

Tutorial 1

Week 2

Object Oriented Development

Section A

1. Define the difference between procedural programming and object-oriented programming?
2. Define Class and Object.
3. Explain the difference between class and object using a simple example of an education institute.
4. List the advantages of using object-oriented concepts in application development.
5. List the Object Oriented principles and define them using a single sentence (DO NOT copy and paste answer, write in your own words!).

Section B – Revision

1. To determine whether a person is overweight or obese a measure called body mass index (BMI) is used. The formulas for calculating BMI are,

$$\text{BMI} = \frac{\text{weightInPounds} \times 703}{\text{heightInInches}^2}$$

Write Java program which reads the user's weight in pounds and height in inches then calculates and displays the user's BMI and result according to the below table.

BMI Value	Result
Less than 18.5	Underweight
Between 18.5 and 24.9	Normal
Between 25 and 29.9	Overweight
30 or greater	Obese

2. What is the value of MathGinie after each of the following statement is performed?
MathGinie is declared as Double data type.

- a. MathGinie= Math.Abs(7.5)
- b. MathGinie= Math.Floor(7.5)
- c. MathGinie= Math.Abs(0.0)
- d. MathGinie= Math.Ceiling(0.0)
- e. MathGinie= Math.Abs(-6.4)
- f. MathGinie= Math.Ceiling(-6.4)
- g. MathGinie= Math.Ceiling(-Math.Abs(-8 + Math.Floor(-5.5)))

3. Write a GUI program will convert a Fahrenheit temperature to Celsius and vice versa. Make sure to perform appropriate exception handling.

`celsius = (fahrenheitInt- 32) * 5/9;`