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# Introduction to C programming

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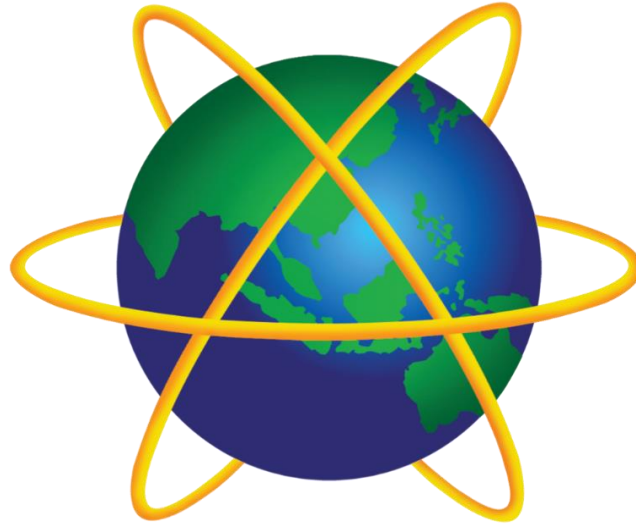


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INDIVIDUAL ASSIGNMENT  
CT018-3-1-ICP  
INTRODUCTION TO C PROGRAMMING  
UC1F1705IT

TAN YIK ERN

TP046566

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## Introduction and Assumptions

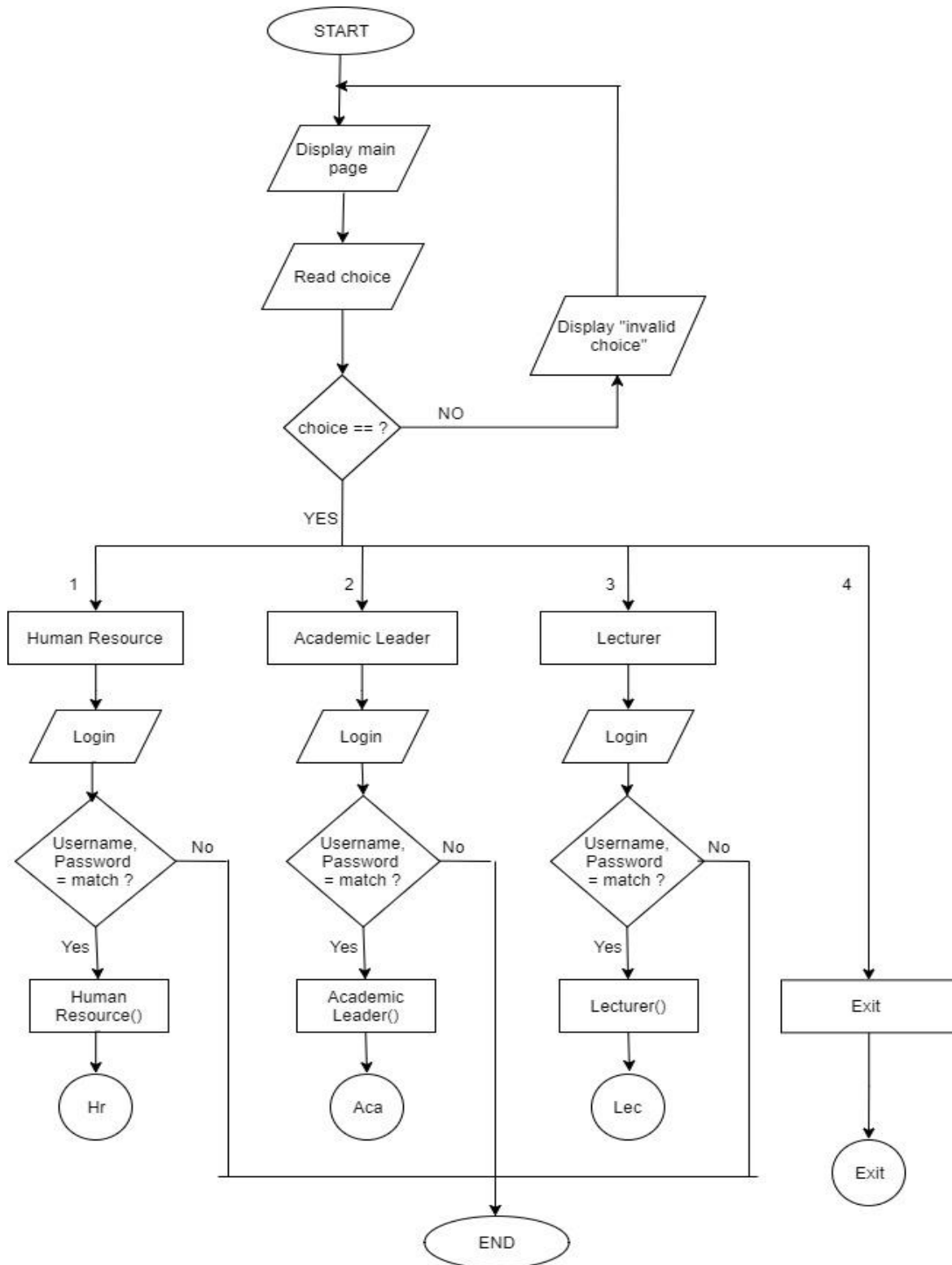
Employee leave management system (ELMS) is a system to manage the employee leave data via a program system. This system helps to reduce the paper wasted and the data will store in a software in a device. In the meantime, it's also reduce some of the important lost and missing. The administrator will reduce their work to management the data and leaves status of the employees. Besides that, employee leave management system allows the administrator to edit employees and add new employees.

In this employee leave management system (ELMS) will management all the employees in the university. Thus, there is a need of system which can handle the data of such a large number of employees. This project simplifies the task of maintaining records because of its user-friendly nature. Every employee has their own account to login to check their profiles and university latest news.

