MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION

GOVERNMENT POLYTECHNIC, AWASARI (KH) TAL – AMBEGAON, DIST – PUNE – 412405

ACADEMIC YEAR: 2021-22

COURSE NAME: Java Programming.

COURSE CODE: 22412.

BRANCH: Information Technology [Second Year].

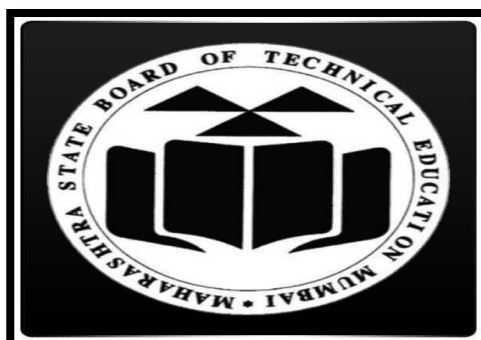**TOPIC NAME: Microproject on Library Management System.**

Group No.:   First Group [1].

DETAILS OF TEAM MEMBERS:

Sr.no.	Roll Number	Number Name of the Students	Enrolment No.
1.	20IF201	Banger Sarthak	2010510345
2.	20IF202	Barhate Vaishnavi	2010510346
3.	20IF203	Bharti Aditya	2010510349
4.	20IF204	Bhosure Priya	2010510350
5.	20IF205	Chipade Aditya	2010510351
6.	20IF206	Chipade Siddhi	2010510352

Guide By: (Mrs. P.S.Ghode.)

DEPARTMENT OF INFORMATION TECHNOLOGY
GOVERNMENT POLYTECHNIC AWASARI (KHURD)

SEMESTER —IV 2021-22

CERTIFICATE

This is to certify the following students of semester Fourth of Diploma in Information Technology of Institute: Government polytechnic, Awasari (kh) (code: 1051) has completed the micro project satisfactorily in subject:

Microproject on Library Management System for the academic year 2021-22 as prescribed in the curriculum.

Sr.no.	Roll Number	Number Name of the Students	Enrolment No.
1.	20IF201	Banger Sarthak	2010510345
2.	20IF202	Barhate Vaishnavi	2010510346
3.	20IF203	Bharti Aditya	2010510349
4.	20IF204	Bhosure Priya	2010510350
5.	20IF205	Chipade Aditya	2010510351
6.	20IF206	Chipade Siddhi	2010510352

Date: -__/__/2022

(Mrs.P.S.Ghode)   **(Dr.D.R.Nandanvar)**   **(Dr. Rewadkar)**
 [Guide By]   **[Principal]**   **[H.O.D]**

PART A

A MICRO PROJECT PROPOSAL

Aim: **Microproject on Student Report Management System.**

Course Outcomes (Cos): -

- Develop programs using Object oriented methodology in Java.

- Develop programs for handling I/O and file stream.

Benefits:
- First we understand concept of java very well.
- We learn how to use OOP's concept.
- We learn how to make algorithm.
- Our programming skills is improved.

Proposed Methodology: -

First of all we have select a topic: **Microproject on Library Management System.** The teacher will assign one set Micro Project and the student to create **Library Management System.**

We collected information about our topic using source such as the internet Books then we asked a subject teacher about printers on which we have a micro project and then we type the required part-A and done proper page setup and submitted to subject of Teacher. After setup part-A we prepare a report for it. After finishing all the typing, we arrange all the data in proper arrangement. We selected proper margin font, lay out, 4A size etc. at last we got the print outs of the micro- project and submitted to subject.

4.0 Action plan: -

Sr.no.	Details Of Activity	Planned Start Date	Planned Finished Date	Name Of Responsible Members
1.	Group formation and allocation of Micro project title.	16/03/2022	17/03/2022	All Team Members
2.	Information search and required analysis.	17/03/2022	24/03/2022	All Team Members
3.	Actual project/assembly project	26/03/2022		All Team Members
4.	Testing of project.	05/04/2022		All Team Members
5.	Acquire the printout and submit it.	25/05/2022		All Team Members
6.	Submission of project.	31/05/2022		All Team Members

5.0 Resources Required: -

Sr.no.	Name of Resource/material	Specifications	Qty	Remarks
1]	M.S WORD	Windows 10	-	-
2]	Search Engine	Google	-	-
3]	Notepad++ and Command Prompt(Cmd)	Program Executing Apps	-	-

Date: -__/__/2022

(Mrs.P.S.Ghode)   **(Dr. Rewadkar)**   **(Dr.D.R.Nandanvar)**
 (Guide By)   **(H.O.D)**   **(Principal)**

DEPARTMENT OF INFORMATION TECHNOLOGY
GOVERNMENT POLYTECHNIC AWASARI (KHURD)
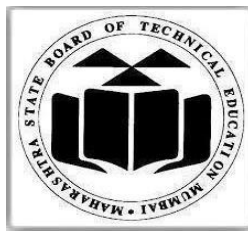
This is to certify the following students of semester fourth of Diploma in Information Technology of Institute : Government polytechnic, Awasari (kh) (code : 1051) has completed the micro project satisfactorily in subject- Java Programming for the academic year 2021-22 as prescribed in the curriculum.

