

LIBRARY MANAGEMENT



ABOUT



Library management system is a project which aims in developing a computerized system to maintain all the daily work of library.

Admin modules are view books, issue a book and return books

Overall this project of ours is being developed to help the library administration ,maintain the library in the best way possible and also reduce the human efforts.

Overview:-



- Implementing functions like adding a book to the record ,issue a book using student id,returning a book and calculating fine which is time bound.
- Using excel as a database .
- Pandas ,Openpyxl,Datetime Libraries used.

Functions

01

Add

This function is implemented with the use of pandas module in the backend. As soon as the user enters the details of the book to be added to stock, the excel file gets updated with that information.

02

Display

List of all the books is displayed which are currently available in stock. The data is extracted from the excel file.

03

FINE

For fine calculation we have used "Date-Time" module for saving date at the time of issuing and return the book.



04

Return

This function is of utmost relevance and the most complex one amongst all that we have implemented. Student Id is searched for in the database and the books issued to that student are identified.

Student also has the option to return one or more than one book at a time.

Date and time of issue is also taken into account in order to calculate the fine on student id, if they fail to return books on time.

05

ISSUE

As soon as a student gets him/her a book issued a new record is created in the database storing all the relevant information about the student and book, as well as the date and time at which the book was issued

Functions continued...

Welcome to the library management system

-
- Enter 1. To Add New Book Record
 - Enter 2. To Display Stock of Available Books
 - Enter 3. To Calculate fine using Student Id
 - Enter 4. To Borrow a book
 - Enter 5. To return a book
 - Enter 6. To exit
- Select a choice from 1-6:

Use of Pandas and OpenPyxl Module:-



As we know pandas has various usecases but in our Library Management System Project we have used pandas in order to maintain a database of issued books, stock of books etc.

The reason we chose to go with pandas over anything else was because of the ease of maintainace of excel files and as we were taught about it in our curriculum.

Further using pandas can help us in visualising data and know how the trends are in the present scenario, revenue collected, and much more as we move forward in the project.

Using OpenPyxl helped us more in editing, inserting, extracting relevant data in and through our excel file being used as a database.

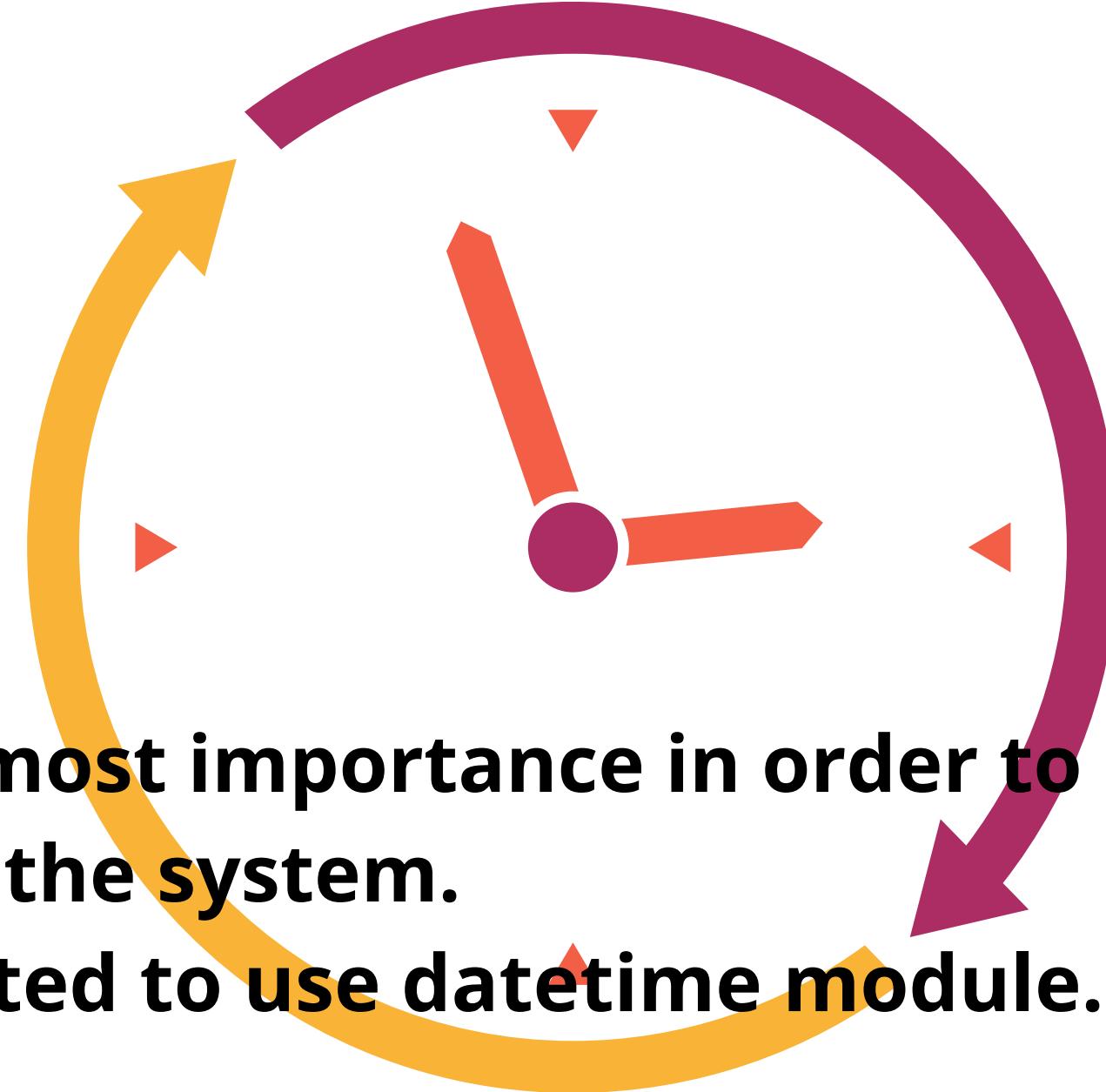
Functions like read_excel from pandas and excel writer to write content in an excel sheet have been used.

