A PROJECT
ON
BOOK SHOP MANAGEMENT

Submitted in partial fulfillment for

CLASS XII

Of

INFORMATICS PRACTICES

Session:2020-21

<table>
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DEPARTMENT OF COMPUTER
RISE `N` SHINE CONVENT SCHOOL, DHAMDHA (C.G.)

Approved by C.B.S.E.

DECLARATION BY THE STUDENTS

We, the undersigned, solemnly declare that the project entitled "**Book Shop Management**" submitted in partial fulfillment of "**Informatics Practices**" to the C.B.S.E. conducted at Rise `n` Shine Convent School, is based on our own work and carried out during the course of our study under the guidance of Mr. Sandeep Dharmendra (PGT, Computer Department).

We assert that the statement made and conclusions drawn are an outcome of our project work.

Om Tiwari   Jagriti Mohobia   Tushar Tamrakar
Roll No.:12665157   Roll No.:12665184   Roll No.:12665172

CERTIFICATE

This is to certify that the report of the project submitted is an outcome of the project work entitled **"Book Shop Management"** by Om Tiwari, Jagriti Mohobia & Tushar Tamrakar.

The project work is carried out under my and supervision for the subject Informatics Practices of class XII for C.B.S.E.

To the best of my knowledge the report:
- ✓ Embodies the work of the candidates themselves.
- ✓ Has duly been completed.
- ✓ Fulfills the requirement of the ordinance relating to the degree of the board
- ✓ Is up to the desired standard for the purpose of which is submitted.

The project work as mentioned above is hereby being recommended and forward for examination and evaluation.

GUIDED BY:
Mr. Sandeep Dharmendra
(H.O.D. Computer Department)

CERTIFICATE OF APPROVAL

This is to certify that the project work entitled "**Book Shop Management**'' is carried out by Om Tiwari, Jagriti Mohobia & Tushar Tamrakar student of class XII at "Rise 'n' Shine convent school'' is here by approved as a credible work in the discipline of computer science & information technology for the subject of Informatics Practices during the year 2020-21 from "**Central Board of Secondary Education, India**".

Mr. R.P. Tiwari   Mr. Sandeep Dharmendra
    PRINCIPAL   **H.O.D**

Rise 'n' Shine Convent School, Dhamdha(C.G.)

CERTIFICATE OF EVALUATION

The System Development project entitled by "**Book Shop Management**" hereby approved as creditable study, work and implementation carried out in a satisfactory manner to warrant it's acceptance as the partial fulfillment of the Requirements for subject Informatics Practices of class XII for C.B.S.E. course for it has been submitted by

Om Tiwari	Jagriti Mohobia	Tushar Tamrakar
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Student of
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Internal Examiner   External Examiner

ACKNOWLEDGEMENT

We avail opportunity to express our whole hearted gratitude and deep sense of reference to the staff of Rise `n` Shine Convent School for for furnishing all possible support, which made our task relatively easier.

We have great pleasure in expressing our thanks offering to honorable guide Mr. Sandeep Dharmendra (Computer Department) for invaluable guidance, keeps interest and persistent encouragement throughout the work.

Lastly we are deeply indebted to our parents for their inspiration and moral support.

Om Tiwari   Jagriti Mohobia   Tushar Tamrakar

Roll No.:12665157   Roll No.:12665184   Roll No.:12665172

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INTRODUCTION TO PYTHON

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

Often, programmers fall in love with Python because of the increased productivity it provides. Since there is no compilation step, the edit-test-debug cycle is incredibly fast. Debugging Python programs is easy: a bug or bad input will never cause a segmentation fault. Instead, when the interpreter discovers an error, it raises an exception. When the program doesn't catch the exception, the interpreter prints a stack trace. A source level debugger allows inspection of local and global variables, evaluation of arbitrary expressions, setting breakpoints, stepping through the code a line at a time, and so on. The debugger is written in Python itself, testifying to Python's introspective power. On the other hand, often the quickest way to debug a program is to add a few print statements to the source: the fast edit-test-debug cycle makes this simple approach very effective.

INTRODUCTION TO PYTHON IDLE

IDLE is Python's Integrated Development and Learning Environment.IDLE has the following features:

- cross-platform: works mostly the same on Windows, Unix, and macOS
- Python shell window (interactive interpreter) with colorizing of code input, output, and error messages
- multi-window text editor with multiple undo, Python colorizing, smart indent, call tips, auto completion, and other features
- search within any window, replace within editor windows, and search through multiple files (grep)
- Debugger with persistent breakpoints, stepping, and viewing of global and local namespaces configuration, browsers, and other dialogs.