SR. NO.	NAMES OF GROUP MEMBERS	ROLL NO.	ENROLLMENT NO.
1	Banger Sarthak	20IF201	2010510345
2	Barhate Vaishnavi	20IF202	2010510346
3	Bharti Aditya	20IF203	2010510349
4	Bhosure Priya	20IF204	2010510350
5	Chipade Aditya	20IF205	2010510351
6	Chipade Siddhi	20IF206	2010510352

GUIDED BY   H.O.D.   PRINCIPAL
(Mrs. P. S. GHODE)   (Dr. D.N. REWADKAR)   (Dr.D.R.NANDANWAR)

Part – B

Title: Microproject on Library Management System.

Benefits:

 Library Management System is a basic Java program for simplify library establishments to   manage Library data and manage many other Books related data needs in a Library. In this Java Management System project, the user can create, display, Modify.

- All Book records are easy to save.
- Improves Data Security.
- Increases Overall Productivity.
- Manage all records properly without any mistake.
- Provides Access easily of any record or report easily.

Library Management Systems are a great way to monitor books, add them, update information in it, search for the suitable one, issue it, and return it when needed. This Library Management System Project is developed in Java, to provide all the features that a Library Management System should usually have and overcome the drawbacks of the present system such as:
- Paper-based record keeping.
- Mis-management of data due to manual and paper-based handling.
- A vast amount of time consumption in searching for books and library management.
- Book-thefts from the library.

Course outcomes(Cos):
- Develop programs using Object oriented methodology in Java.

- Develop programs for handling I/O and file stream.

Algorithm:

1. Store the name of the Book.
2. Store the Book Id.
3. Store the unique number for every book.
4. Store the information of the book.
5. Store the courses registered fore the book.

Approach: The idea is to form an individual functions for every operation. All the functions are unified together to form software.

Flowchart:

Flow Chart - Library Management System
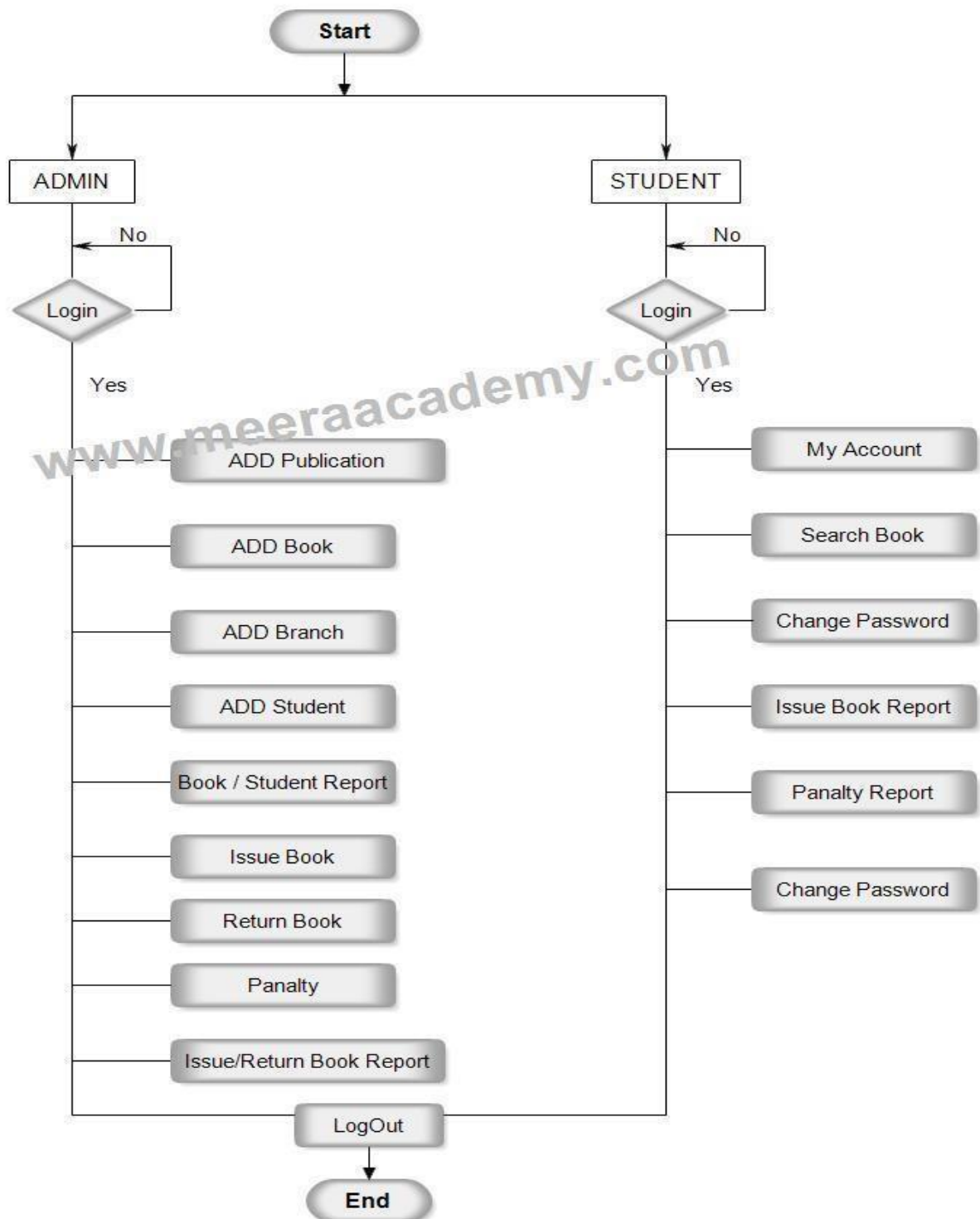
Output of Program:

