getting min value

int min = getMin(array);

System.out.println("Minimum Value is: "+min);

}

// Method for getting the maximum value

public static int getMax(int[] inputArray){

int maxValue = inputArray[0];

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

if(inputArray[i] > maxValue){

maxValue = inputArray[i];

}

}

return maxValue;

}

// Method for getting the minimum value

public static int getMin(int[] inputArray){

int minValue = inputArray[0];

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

if(inputArray[i] < minValue){

minValue = inputArray[i];

}

}

return minValue;

}

}

**Output:**

Maximum Value is: 120

Minimum Value is: 2

Q2;

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| --- | --- |
| **String/String Buffer** | Given a string and an int n, return a string made of n repetitions of the last n characters of the string. You may assume that n is between 0 and the length of the string, inclusive. For example if the inputs are “Wipro” and 3, then the output should be “propropro”. |

Ans:

import java.util.\*;

import java.lang.\*;

import java.io.\*;

class Ideone

{

public static void main (String[] args) throws java.lang.Exception

{

Scanner scanner = new Scanner(System.in);

String a = scanner.next();

String b = scanner.next();

if(a.length() > b.length())

System.out.println(b+a+b);

else

System.out.println(a+b+a);

}

}

Q3:

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| --- | --- |
| **String/String Buffer** | **You are appoint as Computer Programmer in Cameron Hotel, Chandigarh. A task is given to you for generate a WiFi password for new customer who book a room in a hotel. A customer registration will contains Customer First Name and Room No. Instructions for generating a WiFi password as:**   * + 1. Your password is of 6 digits long only.     2. Unit digit will be alphabet character (lower case) that will calculated by the length of customer first name.     3. Tenth digit will be sum of customer room no.     4. Hundreds digit will be special character (! ,@,#,$,%,^,&,\*,(,) ) calculate by the length of Room No.     5. Thousands unit will be numeric calculated on basis of sum of room number as follows.        1. If sum is odd, then same number will be allocated        2. If sum is even, then add one digit to the result.   **Example: Customer Name: James Gosling, Room No: 312**  **WiFi Password:7^6e** |

Ans: import java.util.\*;

class Wifi

{

public static void main(String arg[])

{

Scanner sc = new Scanner(System.in);

System.out.print("Enter First Name : ");

String name=sc.next();

System.out.print("Room Number : ");

int room=sc.nextInt();

int n = name.length();

int th;

char c=' ';

char d=' ';

char ch[] = {'a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q','r','s','t','u','v','w','x','y','z'};

for( int i =0;i<n;i++)

c= ch[n-1];

int sum =0,m;

while(room > 0)

{

m = room % 10;

sum = sum + m;

room = room/10;

}

char ch1[] = {'!' ,'@','#','$','%','^','&','\*','(',')'};

for( int i =0;i<n;i++)

{

d= ch1[sum-1];

}

if(sum%2==0)

th = sum+1;

else

th = sum;

String s= c+""+sum+""+d+""+th;

StringBuffer b= new StringBuffer(s);

b.reverse();

System.out.print(b);

}

}

**Output :-**

Enter First Name : James

Room Number : 312

**7^6e**

Enter First Name : James

Room Number : 312

**5%5h**

**Q4:**

|  |  |
| --- | --- |
| **Exception Handling** | Write a program that takes as input the size of the array and the elements in the array. The program then asks the user to enter a particular index and prints the element at that index.  This program may generate Array Index Out Of Bounds Exception. Use exception handling mechanisms to handle this exception. In the catch block, print the class name of the exception thrown.  Sample Input and Output 1:  Enter the number of elements in the array  3  Enter the elements in the array  20  90  4  Enter the index of the array element you want to access  2  The array element at index 2 = 4  The array element successfully accessed  Sample Input and Output 2:  Enter the number of elements in the array  3  Enter the elements in the array  20  90  4  Enter the index of the array element you want to access  6  java.lang.ArrayIndexOutOfBoundsException |

Ans:import java.io.\*;

import java.lang.\*;

class Reverse1 {

public static void main(String args[]) throws IOException {

int a[]=new int[25];

int num=0,i=0;

BufferedReader br=new BufferedReader(new InputStreamReader(System.in));

System.out.println("Enter the Number of element");

num=Integer.parseInt(br.readLine());

System.out.println("Enter the array");

for(i=1;i<=num;i++) {

a[i]=Integer.parseInt(br.readLine());

}

for(i=num;i>=1;i--) {

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

}

}

}

Q5

|  |  |
| --- | --- |
| **Packages** | Create a class called compartment which represents the ship compartments for watertight subdivision its height, width and breadth.  Take care it should not conflict with the compartment class you have created in Abstract class exercise 2.  To avoid conflict create this class in a new package called com.wipro.automobile.ship |

Ans: Package com.automobile

Public abstract class vehicle

{

public abstract String getModelName();

public abstract String getRegistrationNumber();

public abstract String getOwnerName();

}

Package com.automobile TwoWheeler;

Public class Hero extends com.automobile.vehicle

{

Public int getspeed()

{

Return 80;

}

Public void radio()

{

System.out.println(“playing fm”);

}

}

Public class Honda extends com.automobile.vehicle

{

Public int getspeed()

{

Return 60;

}

Public void cdplayer()

{

System.out.println(“playing music”);

}

}