Assignment: Day 8

Question1:

Create an interface Hotel with the following 2 methods:

```
void chickenBiryani();
void masalaDosa();
```

Create following 2 concrete implemented classes of the above Hotel interface

1. TajHotel
2. RoadSideHotel

Inside the TajHotel class define one another specific method :

```
public void welcomeDrink(){
System.out.println("Welcome Drink from the TajHotel");
}
```

Create a Demo class and inside the Demo class define a method as follows:

```
public Hotel provideFood(int amount)
```

Implement the above method as follows:

//write the logic if the supplied amount is more than 1000
//then return the object of TajHotel class
//if the supplied amount is greater than 200 and less than 1000
//then return the object of RoadSideHotel class

From the main method of the Demo class, call the **provideFood** method by taking input from the user.

If the user supplies the valid amount then call all the methods of the respected classes otherwise print the message: **Please Enter a valid amount;**

Question2:

Define an interface X with:

- one abstract method
- one default method
- one static method

Define an interface Y with:

- one abstract method
- one default method
- one static method

Define another interface Z which extends both the interfaces X and Y:

And place another abstract method inside this Z interface.

Create a class **ZImpl** as the implementation of the Z interface.

from the main method of the Demo class call the methods of interface X, Y, Z.

Note: default method of X should be overridden whereas the default method of Y should not be overridden inside the implementation class.

Question 3:

Create a Java class with a single method that can accept the name of a Mobile company and any number of its model names.

inside the method print the mobile Company name and all its supplied models.

Note: The user can supply any number of model names, even the user can supply only the company name without its model also.

Inside the same class initialize an String array with following models:

```
String[] outdatedModels = {"note4","note5","note6","note7"};
```

If user supplied mobile model matches with any of the above outdated models, then print that model name postfix with OUTDATED word example(note4_OUTDATED).

Question 4:

One of the least Insurance agencies recruited employees for their collection department. Now the HR needs a report as the average age of all the employees working in that department. Write a code to calculate the average age.

Implement a method "calculateAverage(int[] age)" to calculate the average age and return the result to the caller function.

Note :

1. Age limit should be minimum of 28 years and maximum of 40 years.
2. Minimum of 2 employees is mandatory to calculate average age, if fails, the output should be "Please enter a valid employee count"
3. If any of the age is invalid, terminate the process and display "Invalid age encountered!"

Refer the sample given for read and display the output.

Sample Input 1:

Enter total no.of employees:

3

Enter the age for 3 employees:

30

31

32

Sample Output 1:

The average age is 31.00

Sample Input 2:

Enter total no.of employees:

2

Enter the age for 2 employees:

29

36

Sample Output 2:

The average age is 32.50

Sample Input 3:

Enter total no.of employees:

1

Sample Output 3:

Please enter a valid employee count