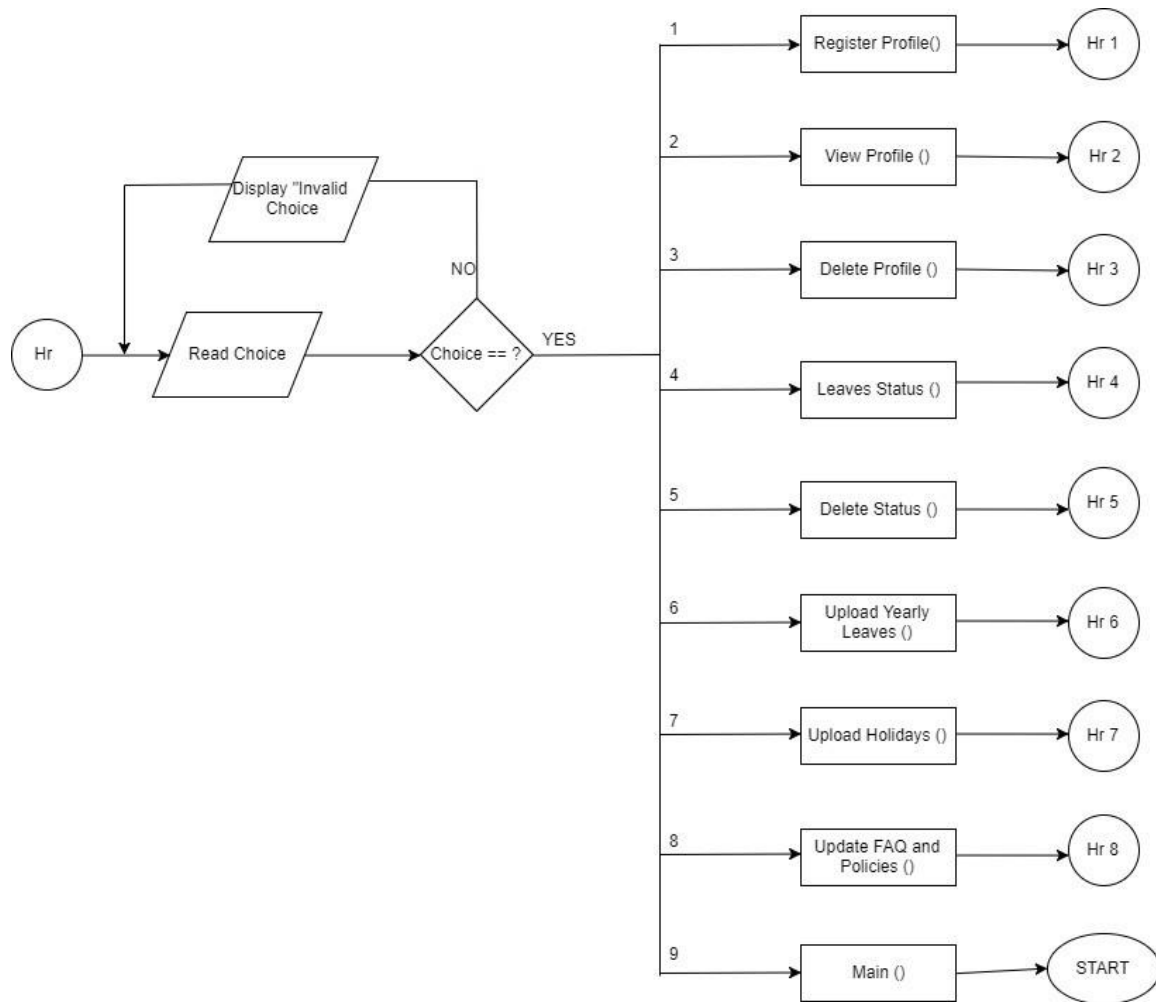
The brief process of this system there are, as an employee in university, you have to register an account via the human resources system. after successfully registration account, you can login to your account to apply your leave. if you confuse about the leave policies, you could check the further information about the FAQs and leave policies via the system. After the lecturer apply the leaves, the application will send to academic leader account. In this case, the academic leader can view the lecturer's leave application to approve or reject the leave application. Then, lecturer will know the leave application is approve or reject. At last, the human resources can view the final employees leave status via this system.

The assumption of without the employee leave management system (ELMS), once the lecturer has to make a leave through fill a leave application's form. Then, send it to administration counter for submitted. But the process is quite slow because the academic leader has to collect the leave application's form and conform the leave status. Lastly, the academic leader would make a paper report hand in to human resource department about the final decision of the lecturer's leave application. So, the lecturer has to get the report from the human resource department. The whole progress in leave application is consumed time and take forever.

