COMPUTER SCIENCE

PROJECT

ON

LIBRARY MANAGEMENT

NAME:

CLASS:

ROLL NO. :

Vineeta Garg

CERTIFICATE

This is to certify that _____ of class _____, _____ School, has successfully completed her Investigatory Project as prescribed by CBSE in the year _____.

Date :

Roll No. :

Signature of Subject Teacher

Signature of External Examiner

_____ _____

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ACKNOWLEDGEMENT

It would be my utmost pleasure to thank my Computer Science teacher _____ for giving me this knowledgeable topic "LIBRARY MANAGEMENT" and supporting me during the course of this project. I would also like to thank my parents and God for encouraging me and giving me strength to complete this project on time.

Secondly, I also like to thank my partner for being co-operative and pally with me throughout the process and for helping me to make this a full proof success.

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PROGRAM CODE

LIBRARY.py

```
import math

import os

def DispMenu():

    print("\n\n\n\t\t############# LIBRARY MANAGEMENT ################")

    print("\n\t\t\t 1. BOOK MANAGEMENT ")

    print("\n\t\t\t 2. MEMBER MANAGEMENT ")

    print("\n\t\t\t 3. ISSUE BOOK")

    print("\n\t\t\t 4. RETURN BOOK")

    print("\n\t\t\t 5. EXIT ")

    print("\t\t##########################################################")



def BookMenu():

    print("\n\n\n\t\t############# BOOK MANAGEMENT ################")

    print("\n\t\t\t 1. ADD BOOK  ")

    print("\n\t\t\t 2. DELETE BOOK ")

    print("\n\t\t\t 3. MODIFY BOOK")

    print("\n\t\t\t 4. DISPLAY BOOKS")
```

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```
    print("\n\t\t\t 5. EXIT ")
    print("\t\t#######################################################")


def MemberMenu():
    print("\n\n\n\t\t############# MEMBER MANAGEMENT ################")
    print("\n\t\t\t 1. ADD MEMBER  ")
    print("\n\t\t\t 2. DELETE MEMBER ")
    print("\n\t\t\t 3. MODIFY MEMBER")
    print("\n\t\t\t 4. DISPLAY MEMBERS")
    print("\n\t\t\t 5. EXIT ")
    print("\t\t#######################################################")


def bookadd():
    import mysql.connector       # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
# Open a connection to a database
    cursor1 = con1.cursor()         #Create a cursor object
    #Execute SQL query to insert records in the table newitems
    print("Enter the following information")
```

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```
    bno=input("Enter the book number:")
    bname=input("Enter book name:")
    bauthor=input("Enter author name:")
    bprice=float(input("Enter book price:"))
    bstat="N"
    sql_query=("insert into book (bookno, bookname, bookauthor, bookprice, status) values
(%s,%s,%s,%s,%s);")
    insert_data=(bno,bname,bauthor,bprice,bstat)
    cursor1.execute(sql_query,insert_data)
    con1.commit()     # Stores the data permanently in the table
    con1.close()      #Close connection object
    cursor1.close()   #Close cursor object


    print("book added")


def bookdelete():
     bno=input("Enter book Number to be deleted")
    flag=0
    import mysql.connector          # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database
```

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```
    cursor1 = con1.cursor()         #Create a cursor object
    #Execute SQL query to update the table
    cursor1.execute("delete from book where bookno = %s",(bno,))
    con1.commit()                   # Stores the data permanently in the table
    con1.close()                    #Close connection object
    cursor1.close()



def bookmodify():


    import mysql.connector       # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
   # Open a connection to a database
    cursor1 = con1.cursor()         #Create a cursor object
    #Execute SQL query to insert records in the table newitems
    bno=input("Enter the book number you want to modify")
    print("Enter the following information")


    bname=input("Enter book name:")
    bauthor=input("Enter author name:")
    bprice=input("Enter book price:")
```

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```
    bstat="N"
    cursor1.execute("update book set bookname=%s, bookauthor=%s, bookprice=%s, status=%s where bookno=%s",(bname,bauthor,bprice,bstat,bno))
    con1.commit()     # Stores the data permanently in the table
    con1.close()                    #Close connection object
    cursor1.close()                 #Close cursor object


    print("book modified")



def bookdisp():
    import mysql.connector       # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database
    cursor1 = con1.cursor()        #Create a cursor object
    cursor1.execute ("select * from book;")  #Execute SQL query to create a table
    # fetch all rows of a result set and store in rs as a list of tuples
    rs = cursor1.fetchall()
    print("\n\n\n############################ BOOK DETAILS ##############################")
    print("%10s"%"BOOK NO.","%20s"%"TITLE","%20s"%"AUTHOR","%15s"%"PRICE",
"%15s"%"STATUS")
```