INTRODUCTION TO MySQL

MySQL is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web applications and online publishing.

MySQL is based on a client-server model. The core of MySQL is MySQL server, which handles all of the database instructions (or commands). MySQL server is available as a separate program for use in a client-server networked environment and as a library that can be embedded (or linked) into separate applications.

MySQL operates along with several utility programs which support the administration of MySQL databases. Commands are sent to MySQL Server via the MySQL client, which is installed on a computer.

MySQL was originally developed to handle large databases quickly. Although MySQL is typically installed on only one machine, it is able to send the database to multiple locations, as users are able to access it via different MySQL client interfaces. These interfaces send SQL statements to the server and then display the results.

INTRODUCTION

Book Store Management System is a python program to automate all kinds of operations in the book shop. The purpose of this software is to manage the books in the book store. Generally, it includes the Order Processing& Stock Management. We developed this software to maintains records of sales& purchase. This project developed using Python IDLE(3.9.1) as front end and MySQL as Back end. Here we try to develop such type system which is provide the automation on the any type of the bookshop. That means a shop which has the type system which provides the facility to the shop owner of the shop to sell the books from the shop without any complexity.It will reduce paper work & work load of user. To reduce the Paper work and provide fast service to customers. The main objective is to provide the customers fast and error free transaction. It can be used in any Book Shop for maintaining database details and their quantities. This project is used for handle user needs. It must be outgoing process to know requirements of customer during whole system development life cycle.

Minimum HARDWARE & SOFTWARE SPECIFICATION

Processor: x86 64-bit CPU(Intel/AMD architecture)

OS: Windows 10 version 17763.0 or higher

RAM: 4 GB

Free Disk space: 5 GB

Mouse: 2-button

Keyboard: QWERTY

Monitor: monochrome or colour

System packages:

Python(3.9) or higher

MySQL(8.0)

DATA FLOW DIAGRAM

DFD is a picture of the movement of data between external entities and the processes and data stores within a system. DFD can be expanded to show successive levels of detail. Sufficient expansion should be performed during the initial investigation to be certain that both the analyst and user personnel share a common understanding of the existing system and its data flow.

The different symbols used in the DFD are:

| Shape	Shape Name	Description
	Process	The Process (typically a Rectangle) shape shows a process, task, action, or operation. This shape represents something to be done or an action to be taken. Note that the text within the Process shape almost always includes a verb.
	Alternate Process	Alternate Process (typically a rounded Rectangle) allows you to specify an alternate process. Compare the rounded edges of this rectangle vs. the sharp corners of the conventional Process shape. Often, this shape is used for an automated activity that happens faster than the conventional Process.
	Decision	A Decision (typically a Diamond) shape denotes a question or a branch in the flowchart sequence. Most of the time, you see two branches emanating from a Decision shape. These branches are **Yes** and **No** responses. Sometimes, you may see a third branch emanating with a **Maybe** or another response.
	Data	A Data shape (typically a Parallelogram) is used to show input or output from a data source. Examples include receiving a report, getting an e-mail, getting an order, receiving data in some format, generating a report, sending an e-mail, faxing a message, etc.
	Predefined Process	This shape is used for a process that has already been defined elsewhere. This indicates that there is another flowchart available for this predefined process, and you should reference that source for more information. The Predefined Process shape is also known as a Subroutine. It is typically used to simplify complex flowcharts by moving a large part of the flowchart to another flowchart. Optionally, you can then hyperlink this shape to the other flowchart.
	Sort	The Sort shape sequences **Extract** plus **Merge**. This shape is used to extract a single source to multiple results and then converge them back to a single merge point. More often than not, the outcome is arranging a set of data into a pre-defined order.
	Extract	The Extract (split processes) shape removes one or more specific sets of items from a set. Also depicts storage of finished goods.
	Merge	The Merge (storage) shape is used to merge multiple processes into one. Also depicts storage of raw material.
	Stored Data	This shape represents a general data storage. The data may be stored on a hard drive, magnetic tape, memory card, of any storage device.
	Delay	This shape represents a waiting period where no activity is done. This shape is important as the delay may result in adding to the cost of the product or simply delaying the production. Delays should be analyzed to see if they can be minimized or eliminated.
	Sequential Access Storage	Sequential Access Storage (magnetic tape) is akin to an old reel of tape representing storage.
	Magnetic Disk	This shape depicts a database of any type such as: Microsoft Access, SQL Server, etc.
	Direct Access Storage	A cylinder represents Direct Access Storage. A hard drive is referred to as direct access storage since any sector on the drive can be accessed.
	Display	This shape refers to the display on a PC, indicating that the information is being displayed to the user.

