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INTRODUCTION

Attendance is a basic and most important criteria needed in all the education system. Attendance is used as a record to assess student consistency in participate in the class. Therefore, students is required to attend all the teaching activities held by the institutions.

Attendance Manager is a tool developed for daily student attendance in colleges and institutes. It facilitates to access the attendance information of a particular student in a particular class.

The purpose of developing attendance management system is to computerized the tradition way of taking attendance. Another purpose for developing this software is to generate the report automatically at the end of the session or in the between of the session.

PROBLEM STATEMENT

Based on the observation, there is no available attendance manager system for the students in Narsee Monjee Institute of Management Studies (NMIMS). So, students cannot calculate self that their attendance is below or above the 80 percentage i.e. they are not able to leave the lecture as per their choice. If the student is able to monitor self-attendance then at the end of semester they will not face any problem regarding the attendance i.e. the defaulters meeting or any other action taken by institute regarding attendance.

OBJECTIVE

- All the student attendance data will be stored and managed through the student management system.
- > This system enable student to add, view, make changes and delete on subjects, classes, labs as per their choice.
- > The system will automatically calculate the percentage of individual as well as the overall subjects.

PROJECT DESCRIPTION

This project is of attendance manager which is managed by the student itself as the student is able to know the percentage of their attendance of different subjects respectively.

This project is menu driven system as when the test class is run there four option will be displayed as:

- 1. Attendance Report
- 2. Edit Subjects
- 3. Mark Attendance
- 4. Exit

When the 1st option is selected i.e. Attendance report then it display the subject name followed by number of lectures attended and number of lectured not attended and total number of lecture of respective subject as well as the percentage of that subject .At last the overall percentage of lectures attended in all.

When the 2nd option is selected i.e. Edit Subjects it displays three more options as:

- ✓ Add Subject
- ✓ Delete Subject
- ✓ Edit Subject Details

When Add Subject is called the following information is entered by the user:

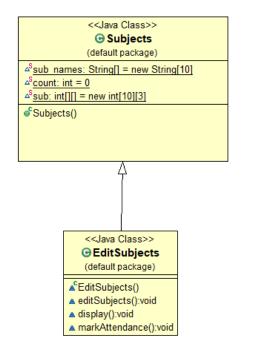
Name of subject, Number of lecture attended and Number of lectured not attended.

When Delete Subject is called the subject ID is entered by the user so user can delete that subject information.

When Edit Subject Details is called subject ID is entered by the user so user can edit the subject information.

When the 3rd option is selected i.e. Mark Attendance the user first select the subject then enter p/P for present and a/A for absent.

CLASS DIAGRAM





TEST CASES

Test Case #	Test Title	Test Summary	Testing Steps	
AMS-01	Validate Functionality of home page	Launch the application and validate home page	1.Run the test.java in cmd	
AMS-02-01	Validate Functionality of option 1. Attendance Report	To see whether the attendance report is shown or not	1.Run the test.java in cmd 2.Enter choice as 1	
AMS-03-01	Validate Functionality of option 2. Edit Subjects	Validate Edit subjects option of the Home Page	1.Run the test.java in cmd 2.Enter choice as 2	
AMS-04-01	Validate Functionality of option 3. Mark attendance	Validate whether the subject list are shown t mark attendance	1. Run the test.java in cmd 2.Enter choice as 3.	
AMS-05	Validate Functionality of option 4. Exit	To see whether the system exits the application or not	1.Run the test.java in cmd 2.Enter choice as 4	
AMS-03-02	Validate Functionality of option 1. Add Subject in edit subjects	Validate Add Subject option	1.Run the test.java in cmd 2.Enter choice as 2 3.Enter choice as 1	
AMS-02-02	Validate Functionality of option 1. Attendance Report	To see whether the attendance report is shown or not	1.Run the test.java in cmd 2.Enter choice as 1	
AMS-03-03	Validate Functionality of option 2. Delete Subject in edit subjects	Validate delete Subject option	1.Run the test.java in cmd 2.Enter choice as 2 3.Enter choice as 2	
AMS-02-03	Validate Functionality of option 1. Attendance Report	To see whether the attendance report is shown or not	1.Run the test.java in cmd 2.Enter choice as 1	
AMS-03-03	Validate Functionality of option 3. Edit Subject details in edit subjects	Validate Edit Subject detail option	1.Run the test.java in cmd 2.Enter choice as 2 3.Enter choice as 3	
AMS-02-04	Validate Functionality of option 1. Attendance Report	To see whether the attendance report is shown or not	1.Run the test.java in cmd 2.Enter choice as 1	
AMS-04-02	Validate Functionality of option 3. Mark attendance	Validate whether the present absent works	1.Run the test.java in cmd 2.Enter choice as 3.	
AMS-02-04	Validate Functionality of option 1. Attendance Report	To see whether the attendance report is shown or not	1.Run the test.java in cmd 2.Enter choice as 1	