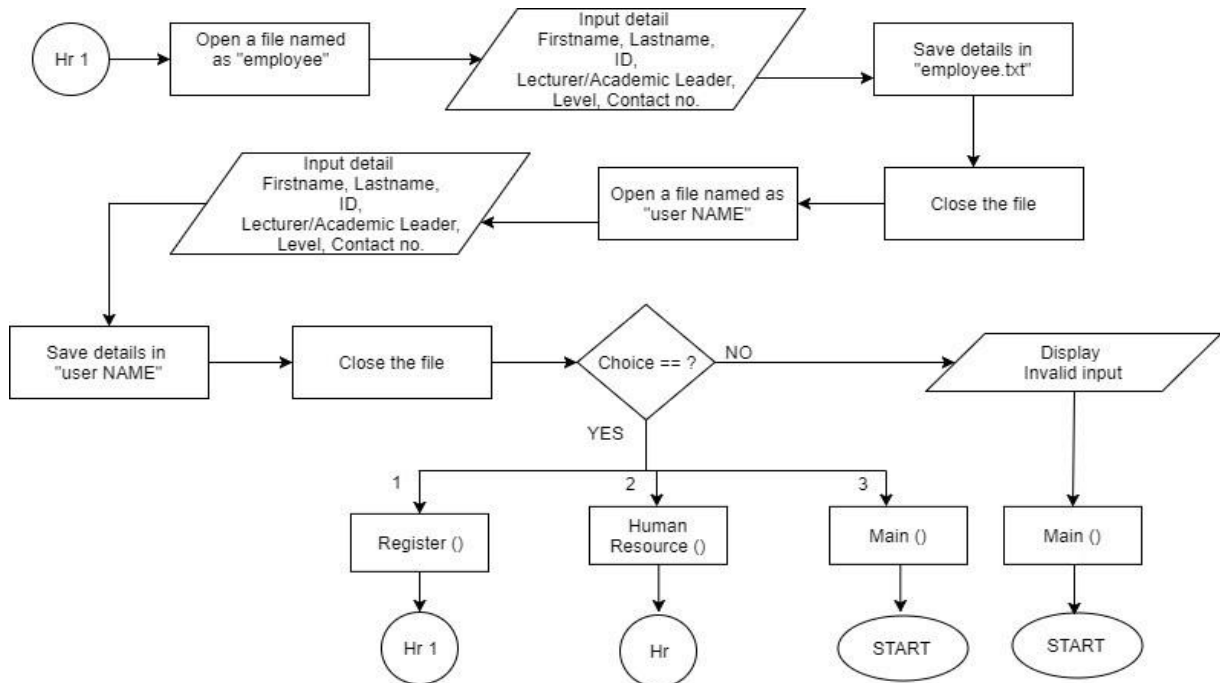
## Flowchart



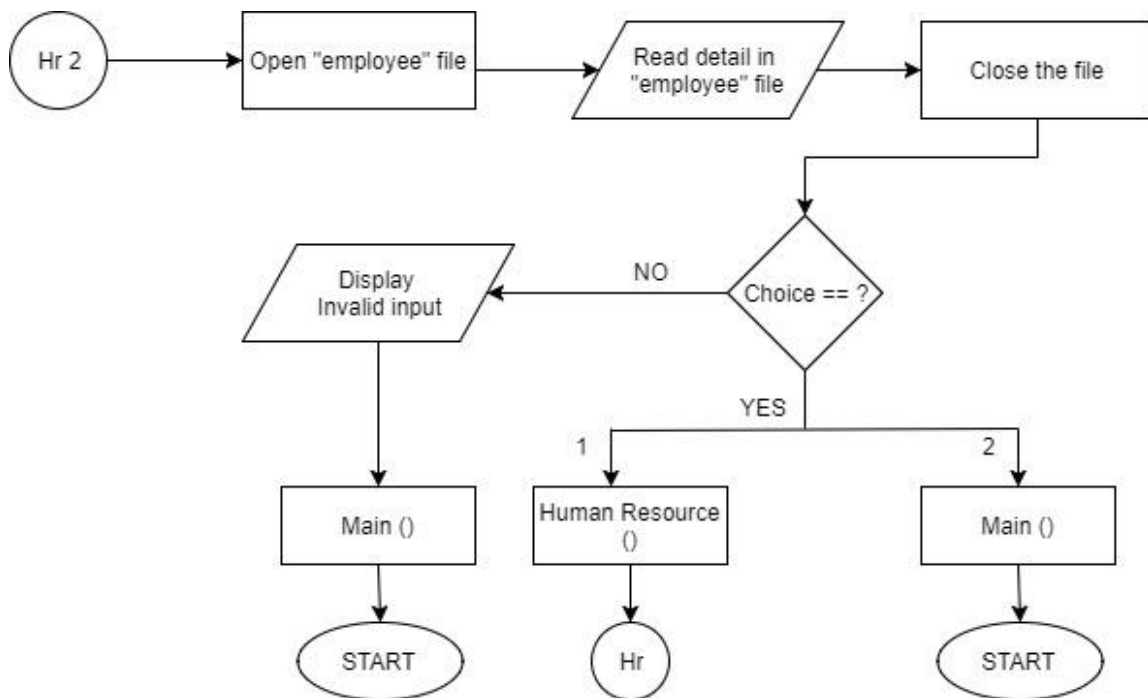
Flowchart diagram 1: Main page



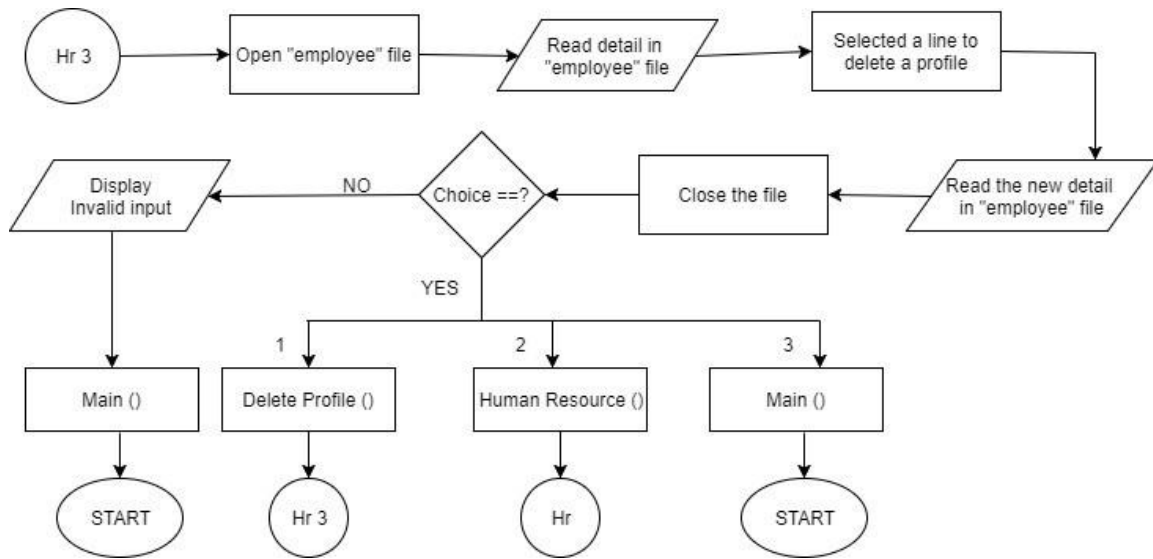
Flowchart diagram 2: Human resource option



