

Task no. 1

Create a Class Diagram (in UML) based on the following scenario and generate the JAVA code also.

Reader's Choice Book House is a group of publications founded in 1990s with a dream to give quality education and up-to-date knowledge to the generations nationally and globally. RCBH has a vision to improve the literacy rate in Pakistan through its diverse range of publications.

website: <http://www.rcbh.com/>

Address: Karachi, Pakistan

They have a publisher named 'Karams Publications' in Karachi who publishes various types of books on regular intervals. Karams Publications is known for publishing books with two major types of publication and they need an inventory management system which can help them get information about every book in their stock.

Two major types of books which the publisher uses are:

Paperback

Hardcover

The publisher requires to have a unique ID which is assigned to each book, along with that they need some common attributes among all them like page count, author and category of book to characterize every book in their database.

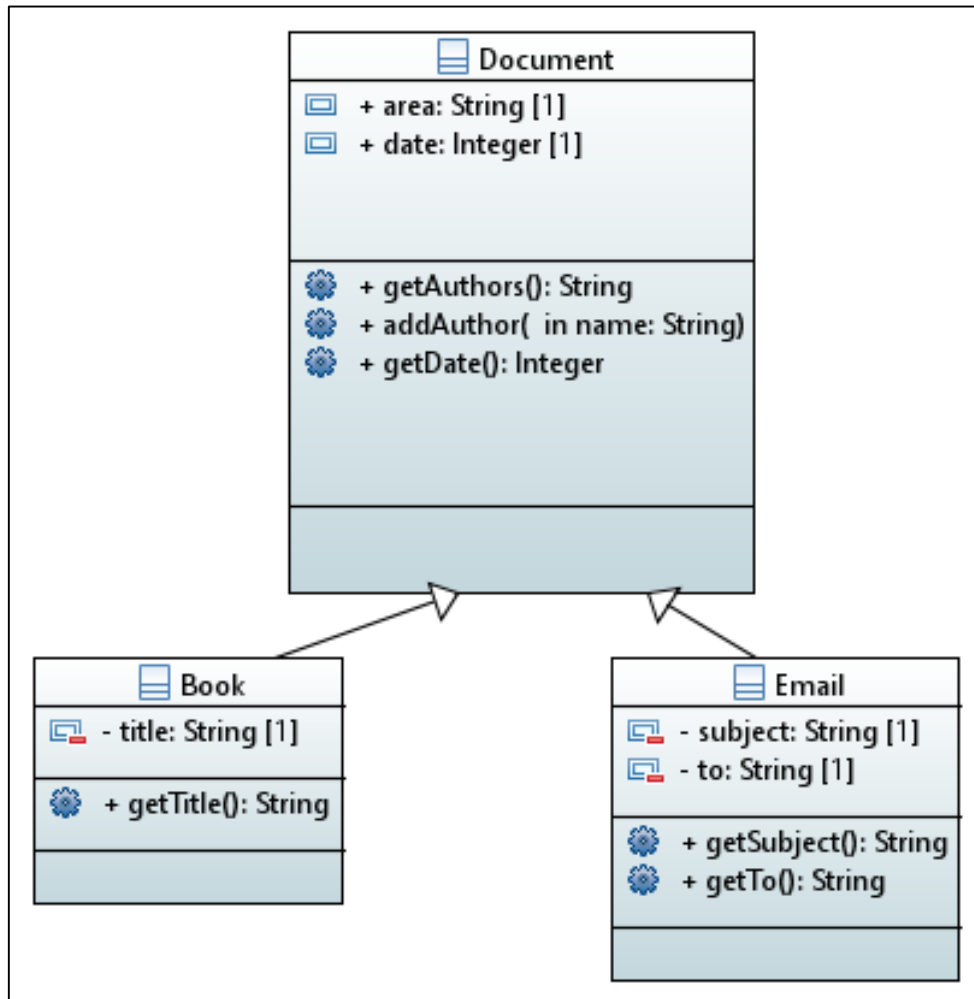
Every book in our inventory management system should have a price attribute which can be set by the publisher at any point of time and also a way to get the price of that specific book. A book will also need custom titles/name which can be set to distinguish them from every book in the database.

The specific books published by the Karams publications include Compilation and Sweeping Epic published in both of the types mentioned above. Each book has a unique ID number and page count.

The functions of compilation type are setPrice and setTitle and the function of Sweeping Epic is setPrice.

Task no.2

Generate the Java Code of following Class diagram having 3 classes Document, Book and Email.



Task no.3

Create a Class Diagram (in UML) based on the following scenario and generate the JAVA code also.

Create a basic reporting system administered by a company's CEO. The reporting software is used to manage & distribute work among the employees. This reporting system will consist of 4 crucial aspects which are used to structure it properly.

The CEO of the company will use this reporting system to do the following tasks:

1. Management
2. Assignment
3. Control

The four crucial aspects/parts of our reporting system are:

1. CEO
2. Project
3. Report
4. Employee

Management:

The system will present the CEO with daily projects which can be managed by him. Each project consists of the following:

1. A unique ID which is used to uniquely identify each and every task.
2. Task ID which is assigned to an employee
3. Name of the project

Control:

The software allows the CEO to create reports on the work done by the employees and each report is saved with time keeping and common attributes of the project completed by an employee. These attributes will include Time, Date, Task ID and Project Name.

Assignment:

Workload can be assigned by the CEO to any employee registered with the reporting software. The software allows us to take the project ID from the list of projects and assign it to any Employee chosen by the CEO. In here, the Task ID is the crucial aspect of assignment and control which will uniquely distinguish the project among the reports and the assigned employees.

Task no.4

Create a Class Diagram (in UML) based on the following scenario and generate the JAVA code also.

The automotive industry comprises a wide range of companies and organizations involved in the design, development, manufacturing, marketing, and selling of motor vehicles. It is one of the world's largest industries by revenue.

The automotive industry does not include industries dedicated to the maintenance of automobiles following delivery to the end-user, such as automobile repair shops and motor fuel filling stations.

One of the leading automotive industry in World named TopSpeed deals with the 2 types of

vehicles in their industry Cars and Trucks. The operations of vehicle are drive, steer and stop. The properties of car mentioned in the manual are it's wheel drive, no. of doors, color etc. The functionalities of car mentioned in the manual are same as in the vehicle. The TopSpeed is linked with 2 top most company that are AustonMartin and Ferrari.

Aston Martin Lagonda is the world's only biggest luxury car group with over 100 years of design and automotive excellence. Aston Martin is the iconic British sport car brand that has stood for beautiful, hand-crafted cars that are exhilarating to drive since 1913.

Ferrari S.p.A. is an Italian luxury sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1939 out of the Alfa Romeo race division as Auto Avio Costruzioni, the company built its first car in 1940.

The Aston Martin cars have labels and functions like AustonMartin and bar
The Ferrari cars have badges and functions like Ferrari and Foo.

The automotive industry TopSpeed also deals in the business of trucks. The companies linked with it are Scania and Man

Scania AB is a major Swedish manufacturer headquartered in Södertälje, focusing on commercial vehicles specifically heavy lorries, trucks and buses. It also manufactures diesel engines for heavy vehicles as well as marine and general industrial applications.

MAN Truck is a subsidiary of MAN SE, and one of the leading international providers of commercial vehicles. Headquartered in Munich, Germany, MAN Truck & Bus produces vans in the range from 3.0 to 5.5 t gvwt, trucks in the range from 7.49 to 44 t gvwt, heavy goods vehicles up to 250 t road train gvwt, bus-chassis, coaches, interurban coaches, and city buses. MAN Truck & Bus also produces diesel and natural-gas engines.