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```
    for row in rs:                    # for loop to display all records
      print("%10s"%row[0],"%20s"%row[1],"%20s"%row[2],"%15s"%row[3],"%15s"%row[4])

    print("\n############################ BOOK DETAILS ##############################")
    K=input("\n\nPress any key to continue")

    con1.close()              #Close connection object
    cursor1.close()                #Close cursor object

def memberadd():
    import mysql.connector       # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database
    cursor1 = con1.cursor()        #Create a cursor object
    #Execute SQL query to insert records in the table newitems
    print("Enter the following information")
    mno=input("Enter the member number:")
    mname=input("Enter member name:")
    mbno=" "
```

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```
    bstat="N"
    sql_query=("insert into member1 (memberno, membername, booknum, memstatus) values
(%s,%s,%s,%s);")
    insert_data=(mno,mname,mbno,bstat)
    cursor1.execute(sql_query,insert_data)
    con1.commit()     # Stores the data permanently in the table
    con1.close()      #Close connection object
    cursor1.close()   #Close cursor object


    print("Member added")




def memberdelete():


    mno=input("Enter member number to be deleted")
    flag=0
    import mysql.connector          # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database
```

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```
    cursor1 = con1.cursor()         #Create a cursor object
    #Execute SQL query to update the table
    cursor1.execute("delete from member1 where memberno = %s",(mno,))
    con1.commit()                   # Stores the data permanently in the table
    con1.close()                    #Close connection object
    cursor1.close()
    print("book deleted")


def membermodify():


    import mysql.connector       # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database
    cursor1 = con1.cursor()       #Create a cursor object
    #Execute SQL query to insert records in the table newitems
    mno=input("Enter the member number you want to modify")
    print("Enter the following information")
    mname=input("Enter member name:")
    mbno=" "
    mstat="N"
```

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```
    cursor1.execute("update member1 set membername=%s, booknum=%s, memstatus=%s where
memberno=%s",(mname,mbno,mstat,mno))
    con1.commit()     # Stores the data permanently in the table
    con1.close()                    #Close connection object
    cursor1.close()                 #Close cursor object


    print("book modified")



def memberdisp():
    import mysql.connector       # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database
    cursor1 = con1.cursor()         #Create a cursor object
    cursor1.execute ("select * from member1;")  #Execute SQL query to create a table
    # fetch all rows of a result set and store in rs as a list of tuples
    rs = cursor1.fetchall()
    print("\n\n\n############################ BOOK DETAILS ##############################")
    print("%10s"%"MEMBER NO.","%20s"%"NAME","%20s"%"BOOK NUMBER","%15s"%"STATUS")
    for row in rs:                  # for loop to display all records
      print("%10s"%row[0],"%20s"%row[1],"%20s"%row[2],"%15s"%row[3])
```

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```
    print("\n############################ BOOK DETAILS ##############################")
    K=input("\n\nPress any key to continue")

    con1.close()              #Close connection object
    cursor1.close()                   #Close cursor object


def IssueBook():

    mno=input("Enter Member Number")
    flag=0
    import mysql.connector      # Import MySQL connector
    con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database
    con2 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database

    cursor1 = con1.cursor()         #Create a cursor object
    cursor2 = con2.cursor()
    cursor1.execute("select * from member1 where memberno=%s",(mno,))
```

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```
    mrec=cursor1.fetchone()
    print(mrec)
    print(mrec[0])
    if mrec[0]==mno:
        print("Member Details:")
        print(mrec)
        if mrec[3]== "N":
            bno=input("Enter Book Number")
            cursor2.execute("select * from book where bookno=%s",(bno,))
            brec=cursor2.fetchone()
            if brec[0]== bno:
                flag=1
                if brec[4]=="N":
                    print("Book Details:")
                    print(brec)

                    cursor1.execute("update member1 set booknum= %s, memstatus= %s where
memberno=%s",(bno,"Y",mno))
                    cursor2.execute("update book set status=%s where bookno=%s",("Y",bno))
                    print("Book Successfully Issued")
                    print("Return the book within 10 days of issue date")
```

