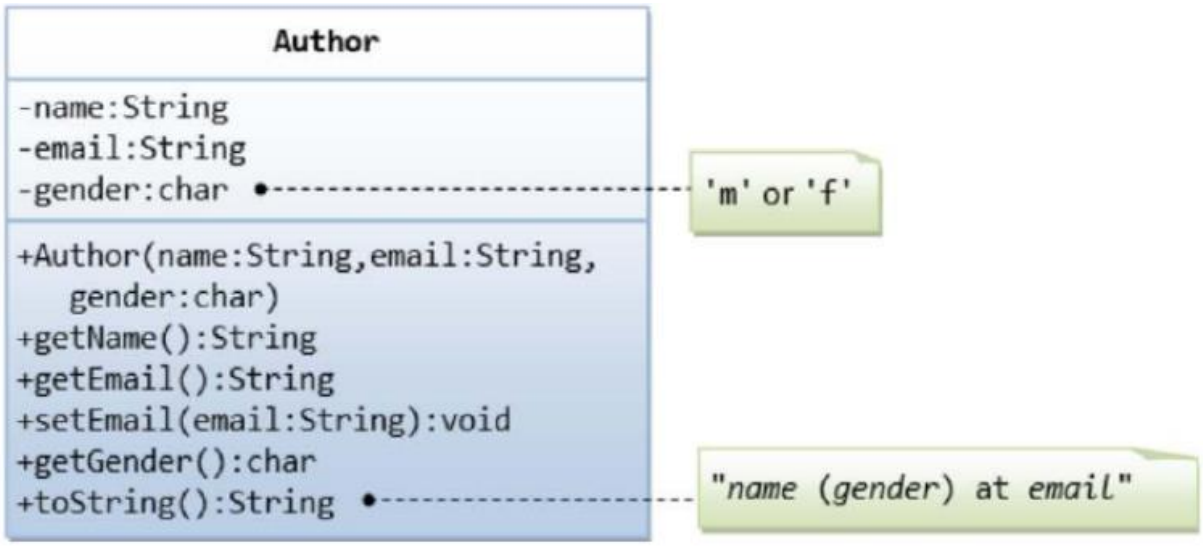
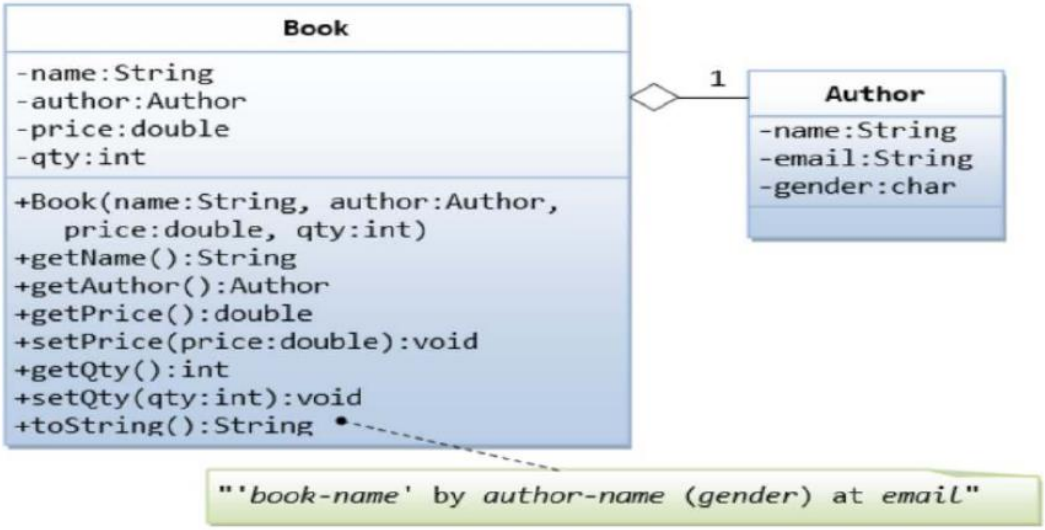
Assignment -1 **Total: 100 Marks**

Question-1=> Aggregation Concept **25 Marks.**



Design a class called Author as shown in the diagram it contains:

- Three private member variables: name (String), email (String), and gender (char of either 'm' or 'f' - you might also use a Boolean variable called is Male having value of true or false).
- A constructor to initialize the name, email, and gender with the given values. (There is no default constructor, as there is no default value for name, email and gender.)
- Public getters/setters: get Name(), getEmail(), setEmail(), and getGender().(There are no setters for name and gender, as these properties are not designed to be changed.)
- A toString() method that returns "name (gender) at email", e.g., "Vikash Verma(m) at VermaVikash@gmail.com".



