# PROJECT VIVA

Python Programming Lab (22CS001)

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Department of Computer Science and Engineering,
Chitkara University, Punjab

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# Project Details

- **Project Name**: “ Your Library ”
- **Programming Tool** : Jupyter notebook
- **Team Members :** Avantika , Aryan Walia , Ayushmaan
- **Task done by each member :**
    - **Avantika : Coding/Ppt**
    - **Aryan Walia : Coding/formatting/Template**
    - **Ayushmaan : Base code / UI**

# Project Introduction

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## Project name : “ Your Library ”

- This project work is a part of Object Oriented Proramming in “Python” ,submitted to department of computer science & engineering.
- The project title itself interprets the brief of the program , primarily a Library management application.
- It facilitates the user to access several attributes of library via input interpretation and execution .

# Technologies used in Project

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- Jupyter notebook: The classic notebook interface.The jupyter notebook is the original web application for creating and sharing computational documents. It offers a simple, streamlined, document-centric experience.
- Import module : A file is considered as a module in python. To use the module, you have to import it using the import keyword. The function or variables present inside the file can be used in another file by importing the module.
- Ipython module : Ipython is a command shell for interactive computing in multiple programming languages, originally developed for the python programming language, that offers introspection, rich media, shell syntax, tab completion, and history.
- Oops : In python, object-oriented programming (oops) is a programming paradigm that uses objects and classes in programming.The main concept of oops is to bind the data and the functions that work on that together as a single unit so that no other part of the code can access this data.
- Def keyword : Python def keyword is used to define a function, it is placed before a function name that is provided by the user to create a user-defined function.
- Sound : (Class ipython.Display.Audio(data=none, filename=none, url=none, embed=none, rate=none, autoplay=false) bases: ipython.Core.Display.Displayobject) create an audio object.When this object is returned by an input cell or passed to the display function, it will result in audio controls being displayed in the frontend

# Working of Project(flow chart)

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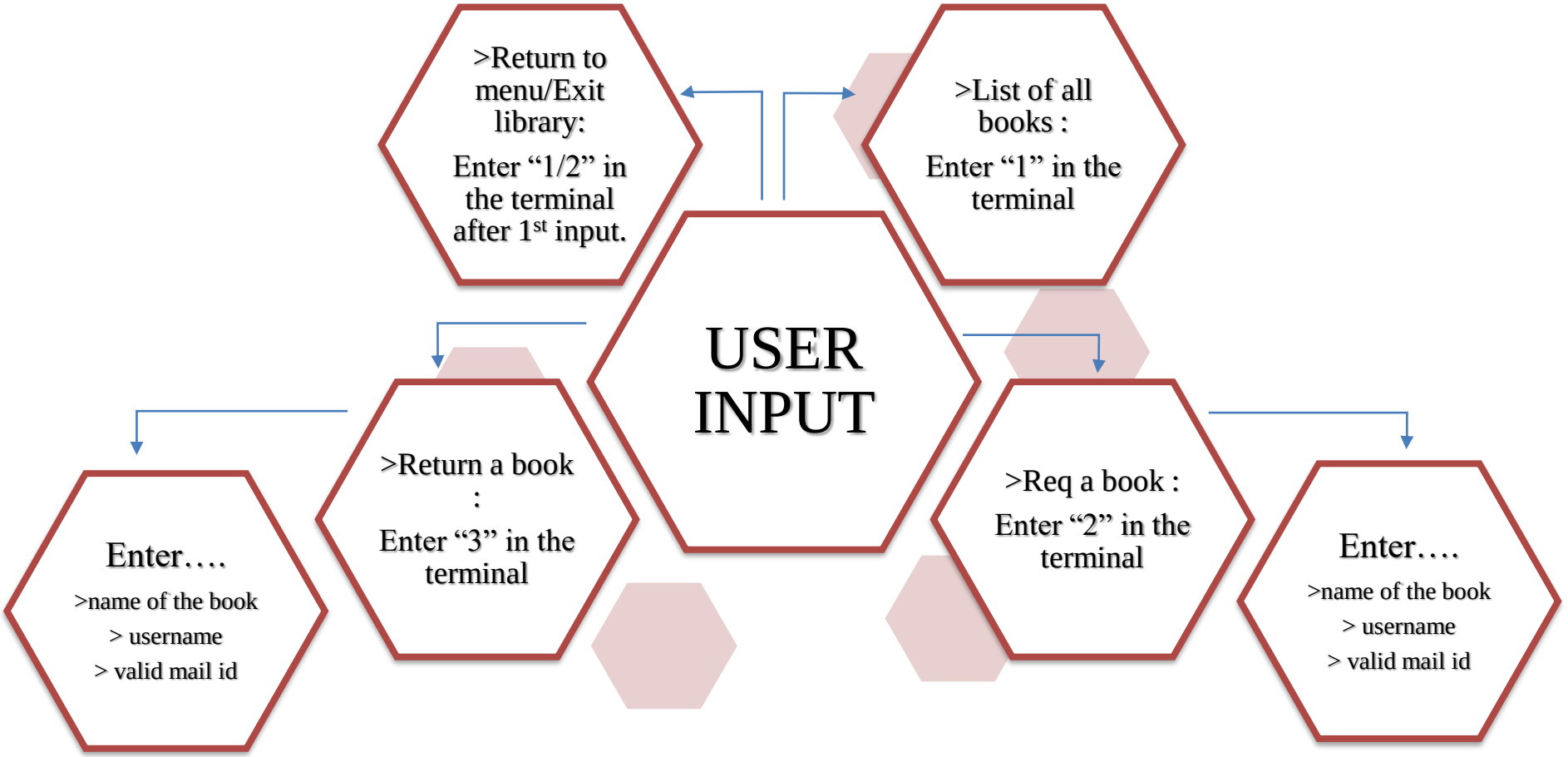