DFD OF BOOK SHOP MANAGEMENT
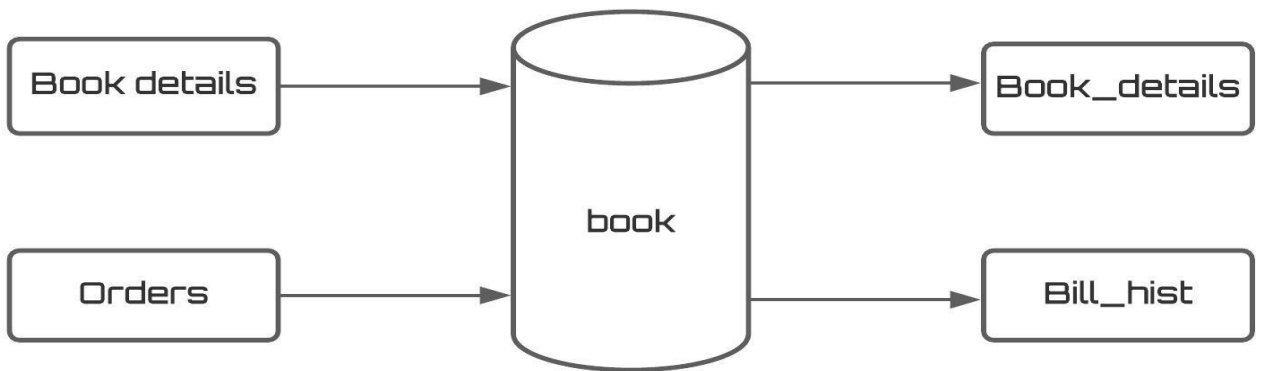
- **Zero level DFD:**
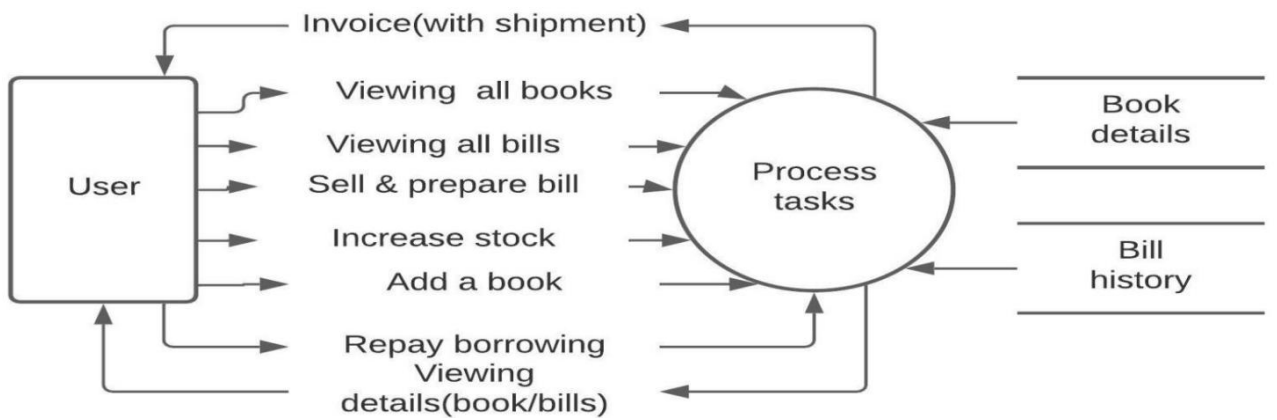
- **First level DFD:**
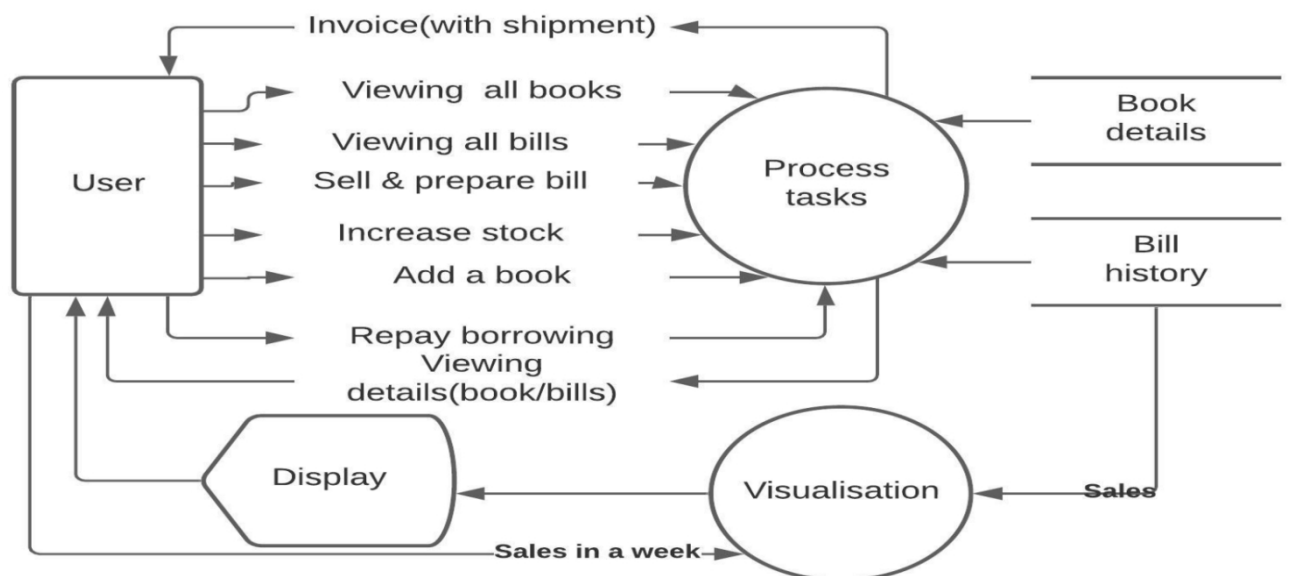
ENTITY-RELATIONSHIP DIAGRAM

ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships.

Following are the main components and its symbols in ER Diagrams:

☐ Entity or Strong Entity	◇ Relationship
☐ Weak Entity	◈ Weak Relationship
○ Attribute	
◎ Multivalued Attribute	

ER-DIAGRAM OF BOOK SHOP MANAGEMENT

book_detail entity attributes: genre, book_id, qnty, title, price_usd, author, year_pub, isbn

price_usd as price_pp (relationship)

bill_hist entity attributes: bill_id, b_book_id, b_qnty, price_pp, purchaser_name, contact_no, payment_status, b_date, total_price

book_id as b_book_id (relationship)
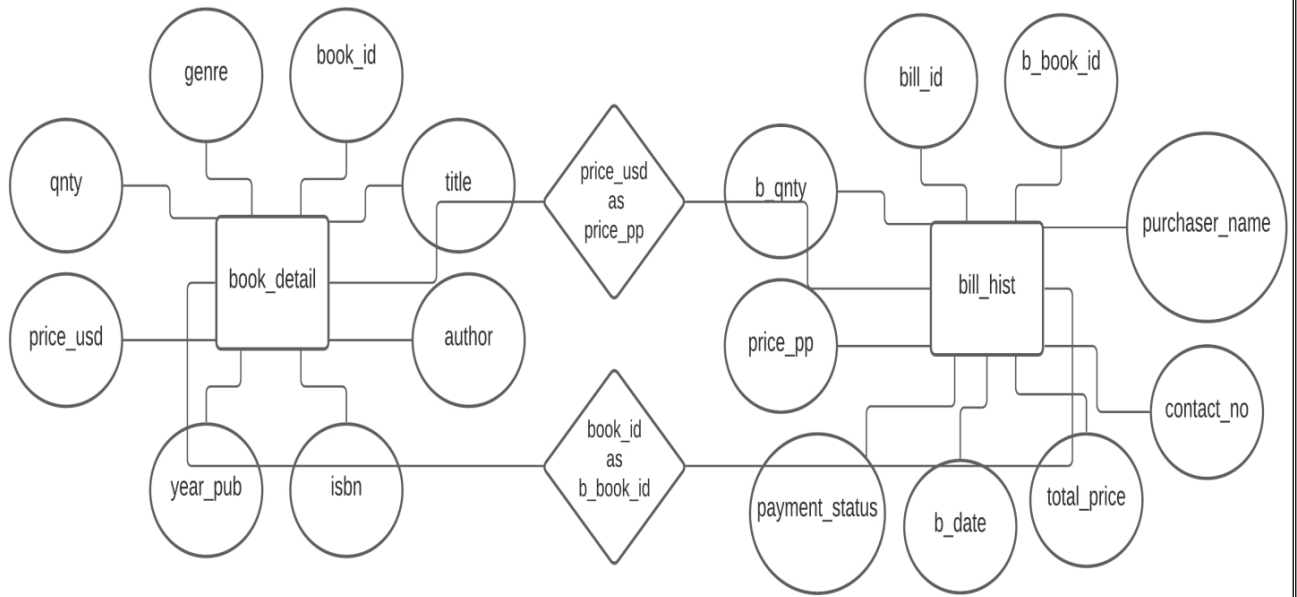
SOLUTION METHODOLOGY