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```
            con1.commit()     # Stores the data permanently in the table
            con2.commit()
          else:
            print("Book already issued")

      if (flag==0):
        print("Book already issued")
    else:
      print("Return the previous book")
  con1.close()
  cursor1.close()
  con2.close()
  cursor2.close()

def ReturnBook():

  mno=input("Enter Member Number")
  flag=0
  import mysql.connector       # Import MySQL connector
  con1 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
  # Open a connection to a database
```

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```
    con2 = mysql.connector.connect(host='localhost', database='world', user='root', password='tiger')
    # Open a connection to a database


    cursor1 = con1.cursor()          #Create a cursor object
    cursor2 = con2.cursor()
    cursor1.execute("select * from member1 where memberno=%s",(mno,))
    mrec=cursor1.fetchone()
    if mrec[0]==mno:
       print("Member Details:")
       print(mrec)
       bno=mrec[2]
       cursor2.execute("select * from book where bookno=%s",(bno,))
       brec=cursor2.fetchone()
       if mrec[2]== brec[0]:
          print("Book details:")
          print(brec)
          flag=1
          cursor1.execute("update member1 set booknum= %s, memstatus= %s where memberno=%s",("
","N",mno))
          cursor2.execute("update book set status=%s where bookno=%s",("N",bno))
          days=int(input("Book returned in no. of days: "))
```

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```
            fine=0
            if (days>10):
               fine=(days-10)*2
            print("Deposit the fine amount:",fine)
            print("Book Successfully Returned")
            con1.commit()     # Stores the data permanently in the table
            con2.commit()

        if (flag==0):
            print("Book not found")




choice=0
while choice!=5:
    DispMenu()
    choice = int(input('\t\t\t ENTER YOUR CHOICE :'))
    if choice==1:
        ch=0
```

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```
    while ch!=5:
        BookMenu()
        ch = int(input('\t\t\t ENTER YOUR CHOICE :'))
        if ch==1:
            bookadd()
        elif ch==2:
            bookdelete()

        elif ch==3:
            bookmodify()

        elif ch==4:
            bookdisp()

        elif ch==5:
            break

        else:
            print('\n\t\t\t == INVALID CHOICE == ')

elif choice==2:
```

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```
ch=0
while ch!=5:
    MemberMenu()
    ch = int(input('\t\t\t ENTER YOUR CHOICE :'))
    if ch==1:
        memberadd()
    elif ch==2:
        memberdelete()

    elif ch==3:
        membermodify()

    elif ch==4:
        memberdisp()

    elif ch==5:
        break

    else:
        print('\n\t\t\t == INVALID CHOICE == ')
```

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```
elif choice==3:
    IssueBook()
elif choice==4:
    ReturnBook()
elif choice==5:
    break
else:
    print('\n\t\t\t == INVALID CHOICE == ')
```