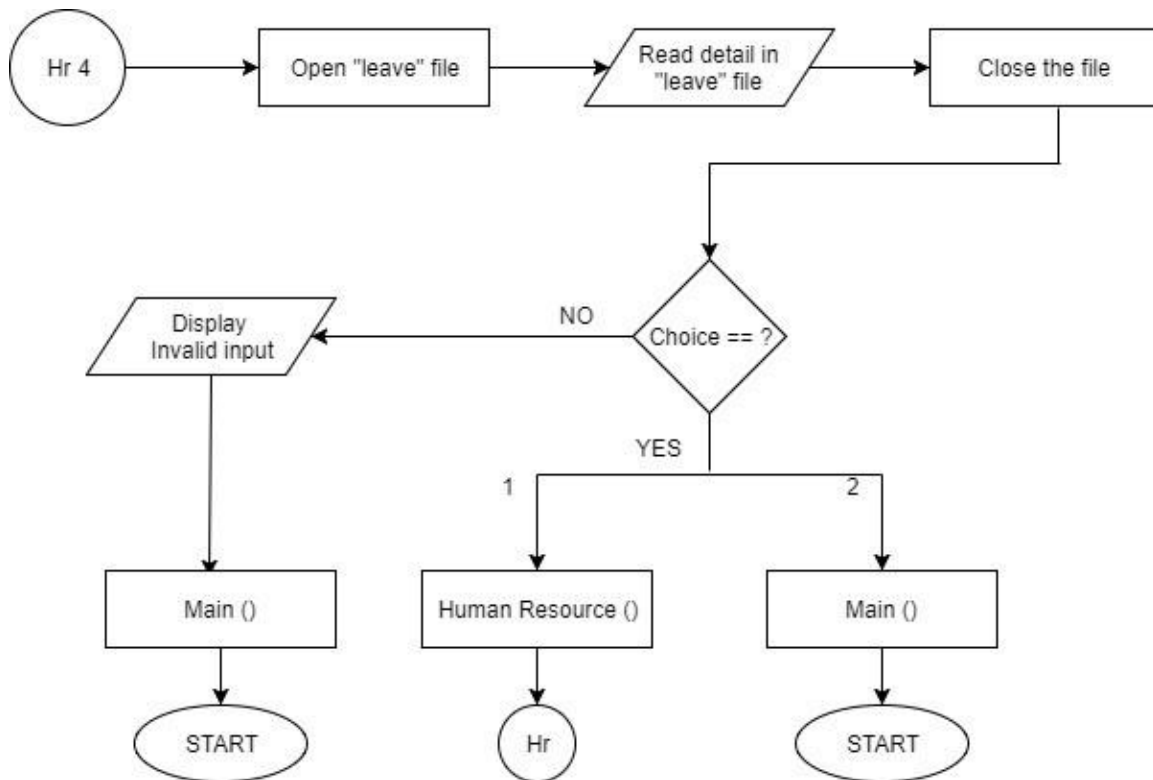
Flowchart diagram 3: Create new lecturer/academic leader's profile



