**Q.No: 1**

Write a java program to create an application that calculates the salary of employees based on their job title. The program should have a superclass called **Employee** with a method **calculateSalary()** that returns the basic salary. There should be two subclasses called **Manager** and **Engineer** which override the calculateSalary() method to add a bonus or overtime pay to the basic salary.

The program should prompt the user to enter the details of a Manager and an Engineer, including their name, basic salary, and either bonus or overtime pay.

The program should then create objects of the Manager and Engineer classes and call their respective calculateSalary() methods. Finally, the program should display the calculated salaries for both employees.

**Input Format**

The program takes user input through standard input. The user is prompted to enter the following information:

1. Manager name
2. Manager basic salary
3. Manager bonus
4. Engineer name
5. Engineer basic salary
6. Engineer overtime pay

The input is provided in the order listed above, with each value on a separate line.

**Output Format**

The program outputs the calculated salaries for the manager and engineer. The output is printed to the standard output in the following format:

Manager Salary: <manager\_salary>

Engineer Salary: <engineer\_salary>

Where <manager\_salary> and <engineer\_salary> are the calculated salaries for the manager and engineer, respectively. The salaries are rounded to two decimal places.

**Sample Input:**

John Doe

50000

10000

Jane Doe

40000

5000

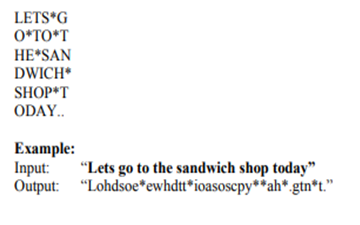
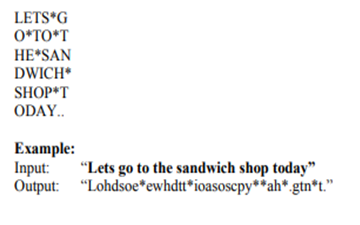
**Sample Output:**

Manager Salary: 60000.0

Engineer Salary: 45000.0

**Q.No: 2**

A secret code encrypts a message by putting it in an array and reading down the columns (blanks are replaced by asterisks and full stops are added to fill up the array). Write a program that encrypts an input string.

**Input Format**

The input consists of a string.

**Output Format**

The output prints the encoded string.

**Sample Input**

Lets go to the sandwich shop today

**Sample Output**

Lohdsoe\*ewhdtt\*ioasoscpy\*\*ah\*.gtn\*t.

**Q.No: 3**

Manoj is working as a ticket checker in sathyam cinemas. Due to overcrowding, everyone is asked to form a queue. so people who came together got separated in the queue. People who came together are considered to be a single group. Always assume that the person of each group who is standing first in the queue holds the ticket. You have to check the ticket of each person and make sure all the members of his group enter the screen along with him.

For example,

Imagine **"abcaaubcc"** as a queue and each alphabet represents a person standing in queue. People of same group are represented using same alphabet.

The first person you will be checking is **"a".** You have to allow all the people of group "**a".** Then the list will be like this "**aaabcubcc"**

The next person you will be checking is **"b"** now the list will be updated as **"aaabbcucc".** After checking c list will be **"aaabbcccu".** Then after checking "**u**" the list will be same as "**aaabbcccu**"

**Note:** People of same group will be represented using same alphabet character. Also only small case letters will be used.

**Input Format**

A series of Alphabet characters representing the persons standing in a queue.

**Output Format**

The series of Alphabet characters representing the people in the order they went inside movie hall.

**Sample Input**

abcaaubcc

**Sample Output**

aaabbcccu

**Q.No: 4**

Write a program to find the smallest and largest word in the given string.

**Input Format**

The first line of the input consists of strings.

**Output Format**

The output prints the smallest and largest word in the sentence.

**Sample Input**

an apple for a day

**Sample Output**

Smallest word: a

Largest word: apple

**Sample Input**

WELCOME TO INDIA

**Sample Output**

Smallest word: TO

Largest word: WELCOME

**Q.No: 5**

Write a program to remove consecutive vowels from a string.

**Input Format**

Input to get a string.

**Output Format**

the output displays the string after removing consecutive vowels from it.

**Sample Input**

cool

**Sample Output**

col