➤ SYSTEM DESIGN

Software design is an actually a multi-step process that focuses on four
distinct attributes of program namely data structure, software architecture, interface representation and procedural details. The design process translates requirements into a representation of the software that can be assessed for quality before code generation begins. The design is documented and is part of the software configuration.

Code Generation: The design must be translated into a machine readable form. The code generation steps perform this task.

Testing: The testing process focuses on the logical internals of the software assuring that all statements have been tested and on the functional externals that is conducting tests to uncover errors and ensure that defined input will produce actual results that agree with required.

Maintenance: Software will undoubtedly undergo changes after it is delivered to the users.

➤ TABLE STUCTURE

TABLE:- book_detail

Field	Type	Null	Key	Default	Extra
book_id	tinyint	NO	PRI	NULL	auto_increment
title	varchar(45)	YES		NULL	
author	varchar(45)	YES		NULL	
isbn	bigint	YES		NULL	
year_pub	smallint	YES		NULL	
price_usd	float	YES		NULL	
qnty	bigint	YES		NULL	
genre	varchar(45)	YES		NULL	

TABLE:- bill_hist

Field	Type	Null	Key	Default	Extra
bill_id	tinyint	NO	PRI	NULL	auto_increment
purchaser_name	varchar(45)	YES		NULL	
contact_no	bigint	YES		NULL	
b_book_id	tinyint	YES		NULL	
b_qnty	bigint	YES		NULL	
price_pp	float	YES		NULL	
b_date	date	YES		NULL	
total_price	float	YES		NULL	
payment_status	varchar(45)	YES		not paid	

INPUTS & OUTPUTS

LOGIN PAGE

```
>>>
=============== RESTART: F:\ip_projectdir\book_shop_management.py ===============
                                   ☞゜ワ゜☞ AVERAGE BOOK STORE ☜゜ワ゜☜

                                           WELCOME


Do you want to access Book shop? [y/n] :y


                                            **MENU**

Use the following numbers to do your tasks

1)View books
2)Add a book
3)Sell & Prepare a bill
4)Increase stock of a book
5)Exit
6)View billing history
7)Examine your sales for this week
8)Repay the borrowing


What do you want to do ?[1/2/3/4/5/6/7/8] :|
```

VIEWING BOOKS

	book_id	title	author	isbn	year_pub	price_usd	qnty	genre
0	1	Northanger Abbey	Austen	1648642541	1814	18.200	3012	novel
1	2	War and Peace	Tolstoy	8282113122	1865	12.700	3014	novel
2	3	A Room of One's Own	Woolf	1534747323	1922	29.000	3010	essay
3	4	Tom Sawye	Mark	7535556464	1922	7.750	3055	novel
4	5	Mrs. Dalloway	Woolf	1508160575	1999	25.000	3003	novel
5	6	unknown	unknowns	8765425786	2000	10.000	3458	novel
6	7	unfortunately	i am	3558976547	2020	78.000	3012	mythology
7	8	the stories	mythology	1234567898	2004	13.400	3040	mythology
8	9	titte	auau	2586749035	2012	1500.000	3025	essay
9	10	auau	titte	7789599753	2005	12.000	2942	essay
10	11	title	author	2365709126	2012	1.000	3010	mythology
11	12	ifa	award	5762560981	1111	14.000	3067	novel
12	13	ok! its me	me me ne	6788763457	1999	23.000	3040	educational
13	14	sunderben deltA	takla	5676879064	1992	1.000	3023	medical
14	15	harry potter stories	author	5645674129	1867	32.870	3038	story
15	16	eco develpoment	good humans	9898675625	2021	0.000	3000	educational
16	17	tmkoc	asit modi	7470825671	2001	23.985	3900	comedy