Test Case #	Test Data	Expected Results
AMS-01		Home page renders correctly and all the application options are displayed
AMS-02-01	In "Enter your Choice :" we press 1	Attendance report is shown with no entries
AMS-03-01	In "Enter your Choice :" we press 2	Contents of Edit Subject are shown
AMS-04-01	In "Enter your Choice :" we press 3	As there are no subjects added we see a message
AMS-05	In "Enter your Choice :" we press 1	Message is displayed and system exits the application
AMS-03-02	In "Enter your Choice:" we press 2 then 1 Subject name: CN No. of lecture attended:10 No. of lecture not attended: 10 Subject name: OS No. of lecture attended:10 No. of lecture not attended: 10 Subject name: EVS No. of lecture attended:10 No. of lecture attended:10 No. of lecture not attended:10 No. of lecture not attended:10	System asks the subject details
AMS-02-02	In "Enter your Choice :" we press 1	Attendance report is shown containing 3 subjects
AMS-03-03	In "Enter your Choice :" we press 2 then 2 subject Id : 2	List of subject names is shown with option to ask the subject id
AMS-02-03	In "Enter your Choice :" we press 1	Attendance report is shown containing 2 subjects as we deleted 1
AMS-03-03	In "Enter your Choice:" we press 2 then 3 subject Id: 1 subject name: OOP no. of lecture attended: 5 no. of lecture not attended: 5	List of subject names is shown with option to ask the subject id
AMS-02-04	In "Enter your Choice :" we press 1	Attendance report is shown containing 2 subjects with updated details
AMS-04-02	In "Enter your Choice :" we press 3 Subject ID: 1 mark present subject ID: 3 mark Absent	Subject list with 2 subject is shown and we mark present and absent
AMS-02-04	In "Enter your Choice :" we press 1	Attendance report is shown containing 2 subjects with updated details

Test Case #	Actual Result	Status
AMS-01	Home Page is correctly Displayed and all the application options are properly displayed	PASSED
AMS-02-01	As expected Attendance report is shown with a message as there is no entries	PASSED
AMS-03-01	Content of edit subjects are shown with all the options properly	PASSED
AMS-04-01	As expected a message is shown to add subjects first	PASSED
AMS-05	Message is displayed and system exits the application	PASSED
AMS-03-02	System asks the subject details	PASSED
AMS-02-02	Attendance report is shown with 3 entries accurately	PASSED
AMS-03-03	List of subject names is shown with option to ask the subject id and then the ID is nulled	PASSED
AMS-02-03	Attendance report is shown with 2 entries accurately	PASSED
AMS-03-03	List of subject names is shown with option to ask the subject id and then the details of subject	PASSED
AMS-02-04	Attendance report is shown with 2 entries accurately	PASSED
AMS-04-02	Present and Absent successfully worked	PASSED
AMS-02-04	Attendance report is shown with 2 entries accurately	PASSED