Flowchart diagram 4: View profile

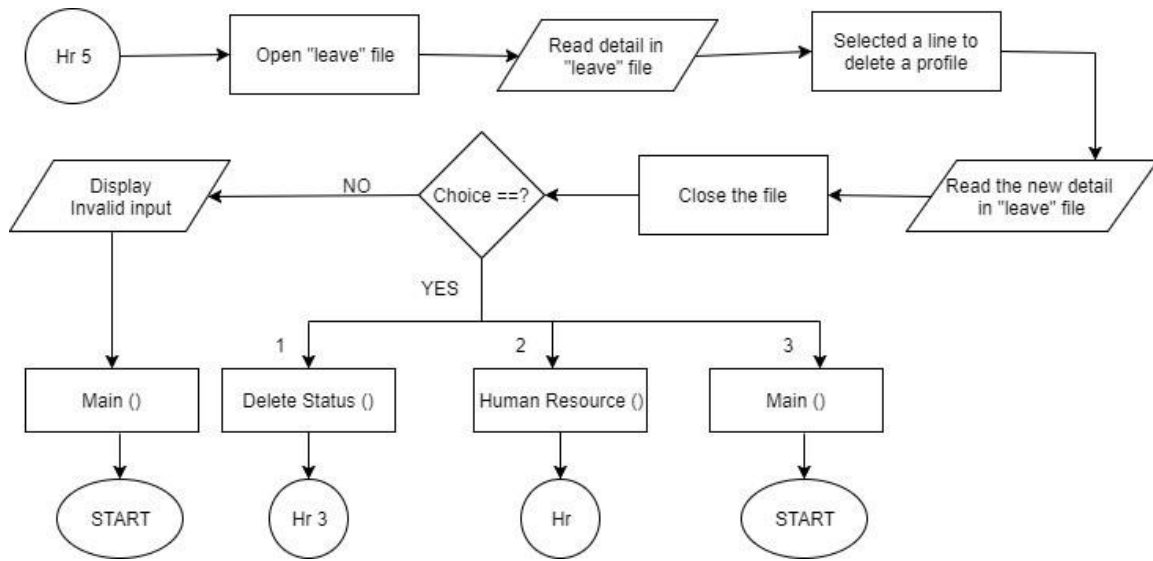


Flowchart diagram 5: Delete profile

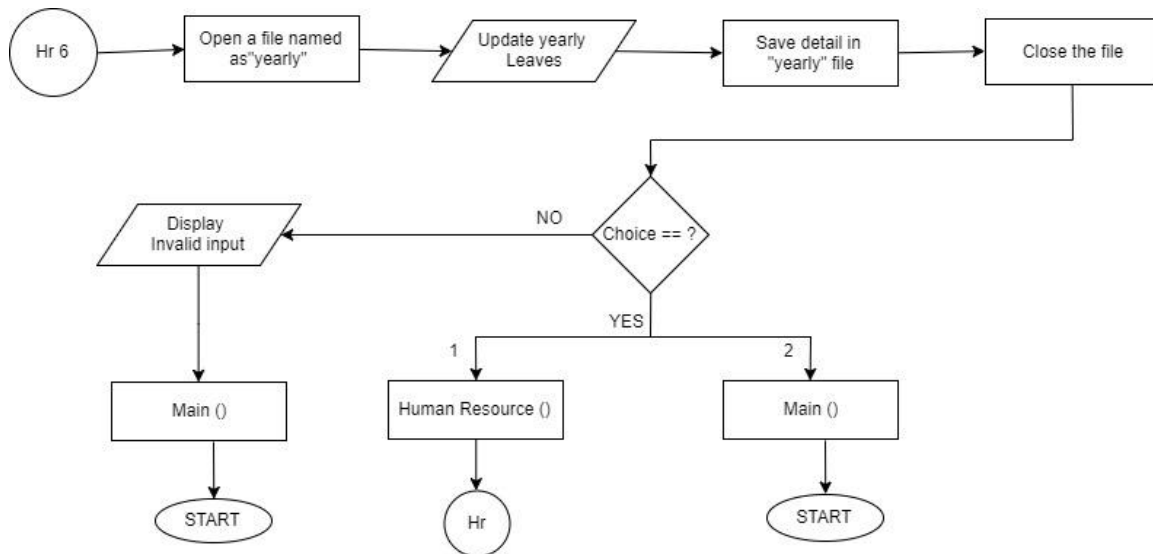


Flowchart diagram 6: View the employee leave status

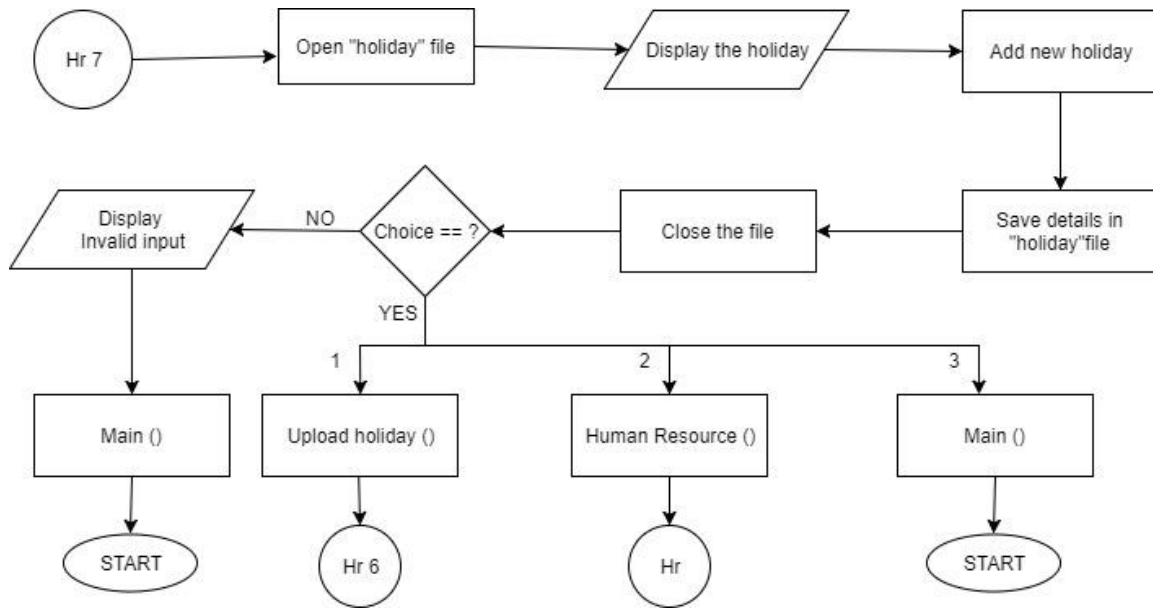




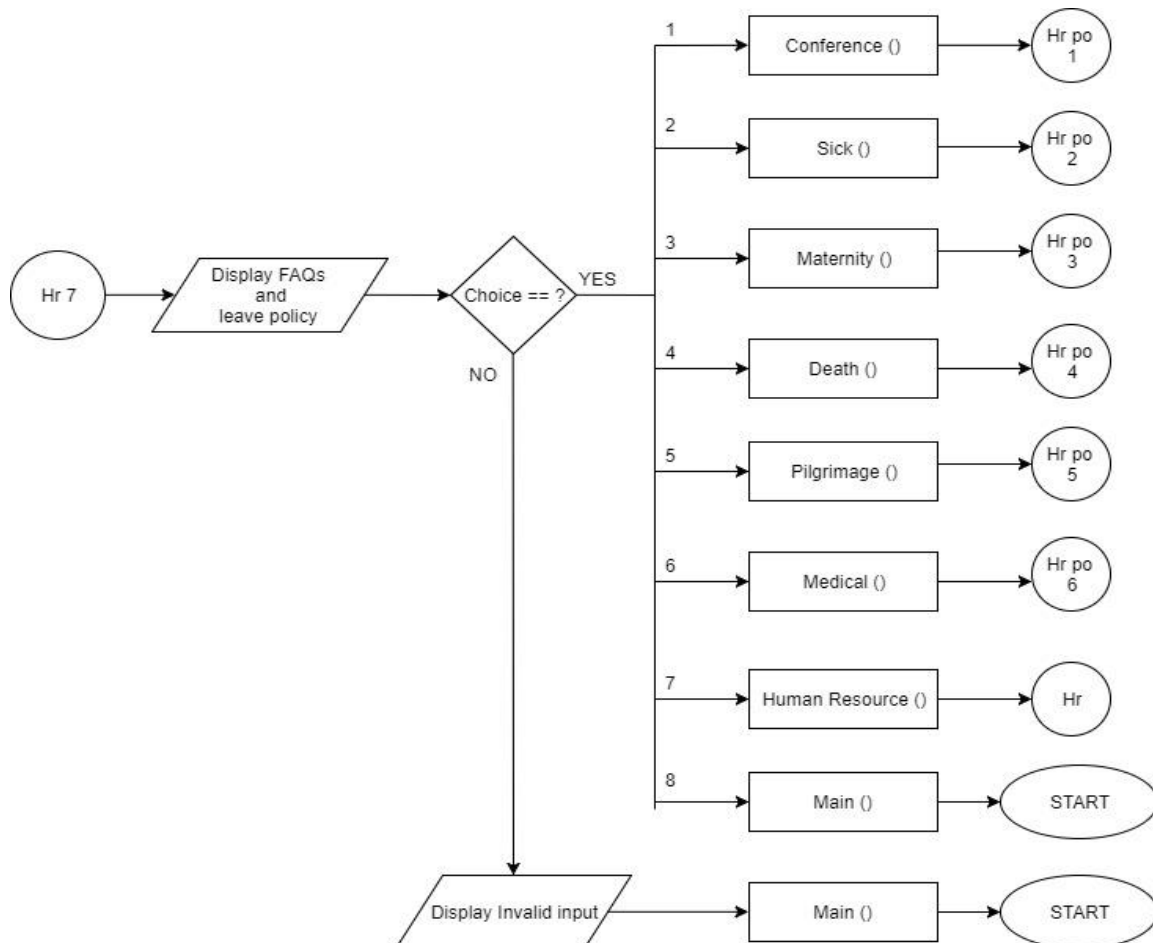
Flowchart diagram 7: Delete the employee leave status