VIEWING BILL RECORDS

	bill_id	purchaser_name	contact_no	b_book_id	b_qnty	price_pp	b_date	total_price	payment_status
0	1	om tiwari	8965231234	4	1	7.750	2021-02-05	7.75	paid
1	2	rajesh dewangan	8965231256	14	1	1.000	2021-02-05	1.00	paid
2	3	unknown dewangan	8956231256	11	1	1.000	2021-02-05	1.00	paid
3	4	ok dewangan	8965231265	14	4	1.000	2021-02-05	4.00	paid
4	5	last dewangan	5698231256	9	1	1500.000	2021-02-05	1500.00	paid
5	6	anyone human	4564564567	12	1	14.000	2021-02-06	14.00	paid
6	7	try try	9879879876	5	1	25.000	2021-02-07	25.00	paid
7	8	maybe me	7657657654	3	3	29.000	2021-02-07	87.00	paid
8	9	maybe	7657657654	3	3	29.000	2021-02-07	87.00	paid
9	10	again try	9879872323	7	8	78.000	2021-02-07	624.00	paid
10	11	again try	9879872323	7	8	78.000	2021-02-07	624.00	paid
11	12	meto	9850980536	8	1	13.400	2021-02-08	13.40	paid
12	13	kindness	7470825671	16	4000	0.000	2021-02-08	0.00	paid
13	14	vipul	5679870923	7	5	78.000	2021-02-09	390.00	paid
14	15	nipa	9879345234	10	5	12.000	2021-02-09	60.00	paid
15	16	vishu	7470825671	3	1	29.000	2021-02-09	29.00	paid
16	17	harshit	9694659346	9	56	1500.000	2021-02-09	84000.00	paid
17	18	harshit	9768413412	4	6	7.750	2021-02-09	46.50	paid
18	19	tarak mehta	1765280747	17	99	23.985	2021-02-09	2374.52	paid
19	20	tarak mehta	1765280747	10	76	12.000	2021-02-09	912.00	paid
20	21	tarak mehta	1765280747	12	8	14.000	2021-02-09	112.00	paid
21	22	tarak mehta	1765280747	8	5	13.400	2021-02-09	67.00	paid
22	23	doraemon	9747358028	7	5	78.000	2021-02-09	390.00	paid
23	24	sundar	8763456783	14	3	1.000	2021-02-10	3.00	paid
24	25	astha	8305234746	5	7	25.000	2021-02-10	175.00	paid
25	26	narendra modi	7659873452	9	1	1500.000	2021-02-10	1500.00	paid
26	27	rahul gandhi	8768766785	8	1	13.400	2021-02-10	13.40	paid
27	28	notdefined ambani	7470824673	6	86	10.000	2021-02-11	860.00	paid