Stock Of Books

	Bookname	Author	mfd	isbn	Qtyavailable
1	Harry Potter	abc	1975	6515419+856154	5
2	Engineering Maths 1	def	1999	6515419+856155	8
3	Let us C	ghi	2012	6515419+856156	9
4	The Lord of the Rings	jkl	2001	6515419+856157	46
5	Rich Dad Poor Dad	mno	2020	6515419+856158	2
6	guiness book of world records	pqr	1988	6515419+856159	1
7	Mystery Unsolved	stu	2018	6515419+856160	78
8	Census 2011	wx	2011	6515419+856161	20



DATE-TIME MODULE



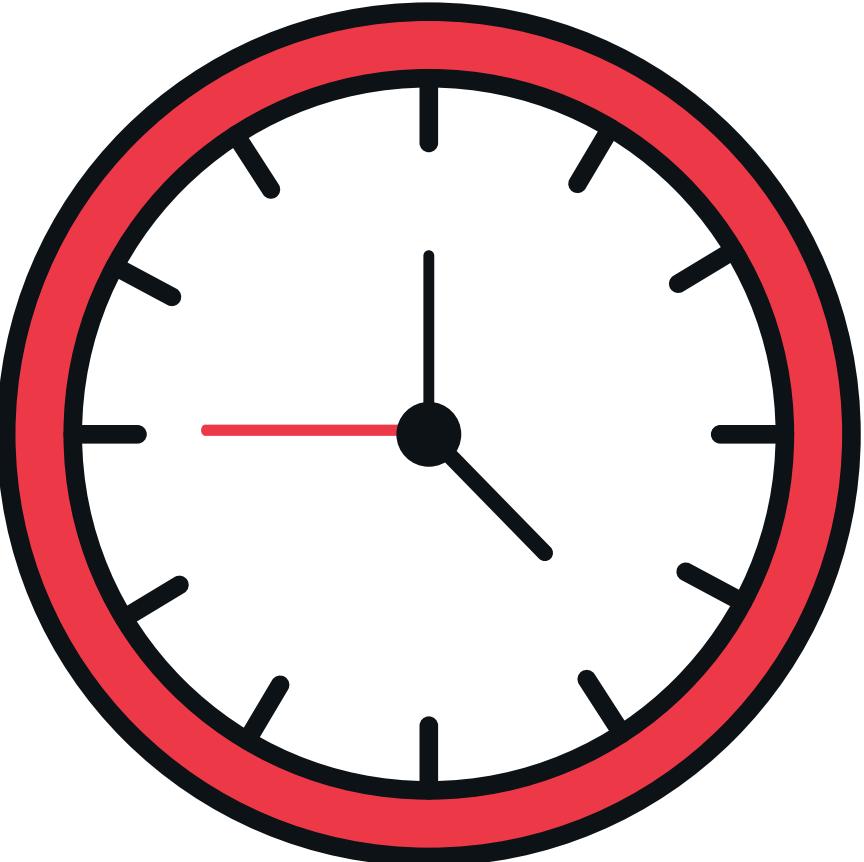
In a library recording date and time are of utmost importance in order to maintain efficient working of the system.

In order to cater for this need we opted to use **datetime module**.