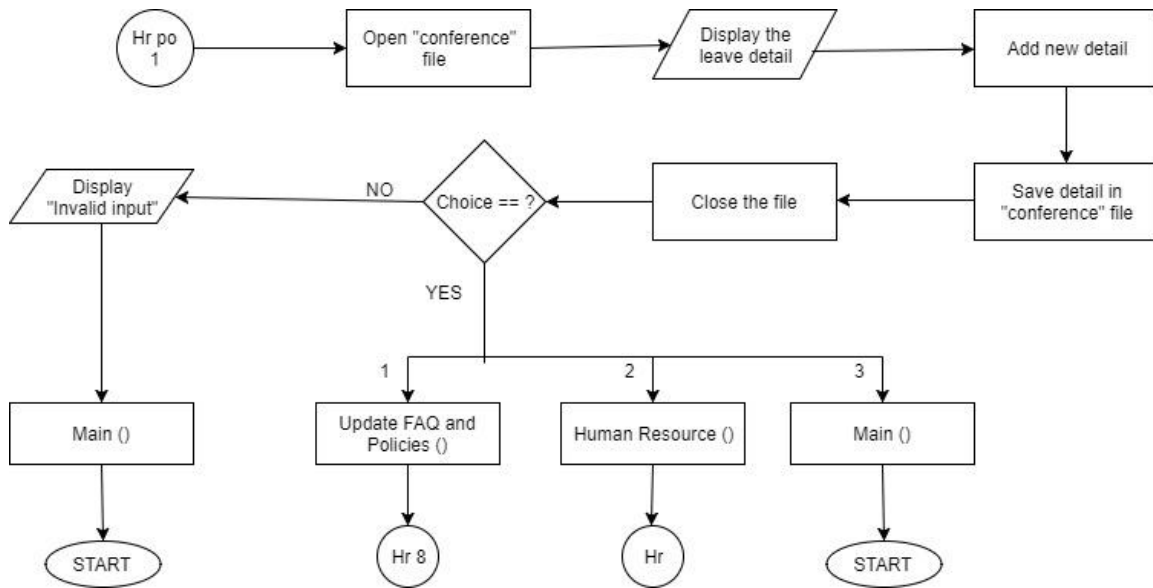
Flowchart diagram 8: Upload the yearly leaves



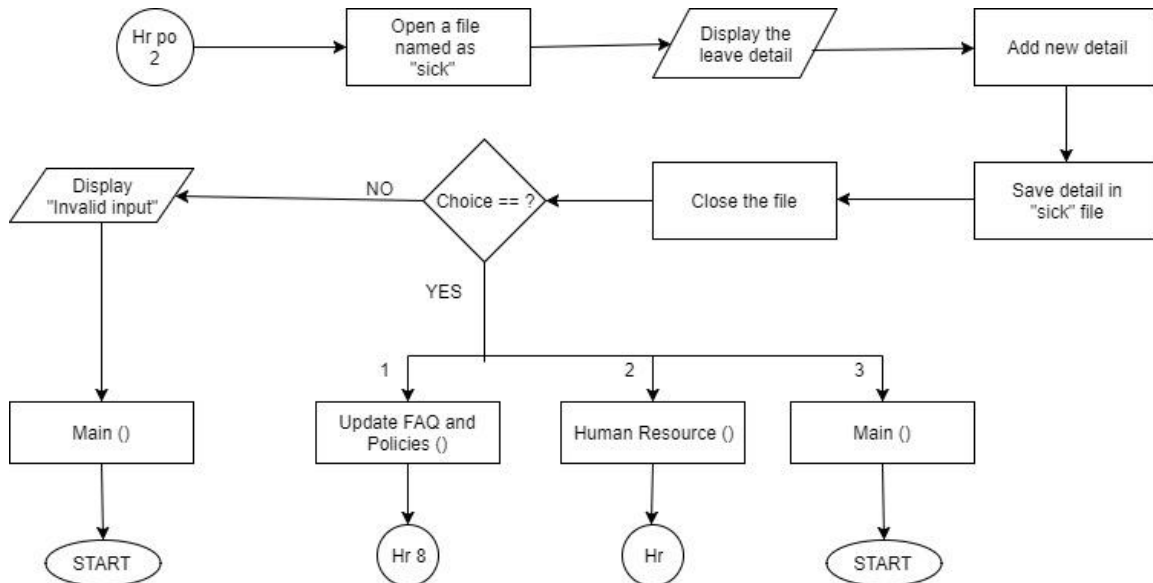
Flowchart diagram 9: Upload the public and university holidays



