ADNAN MENDERES UNIVERSITY
CSE 203 Object-Oriented Programming

Lab 02

- You should submit **ONLY solutions of Homework**. Submit one project file in zipped format and named project file as ***studentNo_NameSurname_AssignmentX***. X is the number of Lab, for this lab: Assignment2.
- Late submissions are not allowed.
- You should do homework YOURSELF. Group working is not allowed.
- Copy homework will be evaluated as 0.
- DO NOT upload a screenshot or something else.
- Use Google Classroom for your questions. Do not send private messages.

LAB EXAMPLE:

1- Write a java program that replaces a given word with another word in a sentence.
Don't use replace function in java, instead, write your own code.

Example:
```
Inputs:   "Hakkı hakkının hakkını yemiş Hakkı hakkıdan hakkını istemiş
          Hakkı hakkıya hakkını vermeyince hakkı da hakkının hakkından
          gelmiş"

Old Word: hakkı

New Word: ayşe

Output:   "ayşe hakkının hakkını yemiş ayşe hakkıdan hakkını istemiş ayşe
          hakkıya hakkını vermeyince ayşe da hakkının hakkından gelmiş"
```

HOMEWORK

1- Computing Body Mass Index with Menu

Body Mass Index (BMI) is a measure of health based on height and weight. It can be calculated by taking your weight in kilograms and dividing it by the square of your height in meters. The interpretation of BMI for people 20 years or older is as follows:

BMI	Interpretation
BM I< 18.5	Underweight
$18.5 \leq BMI \leq 25.0$	Normal
$25.0 \leq BMI \leq 30.0$	Overweight
$30.0 \leq BMI$	Obese

Write a **program** that prompts the user to enter a weight in pounds and height in inches and displays the BMI and its interpretation. Create a class, named as **HW1.java with main method**. Program should have a menu like:

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```
----------MENU----------

1-    Calculate BMI

2-    Quit

------------------------
```

Program should continue taking inputs and calculating BMI until you pressed "2".

- Note that one pound is 0.45359237 kilograms and one inch is 0.0254 meters.

Sample Run:

```
------------ MENU -----------
1 - Calculate BMI
2 - Quit
---------------------------
Your option?
1
Enter weight in pounds: 146
Enter height in inches: 70
BMI is 20.948603801493316
Normal
```

2- Computing Body Mass Index with 2 Function

In Homework Question1, computing BMI code cannot be reused in other programs, because the code is in the main method. To make it reusable, create **BMI.java class without main method** and define a static 2 method to compute body mass index as follows. BMI.java class contains only 2 method as follows.

```java
public static double calculateBMI(double weight, double height)

public static String interpretBMI(double bmi)
```

calculateBMI method calculates bmi using weight and height. **interpretBMI** method decides interpretation of given bmi according to BMI-Interpretation table above. Create new class with main method and named as **BMItest.java**. Call these two methods in BMItest.java class. Output will be same as Homework question 1.

Sample Run 1:

```
Enter weight in pounds: 146
Enter height in inches: 70
BMI is 20.948603801493316
Normal
```

Sample Run 2:

```
Enter weight in pounds: 215
Enter height in inches: 70
BMI is 30.84897135151413
Obese
```

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