1] This is the starting page of program of our project , consist of three main points

I] To get data of the

Books.

II] To search data of

the Books,

III] Exit.

```
C:\Users\Amruta Chipade\Desktop>javac Bookshopmethods.java

C:\Users\Amruta Chipade\Desktop>java bookshop
*******************MENU IS***************
                1.To enter the data
                2.To search a book
                3.Exit
Enter your choice from the above menu:
1
Enter the title of the 1 book:
Chava
Enter the author of the 1 book:
G.D.Madgulakr
Enter the publisher of the 1 book:
fOUNTAIN
Enter the cost of the 1 book:
200
Enter the number of books present in the Library:
10
Enter the title of the 2 book:
Ignited Minds
Enter the author of the 2 book:
Dr.A.P.J.Abdul Kalam
Enter the publisher of the 2 book:
Fountain
Enter the cost of the 2 book:
100
Enter the number of books present in the Library:
20
*******************MENU IS***************
```

2] This is the second stage of the project consist of Adding books in the project or to save the books in the project.

```
C:\Users\Amruta Chipade\Desktop>javac Bookshopmethods.java

C:\Users\Amruta Chipade\Desktop>java bookshop
********************MENU IS****************
                1.To enter the data
                2.To search a book
                3.Exit
Enter your choice from the above menu:
1
Enter the title of the 1 book:
Chava
Enter the author of the 1 book:
G.D.Madagulkar
Enter the publisher of the 1 book:
Foundation Pvt. Ltd.
Enter the cost of the 1 book:
200
Enter the number of books present in the Library:
20
Enter the title of the 2 book:
Ignited Minds
Enter the author of the 2 book:
Dr. A.P.J.Abdul Kalam
Enter the publisher of the 2 book:
Foundation Pvt. Ltd.
Enter the cost of the 2 book:
100
Enter the number of books present in the Library:
10
********************MENU IS****************
                1.To enter the data
                2.To search a book
                3.Exit
Enter your choice from the above menu:
```

In this part we can get or we have to save or insert the books in the project to get correct information or to save the book information in the project.

3]In this phase of the project we can get access of the books the we have saved in Our project.

```
C:\Users\Amruta Chipade\Desktop>java bookshop
*******************MENU IS***************
               1.To enter the data
               2.To search a book
               3.Exit
Enter your choice from the above menu:
1
Enter the title of the 1 book:
Chava
Enter the author of the 1 book:
G.D.Madagulkar
Enter the publisher of the 1 book:
Foundation Pvt. Ltd.
Enter the cost of the 1 book:
200
Enter the number of books present in the Library:
20
Enter the title of the 2 book:
Ignited Minds
Enter the author of the 2 book:
Dr. A.P.J.Abdul Kalam
Enter the publisher of the 2 book:
Foundation Pvt. Ltd.
Enter the cost of the 2 book:
100
Enter the number of books present in the Library:
10
*******************MENU IS***************
               1.To enter the data
               2.To search a book
               3.Exit
Enter your choice from the above menu:
2
***********Books present in the Library are************
1. Title of the book:Chava
2. Title of the book:Ignited Minds
Enter the title of the book needed:
Chava
Book not present in the Library
*******************MENU IS***************
               1.To enter the data
               2.To search a book
               3.Exit
Enter your choice from the above menu:
```

Here we get access or we can search about what we saved in our projects means our Saved books, their Arthurs, their prices and publisher name.

