HTC JAVA FULLSTACK ASSESSMENT PROGRAM

1.Consider an email id in the format [firstname.lastname@xyz.com,and](mailto:firstname.lastname@xyz.com,and) write a program to print the first letter of the first name and first letter of the last name in uppercase.

**package** problems;

**public** **class** emailid {

**public** **static** **void** printemailid(String s) {

**int** a=s.length();

String b = "";

**for**(**int** i=0;i<a;i++) {

**char** c = s.charAt(i);

**if**(c!=' ') {

b= b+c;

}

**else** {

System.***out***.print(Character.*toUpperCase*(b.charAt(0)));

b="";

}

}

String temp="";

**for**(**int** j=0;j<b.length();j++) {

**if**(j==0)

temp=temp+Character.*toUpperCase*(b.charAt(0));

}

System.***out***.println(temp);

}

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

String s= "cristiano.ronaldo@xyz.com";

*printemailid*(s);

}

}

2.Write a program to find if a matrix is symmetric. Print yes is the matrix is symmetric, else print no.

**package** problems;

**import** java.util.Scanner;

**public** **class** matrix {

**public** **static** **void** main(String[] args) {

System.***out***.println("Enter the number of rows and columns:");

Scanner sc = **new** Scanner(System.***in***);

**int** a = sc.nextInt();

**int** b = sc.nextInt();

**int** mat[][] = **new** **int**[a][b];

System.***out***.println("Enter the elements:");

**for**(**int** i=0;i<a;i++) {

**for**(**int** j=0;j<b;j++) {

mat[i][j] = sc.nextInt();

}

}

System.***out***.println("the matrix are:");

**for**(**int** i=0;i<a;i++)

{

**for**(**int** j=0;j<b;j++) {

System.***out***.print(mat[i][j]+"\t");

}

System.***out***.println();

}

**if**(a!=b) {

System.***out***.println("Non Symmetric matrix");

}

**else**

{

**boolean** symmetric = **true**;

**for**(**int** i=0;i<a;i++) {

**for**(**int** j=0;j<b;j++)

{

**if**(mat[i][j]!= mat[j][i])

{

symmetric = **false**;

**break**;

}

}

}

**if**(symmetric) {

System.***out***.println("YES");

}

**else**

{

System.***out***.println("NO");

}

}

sc.close();

}

}

3. The xyz company has N number of emloyees, if the name of the employees is in the format of Ana or Hanah, they are special names. Print the count of the special names in xyz company.

**package** problems;

**public** **class** specialnames {

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

String[] empnames = {"Ana", "Bob","Hannah","Eve","Hanan"};

**int** specialname = 0;

**for**(String name : empnames) {

String lowerCasename = name.toLowerCase();

**if**(lowerCasename.equals("ana")|| lowerCasename.equals("hanah")) {

specialname++;

}

}

System.***out***.println(specialname);

}

}

4. Print a given input string in the title case.

**package** problems;

**public** **class** inputstring {

**public** **static** **void** main(String[] args) {

String s = "welcome to revature";

**char**[] charArray = s.toCharArray();

**boolean** b = **true**;

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

**if**(Character.*isLetter*(charArray[i])) {

**if**(b) {

charArray[i] = Character.*toUpperCase*(charArray[i]);

b = **false**;

}

}

**else** {

b = **true**;

}

}

s = String.*valueOf*(charArray);

System.***out***.println(s);

}

}

5.Write a program to print the multiplies of the number at the first index in an array.

**package** problems;

**import** java.util.Scanner;

**public** **class** Multipliesofnumber {

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

Scanner sc=**new** Scanner(System.***in***);

**int** size = sc.nextInt();

**int**[] arr = **new** **int**[size];

System.***out***.println("Enter the elements of array:");

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

arr[i] = sc.nextInt();

}

**for**(**int** i=1;i<size;i++) {

**if**(arr[i]%arr[0]==0) {

System.***out***.println(arr[i]+"");

}

}

sc.close();

}

}

6. Write a program to print the perfect squares in the input array.

**package** problems;

**import** java.util.Scanner;

**public** **class** perfectsquare {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

**int** n = sc.nextInt();

**int**[] arr = **new** **int**[n];

System.***out***.println("Enter the elements of array:");

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

arr[i]=sc.nextInt();

}

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

**if**(*isPerfectsquare*(arr[i])) {

System.***out***.println(arr[i]+"");

}

}

sc.close();

}

**public** **static** **boolean** isPerfectsquare(**int** numbers) {

**int** sqrt = (**int**)Math.*sqrt*(numbers);

**return** (sqrt\*sqrt == numbers);

}

}

7. The xyz company has a N number of employees. If the employee name is the least common, that name is rare. Find the rare name in xyz company(print only one name).

package problems;

import java.util.HashMap;

import java.util.Map;

public class rarename {

public static void main(String[] args) {

String[] empnames = {"Jake", "Jane", "Jake", "Alex", "Jane", "Alex", "Albert"};

Map<String, Integer> namecounts = new HashMap<>();

for(String name : empnames) {

namecounts.put(name, namecounts.getOrDefault(name, 0)+1);

}

String rarename = null;

int mincount = Integer.MAX\_VALUE;

for(Map.Entry<String, Integer> entry : namecounts.entrySet()) {

if(entry.getValue()< mincount) {

rarename = entry.getKey();

}

}

System.out.println(rarename);

}

}

8. A string is sent in an encrypted format, each character should be shifted by a key value to reveal their secret message.

**package** problems;

**import** java.util.Scanner;

**public** **class** encrypt {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

String S = sc.nextLine();

**int** K = sc.nextInt();

//decrypt

StringBuilder decrypt = **new** StringBuilder();

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

**char** encryptChar = S.charAt(i);

**int** decryptCharValue = encryptChar + K;

**char** decryptedChar = (**char**) decryptCharValue;

decrypt.append(decryptedChar);

}

System.***out***.println(decrypt.toString());

}

}

9. Write a program to find the Nth smallest element in an array.

**package** problems;

**import** java.util.Arrays;

**public** **class** Nthelement {

**public** **static** **int** smallest(Integer[] arr, **int** N){

Arrays.*sort*(arr);

**return** arr[N-1];

}

**public** **static** **void** main(String[] args) {

{

Integer arr[] = **new** Integer[] {1,12,4,7,9};

**int** N = 3;

System.***out***.println(*smallest*(arr,N));

}

}

}

10. jhon and Jacob are playing dice game, if the number rolled is even, jhon gets a point, if the number rolled is odd Jacob gets a point. Print who won at the end of N games. If it’s a tie print tie.

**package** problems;

**import** java.util.Scanner;

**public** **class** Dice {

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

Scanner sc = **new** Scanner(System.***in***);

**int** n = sc.nextInt();

**int** jhonscore = 0;

**int** jacobscore = 0;

**int** tie;

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

**int** diceroll = r.nextInt(6)+1;

**if**(diceroll % 2 ==0) {

jhonscore++;

}

**else** {

jacobscore++;

}

}

**if**(jhonscore>jacobscore) {

System.***out***.println(jhonscore);

}

**else** **if**(jacobscore > jhonscore) {

System.***out***.println(jacobscore);

}

**else** {

System.***out***.println(tie);

}

}

}