

1. Design a class called **ISBN** to represent an International Standard Book Number, or ISBN for short.

The ISBN consists of 10 digits divided into 4 parts. For example, the ISBN 0 941831 39 6 represents the following information:

The first part: The first digit "0" signifies the book is from an English speaking country.

The second part: "941831" identifies the publisher.

The third part: "39" is the title number for the book.

The fourth part: "6" is a check digit to indicate that the sum of the ISBN digits is 10.

The class should have a constructor and methods to set and get the ISBN as a string.

Design a **Book** class that represents relevant information about a book, including the book's title, author,

publisher, city and date of publication, and price. The class should also include the field **ISBN** isbnNum;

where **ISBN** is the class defined above.

This class should include a **constructor** and the following methods:

- **setBookISBN**: to set the ISBN for the book.

- **getAuthor**: to return the author of the book.

- **getBookISBN**: to get the ISBN of the book.

- **printDetails**: to print the information of a book in the following form:

Book Title: Object First with Java

Book Author: David j. Barnes and Michael Kolling

Publisher: Prentice Hall

ISBN: 0 941831 39 6

B.A hospital wants to create a database regarding its indoor patients. The information to store include

- Name of the patient

- Age of the patient

- Disease

- Date of admission

- Date of discharge

Create a class called **Patient** to store the above information. The member methods should include methods to enter information and display the patient's information.

Create class **Date** to have the date (year, month and day as its fields) and a method to display the date.

Create class **Hospital** to have an array list to store all patients. It has methods to add a patient to the list and to delete a patient from the list. It also has a method to display a list of all the patients in the hospital and a method to display only the patients whose age is less than 12.