4] This the last step of the project we just have to exit project.

```
*******************MENU IS***************
            1.To enter the data
            2.To search a book
            3.Exit
Enter your choice from the above menu:
2
***********Books present in the Library are*************
1. Title of the book:Chava
2. Title of the book:Ignited Minds
Enter the title of the book needed:
Chava
Book not present in the Library
*******************MENU IS***************
            1.To enter the data
            2.To search a book
            3.Exit
Enter your choice from the above menu:
2
***********Books present in the Library are*************
1. Title of the book:Chava
2. Title of the book:Ignited Minds
Enter the title of the book needed:
Ignited Minds
******Details of the book you needed is*****
Title of the book:Ignited Minds
Author of the book:Dr. A.P.J.Abdul Kalam
Publisher of the book:Foundation Pvt. Ltd.
Cost of the book:100
Number of books presernt in the Book shop:10
*******************MENU IS***************
            1.To enter the data
            2.To search a book
            3.Exit
Enter your choice from the above menu:
3

C:\Users\Amruta Chipade\Desktop>
```

How to Run Java Program in CMD Using Notepad

In this section, we will learn **how to save, compile, and run**

(execute) a Java program in Command Prompt (CMD) using

notepad.

Before **running (execute) a Java program**, ensure that Java is installed

in the system and the path is properly set. If the path is not properly set,

we cannot **run the Java program**.

We must follow the steps given below to run a Java program.

o Open the notepad and write a Java program into

to Save the Java program by using the **class name**

followed by **.java** extension.

o Open the CMD, type the commands and run the

Java program.

o Program Of Project:

```java
import java.util.*;
class bookshopmethods
{
    Scanner in = new Scanner(System.in);
    int n=2;
    String[] title = new String[n];
    String[] author = new String[n];
    String[] publisher = new String[n];
    int[] cost = new int[n];
    int[] count = new int[n];
    void setdata()
     {
        for(int i=0;i < n;i++)
         {
            System.out.println("Enter the title of the " + (i+1) +" book:");
            title[i] = in.nextLine();
            System.out.println("Enter the author of the " + (i+1) +" book:");
            author[i] = in.nextLine();
            System.out.println("Enter the publisher of the " + (i+1) +" book:");
            publisher[i] = in.nextLine();
            System.out.println("Enter the cost of the " + (i+1) + " book:");
            cost[i]=in.nextInt();
            System.out.println("Enter the number of books present in the Book shop:");
            count[i]=in.nextInt();
            in.nextLine();
         }//end of for loop
     }//end of setdata function
```

```java
        void search()
        {
            int i;
            System.out.println("***********Books present in the Book shop
    are*************");
            for(i=0;i<n;i++)
             {
               System.out.println((i+1) + ". Title of the book:" +title[i]);
              }
            System.out.println("Enter the title of the book needed:");
            String titkey;
            titkey = in.nextLine();
            int flag=0;
            for(i=0;i<n;i++)
            {

                if(titkey.equals(title[i]))
                  {
                     flag++;
                     break;
                  }// end of if condition
             }// end of for loop
             if(flag != 0)
             {
                 System.out.println("******Details of the book you needed is*****");
                 System.out.println("Title of the book:"+title[i]);
                 System.out.println("Author of the book:"+author[i]);
                 System.out.println("Publisher of the book:"+publisher[i]);
                 System.out.println("Cost of the book:"+cost[i]);
                 System.out.println("Number of books presernt in the Book shop:"+count[i]);
             }//end of if condition
             else
                 System.out.println("Book not present in the store");
      }//end of search function
}//end of class
class bookshop
{
  public static void main(String arg[])
     {
            int ch;
            bookshopmethods ob = new bookshopmethods();
            Scanner in = new Scanner(System.in);
            while(true)
              {
                System.out.println("*******************MENU IS***************");
                System.out.println("\t\t1.To enter the data\n\t\t2.To search a
    book\n\t\t3.Exit");
```

```
System.out.println("Enter your choice from the above menu:");
  ch = in.nextInt();
  switch(ch)
   {
       case 1: ob.setdata();
                   break;
       case 2: ob.search();
                   break;
       case 3: System.exit(0);
      }//end of switch case
     }// end of while loop
 }//end of main function
}// end of class
```

Conclusion:

The project is developed using Neat Beans app and Visual studio coder fully meets the objective of the system which it has been developed. This project is used for computerizing **"Java Management"** work in school. The software keeps record of Books, Book details, purchasing and their Report as well. The software is capable of easy storage of information related to the library through program.

Skill developed/ learning out of this project:

- We are understood main concept and importance of Java using Library Management System.
- We are able to make a project with a team.
- We easier work of Librarian and make it securely safe.
- By making this project we are able to get all information about concepts of Java.