SOURCE CODE

```
Main Function
import java.util.Scanner;
public class Test {
   public static void main(String[] args) {
      Scanner sc =new Scanner(System.in);
      int x=1;
      EditSubjects obj=new EditSubjects();
      Cls objj=new Cls();
      while(x==1)
      {
         objj.CLs();
   );
         System.out.print("\tATTENDANCE MANAGER\n");
   System.out.print("***********************************
n");
         System.out.print("\n\t1.ATTENDANCE REPORT\n\t2.EDIT
SUBJECTS\n\t3.MARK ATTENDANCE\n\t4.EXIT");
         System.out.print("\nEnter your Choice: ");
         int choice=sc.nextInt();
         switch(choice)
         {
         case 1:
                     obj.display();
               break;
         case 2:
                 obj.editSubjects();
```

```
break;
          case 3: obj.markAttendance();
                 break;
          case 4:
                        System.out.print("\t!!!SUCCESSFULLY EXITED
THE APPLICATION!!!");
                 System.exit(0);
          default: System.out.print("\n\t!!!!ENTER VALID
CHOICE!!!");
                 break;
          }
          System.out.print("\nEnter 1 to go back to MAIN WINDOW 2 to
exit: ");
          x=sc.nextInt();
       }
       objj.Cls();
   }
}
Subjects Class
public class Subjects {
   static String[] sub_names=new String[10];
   static int count=0;
   static int[][] sub=new int[10][3];
}
```

```
import java.io.IOException;

public class Cls {

   public static void Cls()
      {
        try
        {
        new
ProcessBuilder("cmd","/c","cls").inheritIO().start().waitFor();
        }
}
```

```
catch(Exception E)
{
    System.out.println(E);
}
}
```

Cls Class:

Edit Subjects Class

```
import java.util.*;
class EditSubjects extends Subjects {
  void editSubjects()
  {
     Cls obj1=new Cls();
     Scanner sc =new Scanner(System.in);
     char y='y';
     while(y=='y'||y=='Y')
     {
        obj1.Cls();
  System.out.print("\n****************************\n");
        System.out.print("ATTENDANCE MANAGER->EDIT SUBJECTS\n");
        System.out.print("*******************************
n");
        System.out.print("\n\t1.ADD SUBJECT\n\t2.DELETE
SUBJECT\n\t3.EDIT SUBJECT DETAILS");
        System.out.print("\n\nEnter your choice: ");
        int ch=sc.nextInt();
        switch(ch)
        {
           case 1: obj1.Cls();
  **\n");
                 System.out.print("ATTENDANCE MANAGER->EDIT
SUBJECTS->ADD SUBJECT\n");
  \n");
                 try
                 {
                    System.out.print("Enter name of subject: ");
                    sub_names[count]=sc.next();
```

```
System.out.print("Enter no. of lec attended:
");
                    sub[count][0]=sc.nextInt();
                    System.out.print("Enter no. of lec not
attended: ");
                    sub[count][1]=sc.nextInt();
                    sub[count][2]=sub[count][0]+sub[count][1];
                    count++;
                 }
                 catch(Exception e)
                 {
                    System.out.println(e);
                 }
                 break;
           case 2:
                    obj1.Cls();
  ****\n");
                 System.out.print("ATTENDANCE MANAGER->EDIT
SUBJECTS->DELETE SUBJECT\n");
  *****\n");
                 if(count==0)
                 System.out.println("\nNothing to DELETE!! Add
subjects first...");
                 else
                 {
                    for(int i=0;i<count;i++)</pre>
                    {
                       if(sub_names[i]==null)
                          {}
                       else
                       System.out.print(i+".
"+sub_names[i]+"\n");
```

```
}
                      System.out.print("\nEnter subject ID: ");
                      int id=sc.nextInt();
                      sub_names[id]=null;
                      sub[id]=null;
                   }
                   break;
            case 3:
                      obj1.Cls();
   System.out.print("\n******************************
*******\n");
                   System.out.print("ATTENDANCE MANAGER->EDIT
SUBJECTS->EDIT SUBJECT DETAILS\n");
   ******\n");
                   if(count==0)
                   System.out.println("\nNo Subjects to EDIT!! Add
subjects first...");
                   else
                   {
                      for(int i=0;i<count;i++)</pre>
                      {
                         if(sub_names[i]==null)
                            {}
                         else
                         System.out.print(i+".
"+sub names[i]+"\n");
                      }
                      try{
                         System.out.print("\nEnter Subject ID to
edit it: ");
                         int x=sc.nextInt();
                         System.out.print("Enter name of subject:
");
                         sub_names[x]=sc.next();
```

```
System.out.print("\nEnter no. of lec
attended: ");
                             sub[x][0]=sc.nextInt();
                             System.out.print("\nEnter no. of lec not
attended: ");
                             sub[x][1]=sc.nextInt();
                             sub[x][2]=sub[x][0]+sub[x][1];
                         }
                         catch(Exception e)
                         {
                             System.out.println(e);
                         }
                     }
                     break;
                         System.out.print("\n\t!!!!ENTER VALID
              default:
CHOICE!!!");
                     break;
          }
          System.out.print("\nPRESS Y/y to Stay in EDIT SUBJECTS OR n/N
to go to MAIN WINDOW : ");
          String yy=sc.next();
          y=yy.charAt(0);
       }
   }
   void display()
   {
       Cls obj2=new Cls();
       obj2.CLs();
       int[] sum=new int[2];
       sum[0]=0;
       sum[1]=0;
```

```
System.out.print("\n*************************\n");
      System.out.print("ATTENDANCE MANAGER->ATTENDANCE REPORT\n");
      System.out.print("*********************************
n");
      if(count==0)
          System.out.println("\nNothing to display!! Add subjects
first");
      else
       {
          for(int i=0;i<count;i++)</pre>
          {
             if(sub_names[i]==null)
                 i=i+1;
             System.out.println(i+". "+sub_names[i]+"\n");
             System.out.println("LECTURE ATTENDED = "+sub[i][0]);
             System.out.println("LECTURE NOT ATTENDED = "+sub[i][1]);
             System.out.println("TOTAL LECTURES = "+sub[i][2]);
             System.out.println("PERCENTAGE=
"+(((float)sub[i][0]/sub[i][2])*100)+"%");
             System.out.println("____
                                                   ____\n");
             sum[0]=sum[0]+sub[i][0];
             sum[1]=sum[1]+sub[i][2];
          }
          System.out.println("\n\n\t\tOVERALL ATTENDANCE-
"+((float)sum[0]/sum[1])*100+"%");
   }
   void markAttendance()
   {
      Cls obj3=new Cls();
      obj3.Cls();
      System.out.print("\n**************************\n");
      System.out.print("ATTENDANCE MANAGER->MARK ATTENDENCE\n");
```

```
System.out.print("******************************\n");
      if(count==0)
         System.out.println("Nothing to display!! Add subjects
first");
      else
      {
         Scanner sc=new Scanner(System.in);
         int z=1;
         while(z==1)
         {
             for(int i=0;i<count;i++)</pre>
             {
                if(sub_names[i]==null)
                {}
                else
                   System.out.print(i+". "+sub_names[i]+"\n");
             }
            System.out.print("Enter choice for subject to mark
attendance : ");
             int x=sc.nextInt();
             obj3.CLs();
   );
             System.out.print("ATTENDANCE MANAGER->EDIT
SUBJECTS->"+sub_names[x]+"\n");
   System.out.print("***********************************
n");
             System.out.print("\nEnter p/P to mark present a/A to mark
absent: ");
            String yy=sc.next();
             char y=yy.charAt(0);
             if(y=='p'||y=='P')
             {
                sub[x][0]++;
```

```
sub[x][2]++;
                 System.out.print("\n\n!!!Changes Saved!!!\n\n");
              }
              else if (y=='a'||y=='A')
              {
                 sub[x][1]++;
                 sub[x][2]++;
                 System.out.print("\n\n!!!Changes Saved!!!\n\n");
              }
              else
                 System.out.print("\n\n!!!ENTER VALID
CHARACTER!!!\n\n");
              System.out.print("\nPRESS 1 to stay in MARK ATTENDANCE/
0 to go back to MAIN WINDOW: ");
              z=sc.nextInt();
          }
       }
   }
}
```