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OUTPUT SCREENSHOTS

```
############ LIBRARY MANAGEMENT ###############

          1. BOOK MANAGEMENT

          2. MEMBER MANAGEMENT

          3. ISSUE BOOK

          4. RETURN BOOK

          5. EXIT
##############################################################
          ENTER YOUR CHOICE :1
```

```
            ############ BOOK MANAGEMENT ###############

                        1. ADD BOOK

                        2. DELETE BOOK

                        3. MODIFY BOOK

                        4. DISPLAY BOOKS

                        5. EXIT
                ##################################################
                        ENTER YOUR CHOICE :1
Enter the following information
Enter the book number:A004
Enter book name:Twilight
Enter author name:Meyer, Stephenie
Enter book price:550
book added
```

```
mysql> select * from book;
+--------+------------+------------------+-----------+--------+
| bookno | bookname   | bookauthor       | bookprice | status |
+--------+------------+------------------+-----------+--------+
| 1001   | Twilight   | Meyer, Stephenie |    550.00 | N      |
| 1002   | Lost Symbol| Brown, Dan       |    400.00 | N      |
| 1003   | One day    | Nicholls, David  |    345.00 | N      |
| A004   | Twilight   | Meyer, Stephenie |    550.00 | N      |
+--------+------------+------------------+-----------+--------+
4 rows in set (0.00 sec)
```

```
############ MEMBER MANAGEMENT ###############

          1. ADD MEMBER

          2. DELETE MEMBER

          3. MODIFY MEMBER

          4. DISPLAY MEMBERS

          5. EXIT
#############################################################
          ENTER YOUR CHOICE :4
```

```
########################## BOOK DETAILS ##############################
MEMBER NO.                  NAME          BOOK NUMBER          STATUS
      A001                  AMIT                                    N
      A002                 REKHA                                    N
      A003                 RAZAT                                    N

########################## BOOK DETAILS ##############################


Press any key to continue
```

```
############ LIBRARY MANAGEMENT ###############

          1. BOOK MANAGEMENT

          2. MEMBER MANAGEMENT

          3. ISSUE BOOK

          4. RETURN BOOK

          5. EXIT
#################################################
          ENTER YOUR CHOICE :3
```

```
Enter Member NumberA001
('A001', 'AMIT', '', 'N')
A001
Member Details:
('A001', 'AMIT', '', 'N')
Enter Book Number1002
Book Details:
('1002', 'Lost Symbol', 'Brown, Dan', 400.0, 'N')
Book Successfully Issued
Return the book within 10 days of issue date
```

```
mysql> select * from book;
+--------+-------------+------------------+-----------+--------+
| bookno | bookname    | bookauthor       | bookprice | status |
+--------+-------------+------------------+-----------+--------+
| 1001   | Twilight    | Meyer, Stephenie |    550.00 | N      |
| 1002   | Lost Symbol | Brown, Dan       |    400.00 | Y      |
| 1003   | One day     | Nicholls, David  |    345.00 | N      |
| A004   | Twilight    | Meyer, Stephenie |    550.00 | N      |
+--------+-------------+------------------+-----------+--------+
4 rows in set (0.00 sec)
```

```
mysql> select * from member1;
+----------+------------+---------+-----------+
| memberno | membername | booknum | memstatus |
+----------+------------+---------+-----------+
| A001     | AMIT       | 1002    | Y         |
| A002     | REKHA      |         | N         |
| A003     | RAZAT      |         | N         |
+----------+------------+---------+-----------+
3 rows in set (0.00 sec)
```

```
############ LIBRARY MANAGEMENT ###############

          1. BOOK MANAGEMENT

          2. MEMBER MANAGEMENT

          3. ISSUE BOOK

          4. RETURN BOOK

          5. EXIT
##############################################
          ENTER YOUR CHOICE :4
```

```
Enter Member NumberA001
Member Details:
('A001', 'AMIT', '1002', 'Y')
Book details:
('1002', 'Lost Symbol', 'Brown, Dan', 400.0, 'Y')
Book returned in no. of days: 5
Deposit the fine amount: 0
Book Successfully Returned
```

```
mysql> select * from member1;
+----------+------------+---------+-----------+
| memberno | membername | booknum | memstatus |
+----------+------------+---------+-----------+
| A001     | AMIT       |         | N         |
| A002     | REKHA      |         | N         |
| A003     | RAZAT      |         | N         |
+----------+------------+---------+-----------+
3 rows in set (0.00 sec)

mysql> select * from book;
+--------+-------------+------------------+-----------+--------+
| bookno | bookname    | bookauthor       | bookprice | status |
+--------+-------------+------------------+-----------+--------+
| 1001   | Twilight    | Meyer, Stephenie |    550.00 | N      |
| 1002   | Lost Symbol | Brown, Dan       |    400.00 | N      |
| 1003   | One day     | Nicholls, David  |    345.00 | N      |
| A004   | Twilight    | Meyer, Stephenie |    550.00 | N      |
+--------+-------------+------------------+-----------+--------+
4 rows in set (0.00 sec)
```