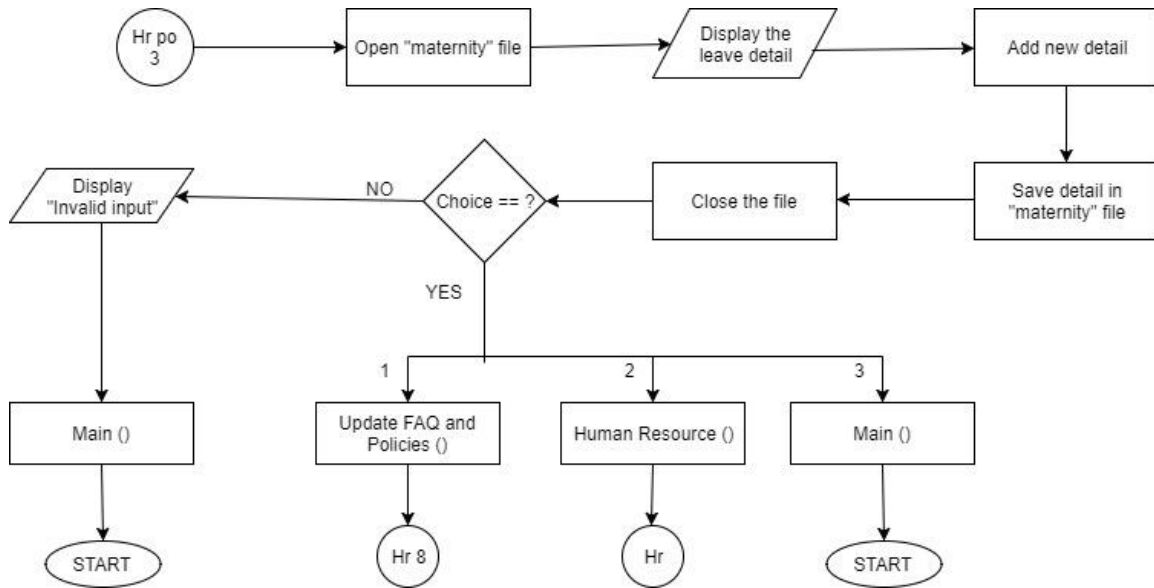
Flowchart diagram 10: Update and upload FAQs about university's leave policies



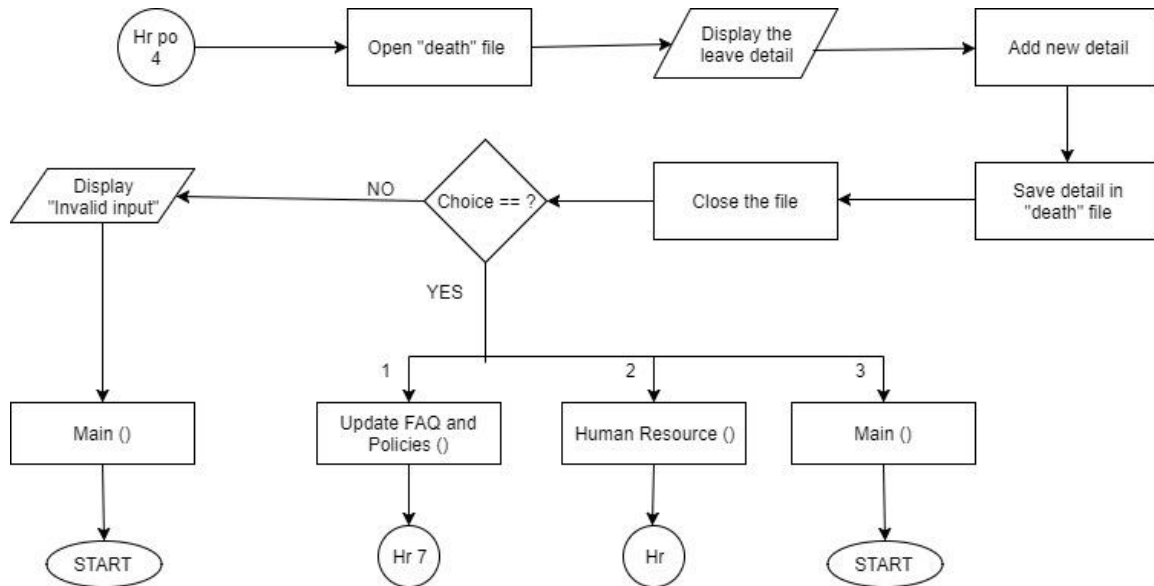
Flowchart diagram 11: Update conference leave policies



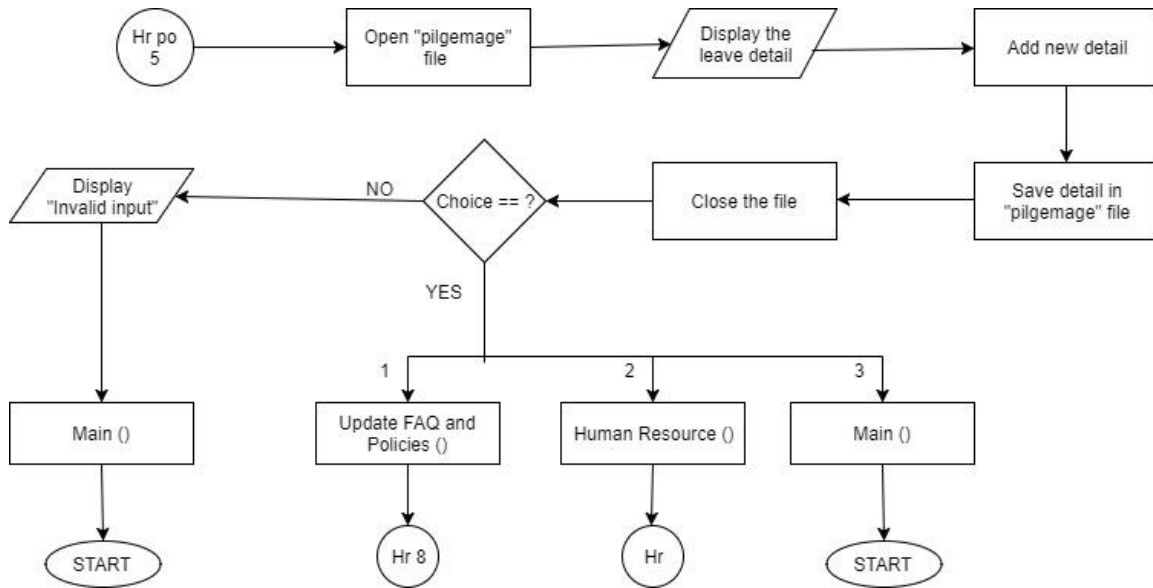
Flowchart diagram 12: Update sick leave policies



