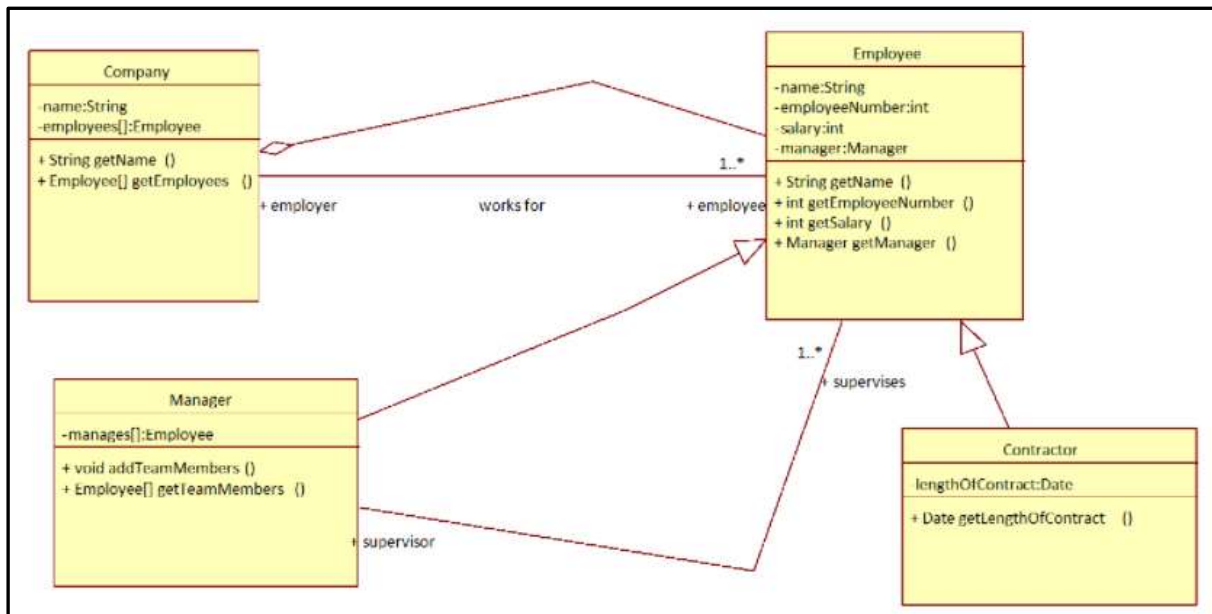# Assignment 4

1) Design and implement applications using basic OOP paradigms. Analyse following class diagram and answer below questions.
   a. Identify the classes
   b. Identify the relationships between each class.
   c. Identify the attributes and methods

Answer:

Classes:

1. Company
2. Employee
3. Manager
4. Contractor

Identify the relationships between each class.

- Employee works for a Company: *N:1 Relation.*
- Manager Supervises an Employee *1: N Relation.*
- Employees who come on the bases of contractor *1:1 Relation.*

Identify the attributes and methods:

A) Company:

1. Attributes:
   a. *String* CompanyName.
   b. *ArrayList* EmployeeDetails

2. Methods:
   a. getName() : *String*
   b. *getEmployees(): ArrayList*

B) Employee:
   1) Attributes:
      a) *String* Name
      b) *int* EmployeeID
      c) *int* salary
      d) *Manager* manager
   2) Methods:
      a) *getName(): String*
      b) *getEmployeeNumber(): int*
      c) *getSalary(): int*
      d) *getManager(): Manager*

C) Manager:
   1) Attributes:
      a. *ArrayList* Employee
   2) Methods:
      a. *addTeamMemebers(): void*
      b. *getTeamMembers(): ArrayList*

D) Contractor:
   1) Attribute:
      a. *Date* length0fcontract
   2) Methods:
      a. getLengthOfContract(): *Date*