**Create a package called “PkgBasic”** to contains all classes

1. Create a class **Book**. It includes some fields**:**

**protected String Code;**

**Protected String Title** and some methods:

constructors , getter,setter, and override the **toString** method of Object class to return format string (like output )

Validate: Code has format: Bx , x belong to[0-9]

1. Create a class **DetectiveBook** ( This class is derived from Book class).

It extends some fileds: public int **price,**

**int yearofpublication**.

And some methods: constructors, getter,setter and override toString method return format string that like output

Other package called “PkgExtend”. It includes:

1. Create a class **ScienceBook** ( This class is derived from Book class).

It extends some fileds: String **type** ( validate : type belong to “physical, mathematic, chemistry”)

And some methods: constructors, getter,setter and override toString method to return format string like output.

1. Create a Class **BookList** to manage all books in the array.

It includes fields: private Book[] arr=new Book[MAX];

Private Int count; // count all objects that stored in array

final int MAX=100 ; // capacity of array

And some methods:

+ Default constructor: allocate memory for the arr to contain 100 Books

+ public void Add(Book x ): to add a known book into arr

+ public void Delete(String code): to remove a Book by known code

+ public void Update(String code): to update details of a book by known code

+ public void displayDetectiveBooks(): to display all detective books in array and display sum of price of all detectivebooks

+ public void displayScienceBooks(): to display all ScienceBooks in array

+ public Book Search(String code): return the book that matches the code

+ public Book[] Search(int YearOfPublish): return other array that include all books by yearof publish

+ public bool search(String title): find the book that matches title and return true/false.

Create a package called “BookTest” that contains main method.

When the program runs a menu will show:

1. Add a Detective Book
2. Add a ScienceBook
3. Delete a book
4. Update a book
5. Display All DetectiveBooks
6. Display All ScienceBooks
7. Search by code
8. Search by title
9. Search and display all books by yearofpublish
10. Exit

When user inputs a choice then the program will call a proper function.

Output:

List of ScienceBooks: love and hate ; the garden; exterior;

List of DetectiveBooks: conan-2015-1000$; SherlockHolmes-1989-2000$

The End