VIEWING SALES

BOOKS SALES
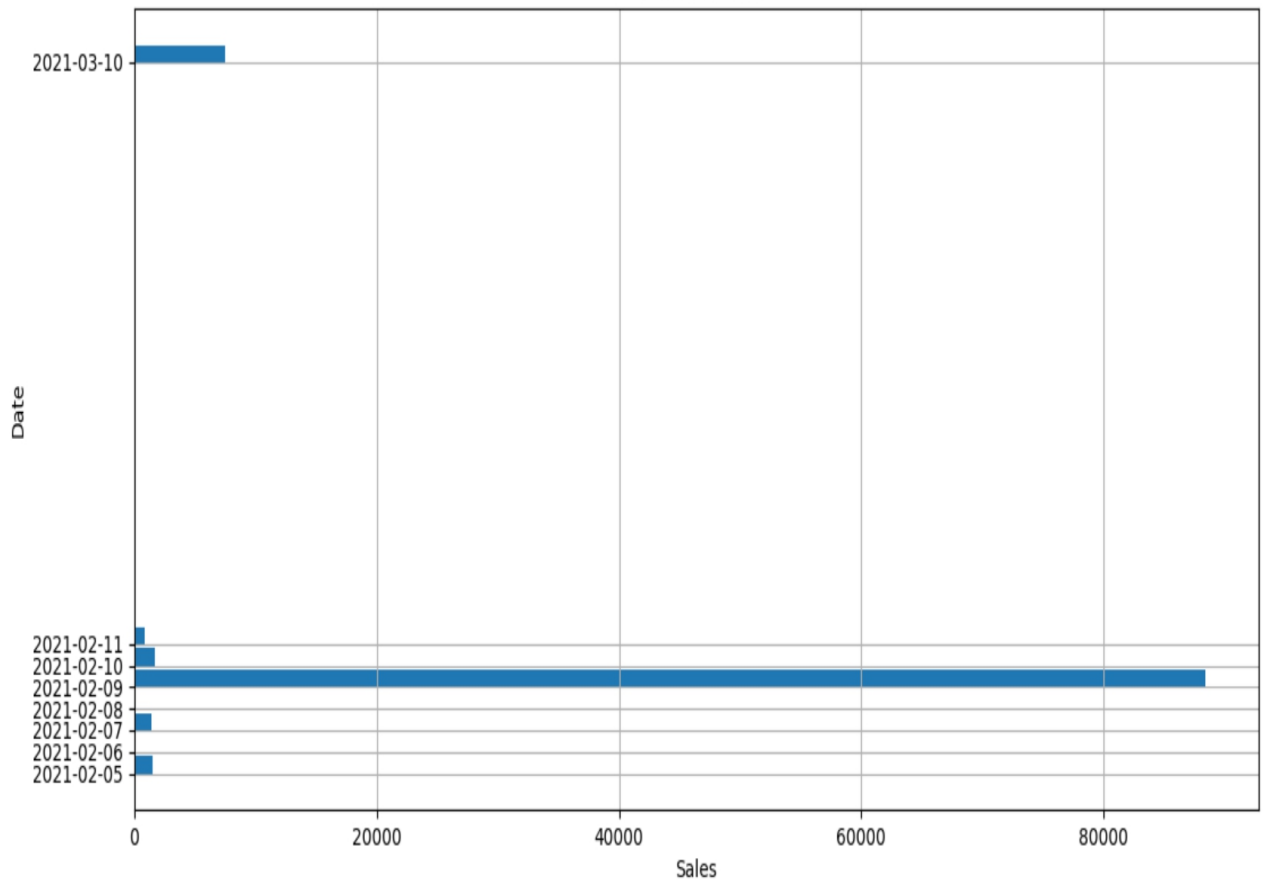
SOURCE CODE

```python
#greeting
print("☞ﾟヮﾟ☞ AVERAGE BOOK STORE ☜ﾟヮﾟ☜".center(150))
print("WELCOME".center(150))

#importing some modules
import pandas as pd
import mysql.connector as sqltor
from datetime import date
import matplotlib.pyplot as plt

#some repeating codes
def EXIT():
    print()
    print("THANK YOU SO MUCH!!!".center(150))
    exit()

def VIEW():
    print()
    bd = pd.read_sql("SELECT * FROM book_detail ;",book)
    print(bd)

def VIEW_BILLS():
    print()
    bh = pd.read_sql("SELECT * FROM bill_hist",book)
    print(bh)

#connecting mysql table
book=
sqltor.connect(host="127.0.0.1",port="3306",user="root",passwd="nforce
",database="book")
cur = book.cursor()

#opening screen
print()
z = 1
while z > 0 :
    vb = str(input("Do you want to access Book shop? [y/n] :",)).lower()
```

```python
    if vb == "y" :
        print()
        print("**MENU**".center(150))
        print("Use the following numbers to do your tasks")
        print()
        print("1)View books")
        print("2)Add a book")
        print("3)Sell & Prepare a bill")
        print("4)Increase stock of a book")
        print("5)Exit")
        print("6)View billing history")
        print("7)Examine your sales")
        print("8)Repay the borrowing")
        print()
        x = 1
        while x > 0:
            print()
            t = int(input("What do you want to
do ?[1/2/3/4/5/6/7/8] :",))

            if t == 1 :
                VIEW()

            elif t == 2 :
                print()
                print("Give the desired informations about the new
book that you want to add")
                sql = "INSERT INTO
book_detail(title,author,isbn,year_pub,price_usd,qnty,genre)
VALUES(%s,%s,%s,%s,%s,%s,%s)"
                val_ele = [str(input("TITLE OF
BOOK>>>:",)),str(input("AUTHORS NAME>>>:",)),int(input("ISBN
NUMBER>>>:",)),int(input("YEAR
PUBLISHED>>>:",)),float(input("PRICE IN
USD>>>:",)),int(input("QUANTITY>>>:",)),str(input("GENRE>>>:",))]
                val = []
                for t in val_ele:
                    val.append(t)
                cur.execute(sql,val)
                book.commit()
```

```python
                    print(cur.rowcount,"Book record
inserted".center(150))
                    print('Here is the updated book store'.center(150))
                    VIEW()

            elif t == 3 :
                    print()
                    sid = int(input("Give the id of the book you want to
sell:",))

                    print()
                    quantity = int(input("How many books you want to
sell :",))

                    print()
                    print("Give the desired informations about the
purchaser for records")
                    print()
                    pn = str(input("PURCHASER NAME>>>:"))
                    cn = int(input("CONTACT NUMBER>>>:"))
                    sql = "INSERT INTO bill_hist (purchaser_name,
contact_no, b_book_id, b_qnty) VALUES
('%s',%s,%s,%s);" %(pn,cn,sid,quantity)
                    sql_pp = "UPDATE book.bill_hist SET price_pp =
(SELECT price_usd FROM book.book_detail WHERE b_book_id =
book_id);"
                    sql_dt = "UPDATE bill_hist SET b_date =
CURDATE() WHERE b_date IS NULL ;"
                    sql_tp = "UPDATE bill_hist SET total_price =
price_pp * b_qnty"
                    sql_s = "UPDATE book_detail SET qnty = qnty - %s
WHERE book_id = %s ;" %(quantity,sid)
                    cur.execute(sql)
                    cur.execute(sql_pp)
                    cur.execute(sql_dt)
                    cur.execute(sql_tp)
                    cur.execute(sql_s)
                    book.commit()
                    sql_yps = "UPDATE book.bill_hist SET
payment_status = 'paid' WHERE purchaser_name = '%s'" %(pn)
                    sql_nps = "UPDATE book.bill_hist SET
payment_status = 'unpaid' WHERE purchaser_name = '%s'" %(pn)
