

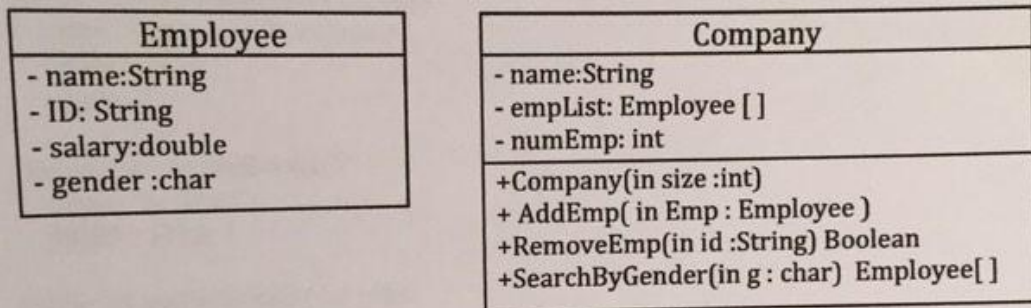
King Saud University
College of Computer and Information Sciences
Computer Science Department

CSC 113

Second Semester 1435-1436

Tutorial #2

Q1) From the Following UML Diagram:



Implement the following methods located in Class Company:

- **AddEmp** that adds the received employee in the first empty location of *empList*.
- **RemoveEmp** that deletes the employee from *empList* with the same given **ID** number by shifting the array to the left. If the given **ID** doesn't exist then **false** will be returned.
- **SearchByGender** to search *empList* for the employees of a specific gender (**F** or **M**; where **F** for female and **M** for male) and return an array containing these employees. The size of the returned array should be exactly as the number of employees belonging to the selected gender "no empty elements".

Note: You can add any necessary constructors, setters, and getters to the class Employee.

Exercise1:

Write a program to manage Employees information in a company.
You should define the following Classes:

Class Employee: *This class should contain the following attributes:*

name: String
id: int
salary: double
gender: char

Class Employee *should also contain the following methods:*

- A default constructor.
- A constructor that receives four parameters (id, name, salary, gender)
- A constructor that receives an object employee.
- **toString()** method that returns Employee's attributes.
- Any needed Getters and Setter.

Class Company: *This class should contain the following attributes:*

name: String.
empList: an array of Employee object.
numEmp: number of Employees in the company

Class Company *should also contain the following methods:*

- A constructor that receives one parameter (size) to declare and initialize employee's array.
- A method **addEmp** that receives an Employee object and add it at the end of the array.
- A method **removeEmp** that receives an id and deletes the employee by moving all employees those are after him in the array by one to the left. (Hint: use the method searchEmp).
- A method **searchByGender** that receives a char 'M' or 'F' and returns an array of employees with gender male or female.
- A method **display** that prints all Employees Records (Hint: use toString() of each Employee object) .
- A method **searchEmp** that receives an id and returns index of an employee if exists or -1 if not.

Class CompanyApp: This class contains the main method that performs the following:

- Create an array of five Employees objects, and fill them by prompting the user to enter employee's data.
- Create Company object and add the employees to the company.
- Display the added employees records.
- Delete an employee with employee number entered by the user.
- Display employees records after delete operation.