OUTPUT SCREEN

Home Page-

Edit Subjects-

Add Subjects-

Delete Subjects-

Edit Subject Details-

Mark Attendance-

Exit-

Attendance Report-

```
************
ATTENDANCE MANAGER->ATTENDANCE REPORT
*************
0. OOP
LECTURE ATTENDED = 11
LECTURE NOT ATTENDED = 10
TOTAL LECTURES = 21
PERCENTAGE= 52.380955%
1. CN
LECTURE ATTENDED = 10
LECTURE NOT ATTENDED = 11
TOTAL LECTURES = 21
PERCENTAGE= 47.61905%
3. WP
LECTURE ATTENDED = 10
LECTURE NOT ATTENDED = 10
TOTAL LECTURES = 20
PERCENTAGE= 50.0%
4. EM4
LECTURE ATTENDED = 10
LECTURE NOT ATTENDED = 10
TOTAL LECTURES = 20
PERCENTAGE= 50.0%
              OVERALL ATTENDANCE- 50.0%
Enter 1 to go back to MAIN WINDOW 2 to exit: 1
```

USER MANUAL

This is a JAVA based Application requirements to run this application are-

- 1. Desktop/Laptop
- 2. OS (LINUX/Windows/MACOS)
- 3. JAVA Compiler

Steps to install JAVA Compiler -

FOR WINDOWS-

Step 0: Un-Install Older Version(s) of JDK/JRE

I recommend that you install only the latest JDK. Although you can install multiple versions of JDK/JRE concurrently, it is messy.

If you have previously installed older version(s) of JDK/JRE, un-install ALL of them. Goto "Control Panel" \Rightarrow (optional) "Programs" \Rightarrow "Programs and Features" \Rightarrow Un-install ALL programs begin with "Java", such as "Java SE Development Kit ...", "Java SE Runtime ...", "Java X Update ...", and etc.

Step 1: Download JDK

Goto Java SE download site @ http://www.oracle.com/technetwork/java/javase/downloads/index.html.

Under "Java Platform, Standard Edition" \Rightarrow "Java SE 13.0.{x}", where {x} denotes a fast running security-update number \Rightarrow Click the "Oracle JDK Download" button.

Under "Java SE Development Kit 13.0. $\{x\}$ " \Rightarrow Check "Accept License Agreement".

Choose the JDK for your operating system, i.e., "Windows". Download the "exe" installer (e.g., "jdk-13.0.{x}_windows-x64_bin.exe" - about 159MB).

Step 2: Install JDK

Run the downloaded installer (e.g., "jdk-13.0.{x}_windows-x64_bin.exe"), which installs both the JDK and JRE.

By default, JDK is installed in directory "C:\Program Files\Java\jdk-13.0.{x}", where {x} denotes the update number. Accept the defaults and follow the screen instructions to install JDK.

Use your "File Explorer", navigate to "C:\Program Files\Java" to inspect the sub-directories. Take note of your JDK installed directory jdk-13.0.{x}, in particular, the update number {x}, which you will need in the next step.

I shall refer to the JDK installed directory as <JAVA HOME>, hereafter, in this article.

Step 3: Include JDK's "bin" Directory in the PATH

Windows' Command Prompt (CMD) searches the current directory and the directories listed in the PATH environment variable (or system variable) for executable programs. JDK's programs (such as Java compiler "javac.exe" and Java runtime "java.exe") reside in the sub-directory "bin" of the JDK installed directory. You need to include JDK's "bin" in the PATH to run the JDK programs.

To edit the PATH environment variable in Windows 10:

Launch "Control Panel" \Rightarrow (Optional) "System and Security" \Rightarrow "System" \Rightarrow Click "Advanced system settings" on the left pane.

Switch to "Advanced" tab \Rightarrow Click "Environment Variables" button.

Under "System Variables" (the bottom pane), scroll down to select variable "Path" ⇒ Click "Edit...".