                    print("INVOICE".center(150))
```

```python
                print()
                today = date.today()
                print("NAME :",pn,"          DATE :",today)
                sql_bill = pd.read_sql("SELECT
bill_id,purchaser_name,contact_no,b_book_id,b_qnty,price_pp,b_date,tot
al_price FROM book.bill_hist WHERE purchaser_name =
'%s';"%(pn),book)
                print(sql_bill)
                print()
                print("0--> NO")
                print("1--> YES")
                ps = int(input("Will customer pay the bill ?[0/1]:",))
                if ps == 0 :
                    print()
                    print("See you soon".center(150))
                    cur.execute(sql_nps)

                elif ps == 1 :
                    print()
                    print("Thanks for your payment".center(150))
                    cur.execute(sql_yps)

                else:
                    print("I don't understand that".center(150))
                    EXIT()
                book.commit()

        elif t == 4 :
                sid = int(input("Give the id of the book you want to
increase quantity of :",))
                quantity = int(input("How many books you want to
increase :",))
                sql = "UPDATE book_detail SET qnty = qnty + %s
WHERE book_id = %s ;" %(quantity,sid)
                cur.execute(sql)
                book.commit()
                VIEW()

        elif t == 5 :
                print()
                EXIT()
```

```python
            elif t == 6 :
                print()
                VIEW_BILLS()

            elif t == 7 :
                q = "SELECT SUM(total_price) AS sales,b_date AS
date FROM bill_hist GROUP BY b_date;"
                vs = pd.read_sql(q,book)
                plt.figure(figsize=(20,20))
                plt.barh(vs.date,vs.sales,align='edge')
                plt.ylabel("Date")
                plt.xlabel("Sales")
                plt.title('BOOKS SALES')
                plt.yticks(vs.date)
                plt.grid(True)
                plt.show()

            elif t == 8 :
                bi = int(input("Give the bill id with which book was
borrowed :",))
                ups = "UPDATE `book`.`bill_hist` SET
`payment_status` = 'paid' WHERE (`bill_id` = %s);"%(bi)
                cur.execute(ups)
                book.commit()
                print("INVOICE".center(150))
                print()
                today = date.today()
                print("DATE :",today)
                up_sql_bill = pd.read_sql("SELECT * FROM
book.bill_hist WHERE bill_id = %s;"%(bi),book)
                print(up_sql_bill)
                print()

            else:
                print()
                print("I can't understand that".center(150))
            x = x + 1

    elif vb == "n" :
        print()
```

```
            EXIT()

    else:
        print()
        print("Uhh...I don't undertand that".center(150))
z = z + 1
```

LIMITATIONS

Though the system has been designed according to the requirements of the users it has its own limitation. Thus the limitation of system are:

1. It don`t has the searching option along with the managing capability.
2. No facility to create new users with different role.
3. Have no user privacy.

FUTURE ENHANCEMENT

This software has demands in private and public area. This software provides a great help in managing the data in a well-mannered order. This project is designed specially to maintain the data in a sequential manner and to save the tome and efforts of database

CONCLUSION

This system computerizes the Book shop management process in any book shop. It manages the different operations in book shop such as maintain record of available books,Keeps records of bills & sales. New features and modules can be added into the system as per user requirements.

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