- A Book is written by one Author-Using an “Object” Member Variable. Design a Book class. Assume that a book is written by one (and exactly one) author. The Book class (as shown in the class diagram) contains the following members:
- Four private member variables: name (String), author (an instance of the Author class we have just created, assuming that each book has exactly one author), price (double), and qty (int).
- The public getters and setters: getName(), getAuthor(), getPrice(), setPrice(), getQty(), setQty().
- A toString() that returns "'book-name' by author-name (gender) at email”. You could reuse the Author's toString() method, which returns "author-name (gender) at email"

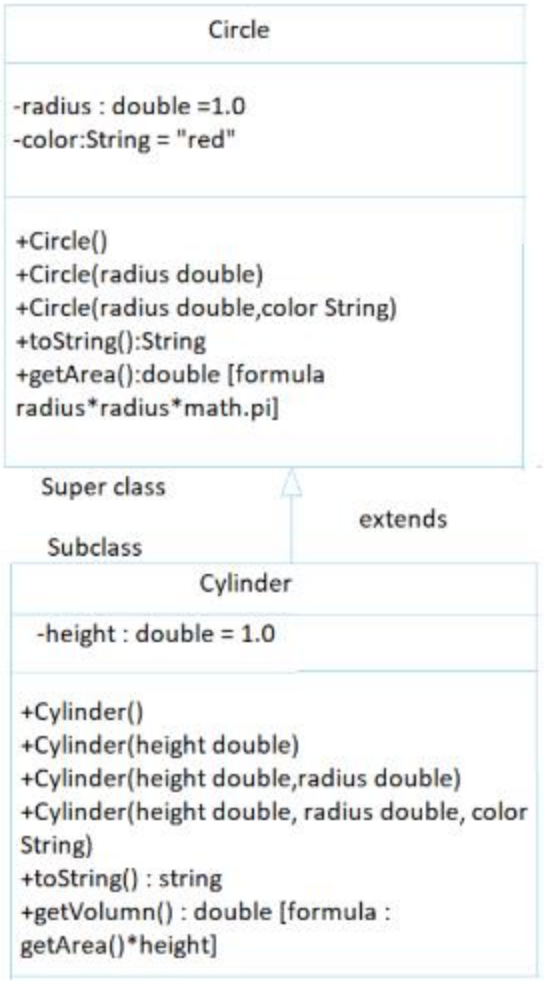
Question-2=>Inheritance and method overloading **25 Marks.**

The Circle and Cylinder Classes Consider a subclass called Cylinder and the superclass as Circle, it is important to note that we reuse the class Circle. The class Cylinder inherits all the member variables (radius and color) and method (getArea(), among others) from its baseclass Circle. It further defines a variable called height, and a public method - getVolume() and its own constructors.(refer the below class diagram)

Note:

1. on using parameterized constructor if one variable value is given in parameter then initialize the other with its default value.

2. on calling Cylinder class constructor you can use Super() to call the circle class constructor to initialize its member variables



Question-3=>Dot Net Core with Entity Framework core **50 Marks.**

Create an ASP.NET Web Api project for creating Employee Management System with database connection using entity framework core that will have following features.

- We can add an employee.
- Edit/update employee details.
- Delete an employee (Delete should be soft delete). Do not delete the record from database.
- List all the employees that are being added to the system
- Employee will have following fields.
    - EmployeeId
    - FirstName
    - LastName
    - Gender
    - DOB i.e., Date of Birth
    - DOJ i.e., Date of Joining
    - Employee Image