

Practical # 6: Defining Class and its Constructs Contd.

Tasks Sheet

1. Make a class called Author (as shown in the class diagram). It is designed to model a book's author. It contains:

- Three private instance variables: name (String), email (String), and gender (char of either 'm' or 'f');
- One constructor to initialize the name, email and gender with the given values;

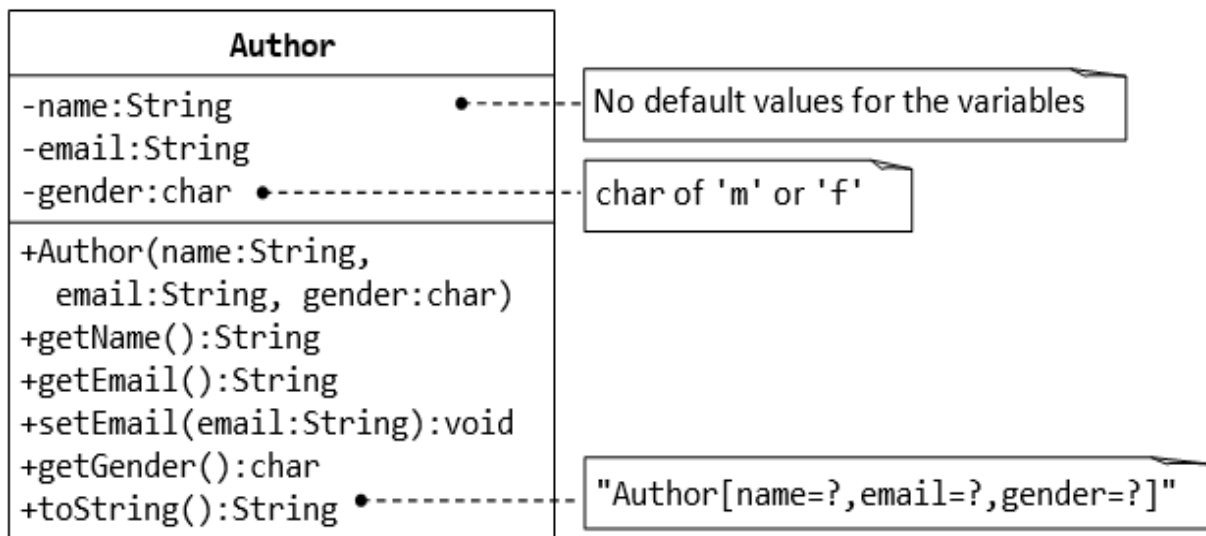
```
public Author (String name, String email, char gender) {.....}
```

(There is no default constructor for Author, as there are no defaults for name, email and gender.)

- public getters/setters: getName(), getEmail(), setEmail(), and getGender();

(There are no setters for name and gender, as these attributes cannot be changed.)

- A toString() method that returns "Author[name=?,email=?,gender=?]", e.g., "Author[name=Tan AhTeck, email=ahTeck@somewhere.com, gender=m]".



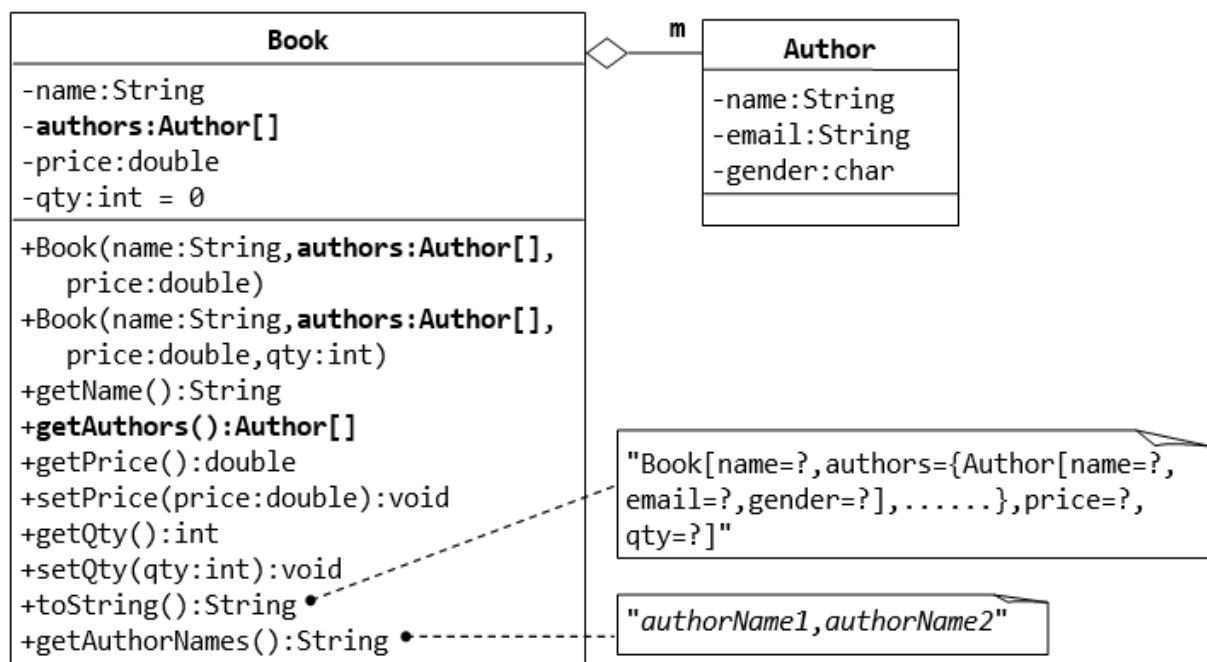
2. Create a class book as shown in the class diagram.

- Four private instance variables: name (String), an array of authors (of the class Author you have just created), price (double), and qty (int);

- Two constructors:

```
public Book (String name, Author[] author, double price) { ..... }
public Book (String name, Author[] author, double price, int qty)
{ ..... }
```

- public methods getName(), getAuthors(), getPrice(), setPrice(), getQty(), setQty().
- The toString() method shall return "Book[name=?, authors={Author[name=?, email=?, gender=?],}, price=?, qty=?]".
- Reuse Author class built in the first task



3. Create a class to print an integer and a character with two methods having the same name but different sequence of the integer and the character parameters.

For example, if the parameters of the first method are of the form (int n, char c), then that of the second method will be of the form (char c, int n).

4. Create a class to print the area of a square and a rectangle. The class has two methods with the same name but different number of parameters. The method for printing area of rectangle has two parameters which are length

and breadth respectively while the other method for printing area of square has one parameter which is side of square.

5. Create a class 'Student' with three data members which are name, age and address. The constructor of the class assigns default values name as "unknown", age as '0' and address as "not available". It has two members with the same name 'setInfo'. First method has two parameters for name and age and assigns the same whereas the second method takes has three parameters which are assigned to name, age and address respectively. Print the name, age and address of 10 students.

Hint - Use array of objects

6. Show the use of static keyword