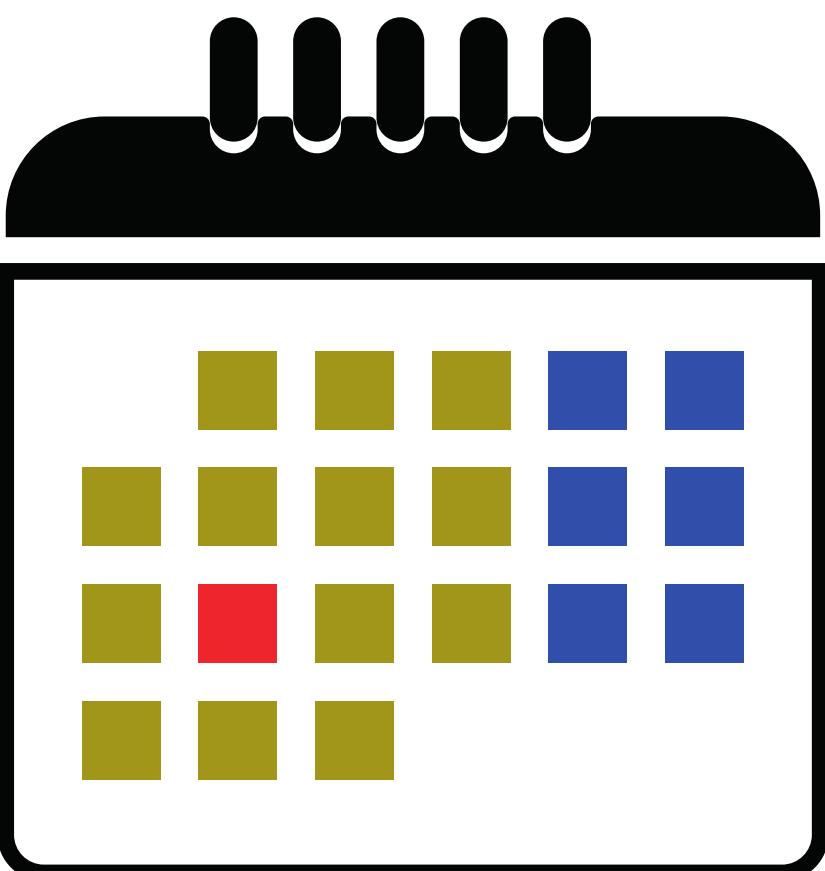
```
import datetime  
now = datetime.datetime.now
```

This now object gives us the current date and time separated by space.

datetime.now()

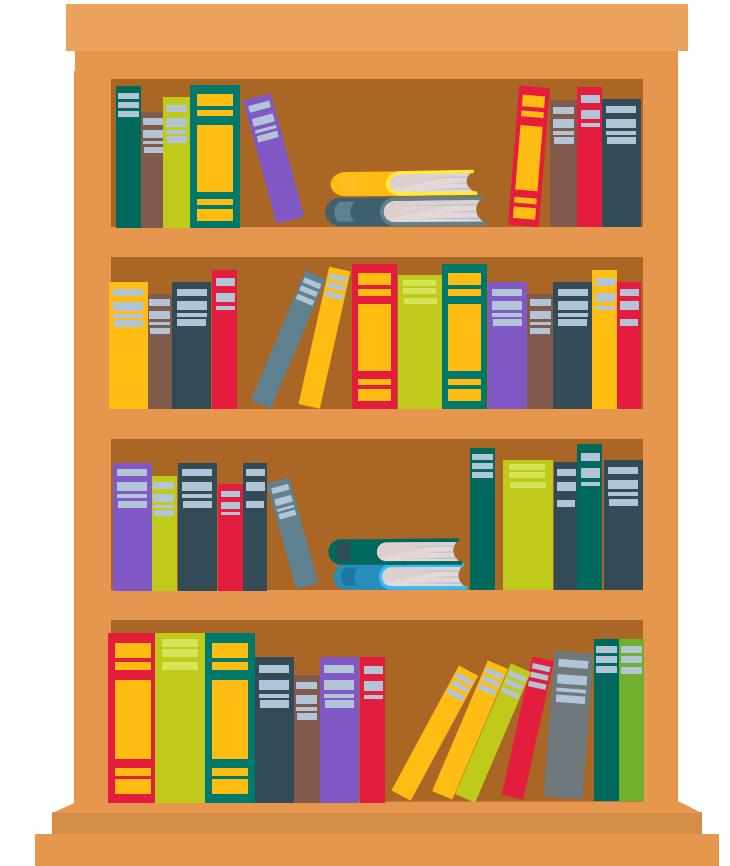


```
PROBLEMS 1 OUTPUT TERMINAL DEBUG CONSOLE  
[Running] python -u "c:\Users\asus\Desktop\arjun python project\xyz.py"  
2021-06-02 11:33:50.961048  
  
[Done] exited with code=0 in 0.29 seconds
```



Future Scope

- Use of a proper SQL or non-SQL database instead of excel.
- Implementing GUI with the help of external libraries like PyQt5
- Adding different roles for users to login Like student, Librarian, accountant etc.
- Use of barcode scanning to scan for book ISBN



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THANK

YOU!