# Output snapshots

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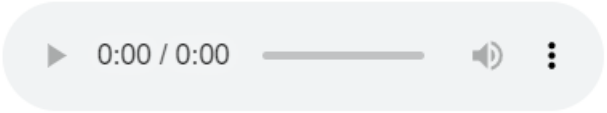
## 1. Welcome screen :




```
====== WELCOME TO YOUR LIBRARY ======
       Please choose an option:
       1. List all the books
       2. Request a book
       3. Return a book
```

## 2. User input 1 :

```
Enter a choice: 1
Books present in this library are:
 *Algorithms
 *Django
 *Clrs
 *Python Notes
 *CASA
 *python
 *basic electronics

Please choose an option:
             1. Return to main menu
```

## 3. User input 2 :

```
Enter a choice: 2
Enter the name of the book you want to borrow: python
Enter your name: aryan
Enter you gmail ID: @gmail.com
You have been issued python. Please keep it safe and return it within 30 days
```

## 4. User input 3 :

```
Enter a choice: 3
Enter the name of the book you want to return: python
Enter your name: aryan
Enter you gmail ID: @gmail.com
Thanks for returning this book! Hope you enjoyed reading it. Have a great day ahead!
```

## 5. User input (any) > user input 2 :

```
Please choose an option:
             1. Return to main menu
             2. Exit library
Enter a choice: 2
Thanks for choosing Your Library. Have a great day ahead!
```

# Source Code (i)

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```
import IPython
b=0
class Library:
    def __init__(shelf, listOfBooks):
        shelf.books = listOfBooks

    def displayAvailableBooks(shelf):
        print("Books present in this library are: ")
        for book in shelf.books:
            print(" *" + book)

    def borrowBook(shelf, bookName):
        if bookName in shelf.books:
            a=input('Enter your name: ')
            b=input('Enter you gmail ID: ')
            while '@gmail.com'in b:
                break
            while '@gmail.com'not in b:
                print('WRONG ID! Enter the valid ID')
                IPython.display.display(IPython.display.Audio(r"C:\Users\ayush\Music\1.mp3", autoplay=True))
                print()
                b=input('Enter you gmail ID: ')
                continue
            print(f"You have been issued {bookName}. Please keep it safe and return it within 30 days")
            shelf.books.remove(bookName)
            return True
        else:
            print("Sorry, This book is either not available or has already been issued to someone else. Please wait until the book is available")
            return False

    def returnBook(shelf, bookName):
        a=input('Enter your name: ')
        b=input('Enter you gmail ID: ')
        while '@gmail.com'in b:
            break
        while '@gmail.com'not in b:
            print('WRONG ID! Enter the valid ID')
            IPython.display.display(IPython.display.Audio(r"C:\Users\Aryan Walia\OneDrive\Documents\1.mp3", autoplay=True))
            print()
            b=input('Enter you gmail ID: ')
            continue
```

# Source Code (ii)

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```
        print("Thanks for returning this book! Hope you enjoyed reading it. Have a great day ahead!")
        shelf.books.append(bookName)


def return_menu():
    print()
    print('''Please choose an option:
                1. Return to main menu
                2. Exit library''')
    global b
    b=int(input("Enter a choice: "))
    if b == 1:
        pass
    while b == 2:
        print("Thanks for choosing Your Library. Have a great day ahead!")
        IPython.display.display(IPython.display.Audio(r"C:\Users\Aryan Walia\OneDrive\Documents\Exit.mp3", autoplay=True))
        break
    if b>2:
        IPython.display.display(IPython.display.Audio(r"C:\Users\Aryan Walia\OneDrive\Documents\1.mp3", autoplay=True))
        print('''Invalid Choice!
        choose the correct option''')



class Student:
    def requestBook(shelf):
        shelf.book = input("Enter the name of the book you want to borrow: ")
        return shelf.book

    def returnBook(shelf):
        shelf.book = input("Enter the name of the book you want to return: ")
        return shelf.book


if True:
    YourLibrary = Library(["Algorithms", "Django", "Clrs", "Python Notes","CASA","python","basic electronics"])
    student = Student()
    # YourLibrary.displayAvailableBooks()
    while(True):
        welcomeMsg = '''\n ====== WELCOME TO YOUR LIBRARY ======
        Please choose an option:
```

# Source Code (iii)

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```
1. List all the books
2. Request a book
3. Return a book
'''
IPython.display.display(IPython.display.Audio(r"C:\Users\Aryan Walia\OneDrive\Documents\Welcome.mp3", autoplay=True))


while b!=2:
    print(welcomeMsg)
    a = int(input("Enter a choice: "))
    if a == 1:
        print("Enter choice : 1")
        YourLibrary.displayAvailableBooks()
        return_menu()

    elif a == 2:
        YourLibrary.borrowBook(student.requestBook())
        return_menu()

    elif a == 3:
        YourLibrary.returnBook(student.returnBook())
        return_menu()

    else:
        IPython.display.display(IPython.display.Audio(r"C:\Users\Aryan Walia\OneDrive\Documents.mp3", autoplay=True))
        print("Invalid Choice!")
else:
    break
```

# Future Scope and Conclusion

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1. Making the program platform-independent.
2. Creating a user friendly interface.
3. To embed more features/user cases , paving the way for greater first hand experience.

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# THANK YOU