For Newer Windows 10:

You shall see a TABLE listing all the existing PATH entries (if not, goto next step). Click "New" \Rightarrow Click "Browse" and navigate to your JDK's "bin" directory, i.e., "c:\Program Files\Java\jdk-13.0.{x}\bin", where {x} is your installation update number \Rightarrow Select "Move Up" to move this entry all the way to the TOP.

For Older Windows 10 (Time to change your computer!):

(CAUTION: Read this paragraph 3 times before doing this step! Don't push "Apply" or "OK" until you are 101% sure. There is no UNDO!!!)

(To be SAFE, copy the content of the "Variable value" to Notepad before changing it!!!)

In "Variable value" field, APPEND "c:\Program Files\Java\jdk-13.0. $\{x\}$ \bin" (where $\{x\}$ is your installation update number) IN FRONT of all the existing directories, followed by a semi-colon (;) to separate the JDK's bin directory from the rest of the existing

directories. DO NOT DELETE any existing entries; otherwise, some existing applications may not run.

Variable name : PATH

Variable value: c:\Program Files\Java\jdk-13.0.{x}\bin;[do not delete exiting entries...]

Note: If you have started CMD, you need to re-start for the new environment settings to take effect.

Step 4: Verify the JDK Installation

Launch a CMD via one of the following means:

Click "Search" button ⇒ Type "cmd" ⇒ Choose "Command Prompt", or

Right-click "Start" button ⇒ run... ⇒ enter "cmd", or

Click "Start" button ⇒ Windows System ⇒ Command Prompt

Issue the following commands to verify your JDK installation:

Issue "path" command to list the contents of the PATH environment variable. Check to make sure that your JDK's "bin" is listed in the PATH.

path

PATH=c:\Program Files\Java\jdk-13.0.{x}\bin;other entries...

Issue the following commands to verify that JDK/JRE are properly installed and display their version:

// Display the JDK version

javac -version

javac 13.0.1

// Display the JRE version

java -version

java version "13.0.1" 2019-10-15

Java(TM) SE Runtime Environment (build 13.0.1+9)

Java HotSpot(TM) 64-Bit Server VM (build 13.0.1+9, mixed mode, sharing)

FOR MACOS-

Download the JDK .dmg file, jdk-10.interim.update.patch-macosx-x64.dmg.

Before the file can be downloaded, you must accept the license agreement.

From either the browser Downloads window or from the file browser, double-click the .dmg file to start it.

A Finder window appears that contains an icon of an open box and the name of the .pkg file.

Double-click the JDK 10.pkg icon to start the installation application.

The installation application displays the Introduction window.

Click Continue.

The Installation Type window appears.

Click Install.

A window appears that displays the message: Installer is trying to install new software. Enter your password to allow this.

Enter the Administrator user name and password and click Install Software.

The software is installed and a confirmation window is displayed.

FOR LINUX-

At the time of writing, the latest LTS version of Java is version 11.

Follow the steps below to install Java OpenJDK 11 on your Ubuntu system:

First, update the apt package index with:

sudo apt update

Once the package index is updated install the default Java OpenJDK package with:

sudo apt install default-jdk
Verify the installation, by running the following command which will print the Java version:
VELSIOIT.
java -version
The output will look something like this:
openjdk version "11.0.2" 2019-01-15OpenJDK Runtime Environment (build
11.0.2+9-Ubuntu-3ubuntu118.04.3)OpenJDK 64-Bit Server VM (build 11.0.2+9-Ubuntu-3ubuntu118.04.3, mixed
Now Compile the test.java file and run it.

You have successfully entered the Application.

CONCLUSION

The attendance management system is developed by object oriented programming in java language by the help of ellipsis tool. The system has reached a steady state where all the bugs as well the exception have been eliminated by doing the testing. The system is operated by the students and they can take advantage of it. The system solves the problem it was intended to solve as requirement specification.

REFERENCES

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- https://www.youtube.com/watch?v=g0PrXoWKM2Y
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