Exercise 1-1$_1$

- The formula for calculating BMI (Body Mass Index):

  BMI = weight (kilograms)

  / height (meters) × height (meters)

- The BMI evaluation methods from the Department of Health and Human Services/National Institutes of Health are:
  - *Underweight: less than 18.5*
  - *Normal: larger than or equal to 18.5 and less than 25*
  - *Overweight: larger than or equal to 25 and less than 30*
  - *Obese: larger than or equal to 30*

Exercise 1-12

- Please create a BMI calculator that reads the user's weight in *kilograms* and height in *centimeters*, then calculates and displays the user's BMI and the evaluation result.
  - Note that a centimeter is defined as 1/100 meters

Example


```
Welcome to the BMI (Body Mass Index) calculator
Please enter your weight (kilograms): 70.5
Please enter your height (centimeters): 180.5
Your BMI is 21.6 (Normal)
```

(70.5和180.5是由使用者自行輸入的；
BMI只顯示到小數點一位，因此顯示21.6；
Normal是根據第一頁的評估規則算出來的)

Problem Solving Tips

- Scanner: https://docs.oracle.com/en/java/javase/17/docs/api/java.base/java/util/Scanner.html
- Java if…else:
  - https://www.w3schools.com/java/java_conditions.asp

Exercise 1-2

- Create a class called Employee that includes three pieces of information as instance variables—a first name (type String), a last name (type String) and a monthly salary (type double).
  - Your class should have a constructor that initializes the three instance variables.
  - Provide a set and a get method for each instance variable. If the monthly salary is not positive, set it to 0.0.
- Write a test application named EmployeeTest that demonstrates class Employee's capabilities. (不須 Scanner)
  - Create two Employee objects and display the yearly salary for each Employee. Then give each Employee a 10% raise and display each Employee's yearly salary again.

Problem Solving Tips

- 1. Class Employee should declare three instance variables.
- 2. The constructor must declare three parameters, one for each instance variable. The value for the salary should be validated to ensure it is not negative.
- 3. Declare a public set and get method for each instance variable.
  - The set methods should not return values and should each specify a parameter of a type that matches the corresponding instance variable (String for first name and last name, double for the salary).
  - The get methods should receive no parameters and should specify a return type that matches the corresponding instance variable.

Example


```
Employee 1: Bob Jones; Yearly Salary: 34500.00
Employee 2: Susan Baker; Yearly Salary: 37809.00
Increasing employee salaries by 10%
Employee 1: Bob Jones; Yearly Salary: 37950.00
Employee 2: Susan Baker; Yearly Salary: 41589.90
```

(在Test類別中的main內創建兩個Employee物件，並給予上面所列的屬性資料，預期顯示出跟上面相同的結果)