MA104 - ASSIGNMENT 2 - JAVA PROJECT

ACADEMIC MANAGEMENT SYSTEM

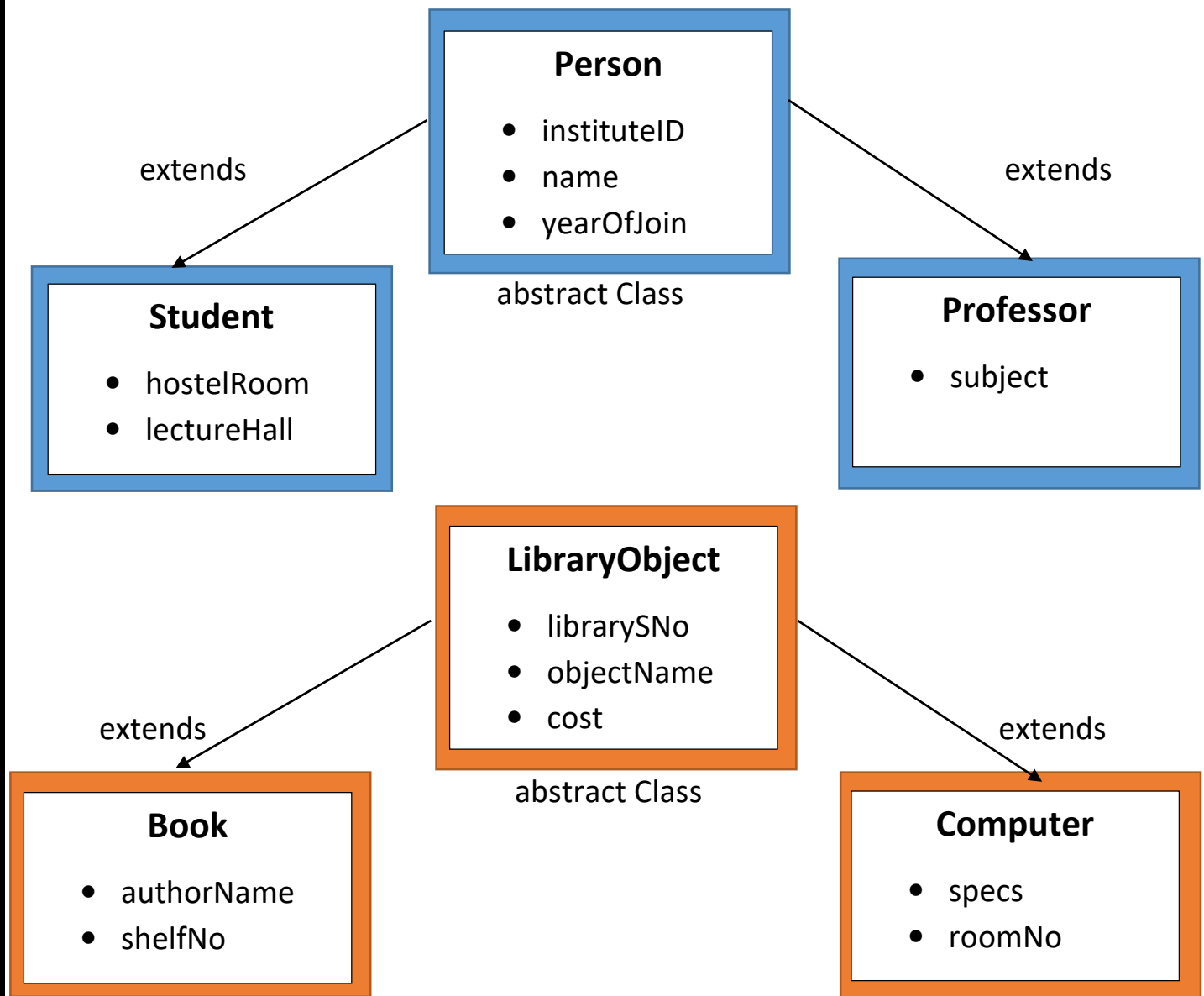| NAME	B NIRANJAN
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PROBLEM STATEMENT:

This project aims to act as an interactive database management system to maintain records. Features are to:

- Add a new Record
- Delete an existing Record
- Print Existing Records

Records are maintained as Student, Professor, Book, Computer etc.

- The Student and Professor Classes extend the abstract class Person
- The Computer and Book Classes extend the abstract class LibraryObject.

Person
- instituteID
- name
- yearOfJoin

abstract Class

extends

Student
- hostelRoom
- lectureHall

extends

Professor
- subject

LibraryObject
- librarySNo
- objectName
- cost

abstract Class

extends

Book
- authorName
- shelfNo

extends

Computer
- specs
- roomNo

ADDITIONAL FEATURES:

All records are stored, and retrieved from files, using FileInputStream, ObjectInputStream, FileOutputStream, ObjectOutputStream, present in the java.io.* package.

All records are stored in binary format, for fast writing and reading operations. Storing the records in their Object format, makes it unnecessary to parse strings, as data is already stored in binary, program-readable format.

Additionally, three more classes, RunFile, Database, UserInterface have been defined.

- RunFile Class is the overall runfile for the project, that handles program flow.
- Database Class handles the storing, reading of data in files, using ArrayList as intermediate storage structure.
- UserInterface Class class handles print, add, remove operations during run-time, based on user input.

A total of 13 files, 9 .java files, for source code and 4 .ser files, for storing serialized java object records, have been uploaded, the package is built, all the .java files are compiled, and RunFile is run.

SCREENSHOTS:

```
Windows PowerShell

Welcome to Academic Management System


1. Print Records
2. Add Record
3. Remove Record
Enter main choice: 1

1. Students
2. Professors
3. Books
4. Computers
Enter sub choice: 2


PRINTING PROFESSORS
Institute ID :  15001
Name         :  Alan
Year of Join :  2015
Subject      :  Mathematics


Institute ID :  15002
Name         :  Bobb
Year of Join :  2015
Subject      :  CompScience


Institute ID :  15003
Name         :  Cris
Year of Join :  2015
Subject      :  Economy_Biz
```

```
1. Print Records
2. Add Record
3. Remove Record
Enter main choice: 2

1. Students
2. Professors
3. Books
4. Computers
Enter sub choice: 2


TO ADD A NEW PROFESSOR
Enter value for Institute ID :16005
Enter value for Name        :Donald
Enter value for Year of Join :2016
Enter value for Subject      :Algorithms

1. Print Records
2. Add Record
3. Remove Record
Enter main choice: 1

1. Students
2. Professors
3. Books
4. Computers
Enter sub choice: 2
```

```
PRINTING PROFESSORS
Institute ID :  15001
Name         :  Alan
Year of Join :  2015
Subject      :  Mathematics


Institute ID :  15002
Name         :  Bobb
Year of Join :  2015
Subject      :  CompScience


Institute ID :  15003
Name         :  Cris
Year of Join :  2015
Subject      :  Economy_Biz


Institute ID :  16005
Name         :  Donald
Year of Join :  2016
Subject      :  Algorithms
```

```
1. Print Records
2. Add Record
3. Remove Record
Enter main choice: 3

1. Students
2. Professors
3. Books
4. Computers
Enter sub choice: 2


TO REMOVE EXISTING PROFESSOR
Enter Institute ID to remove:
20000
Given ID not found !

1. Print Records
2. Add Record
3. Remove Record
Enter main choice: 3

1. Students
2. Professors
3. Books
4. Computers
Enter sub choice: 2


TO REMOVE EXISTING PROFESSOR
Enter Institute ID to remove:
16005
16005 Removed !
```

THANK YOU !