# BACS2023 Object-Oriented Programming
# Practical #4

**Question 1**

A. Given the **Employee** class as below:

```
public class Employee{
   String name;
   double salary;

   Employee(String employeeName, double currentSalary){
      name = employeeName;
      salary = currentSalary;
   }

   void raiseSalary(double percent){
      salary = salary + (salary * percent / 100.0);
   }
}
```

Write a driver program that creates an **Employee** object and displays his/her salary before and after a salary raise of 8%.

B. (***Access modifiers***) Modify the **Employee** class such that data field encapsulation is applied and the correct visibility modifiers are used. Specifically,

- Make the data fields private.
- Implement setters and getters for each data field.
- All constructors and methods should be declared as public.

Modify your previous driver program accordingly.

C. (***Constructors and constructor overloading***) Add the following constructors to the **Employee** class.

- A no-argument constructor that sets the employee name to an empty string (i.e., "") and the salary field to 0.0.
- A constructor with 1 parameter. This constructor receives a String argument storing a name. The salary field should be set to 0.0.

Implement a driver program that creates 2 **Employee** objects each using a different constructor above. Include statements to:

- Display the employee with a higher salary
- Compute and display the total salary of the 2 employees

**Question 2**

A. Create a class named Student that includes data fields for the student ID, name, number of quizzes taken and a total quiz score. In your class, include the following:
   - A no-arg constructor
   - A constructor with 2 parameters for student ID and name
   - accessors for all data fields
   - appropriate mutators
   - **addQuiz(int score)** [each quiz is worth 10 marks]
   - **getAverageScore()**

   **IMPORTANT NOTE**: Remember to adhere to the standard Java naming convention for your class names, data field names and method names.

B. Create a driver program that tests all constructors and methods.

**Question 3**

Describe the usage of following methods:

(i) Mutator method
(ii) Accessor method
(iii) Constructor