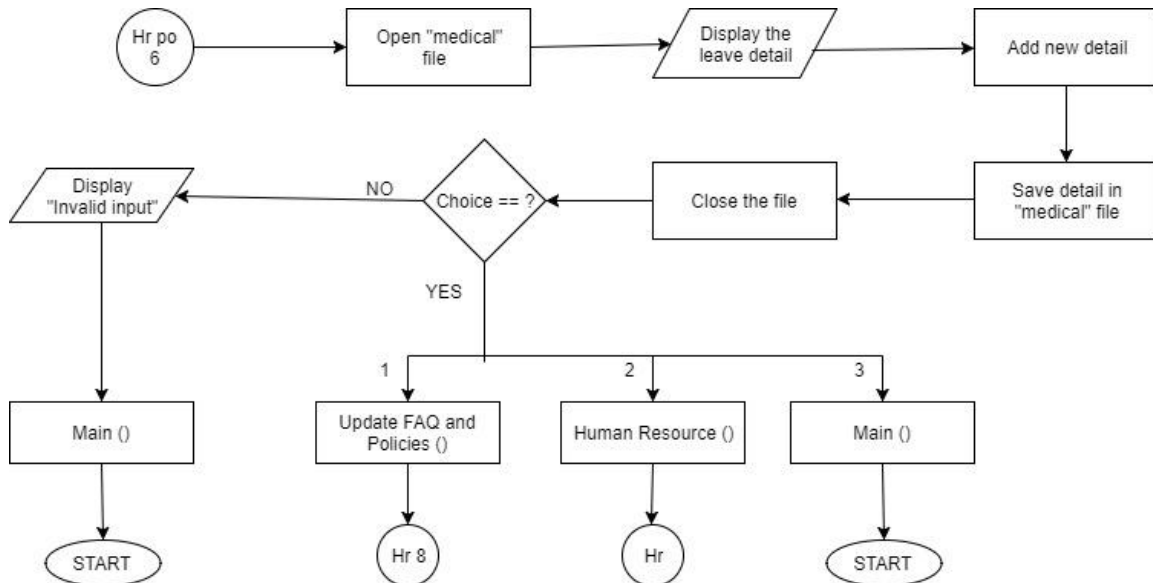
Flowchart diagram 13: Update maternity leave policies



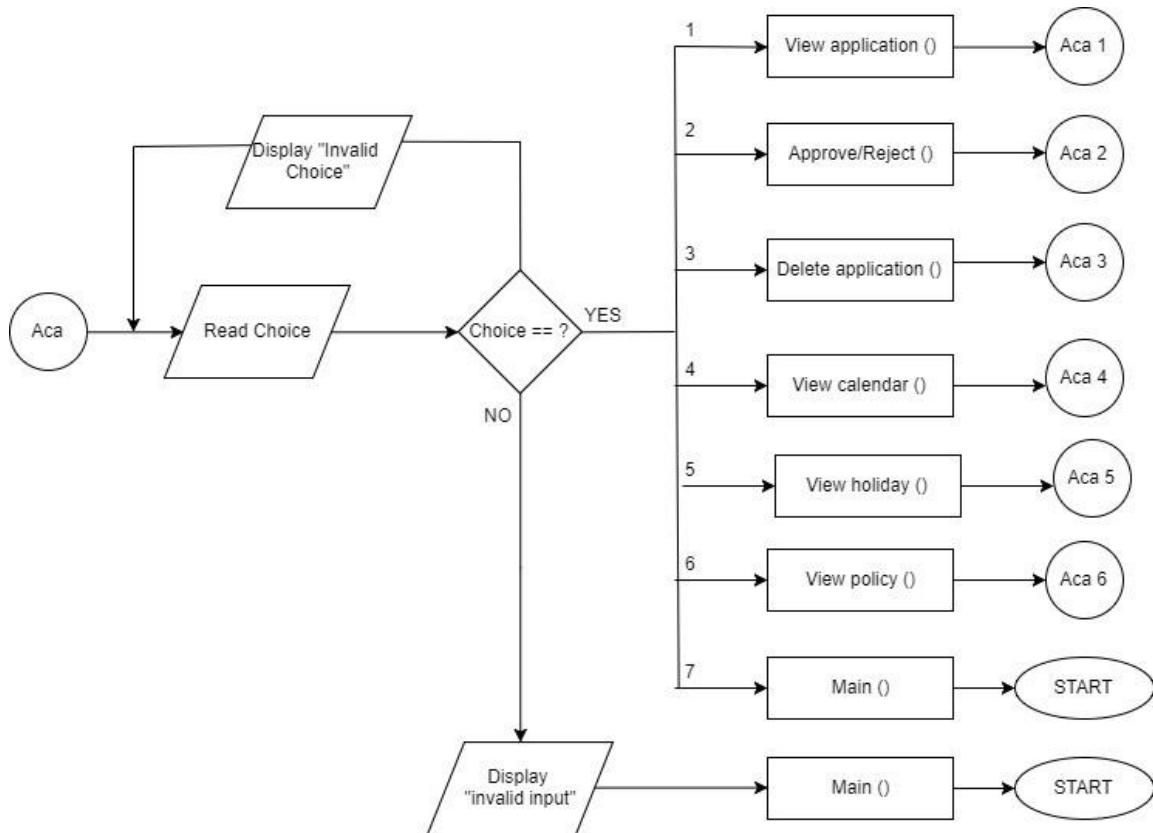
Flowchart diagram 14: Update death leave policies



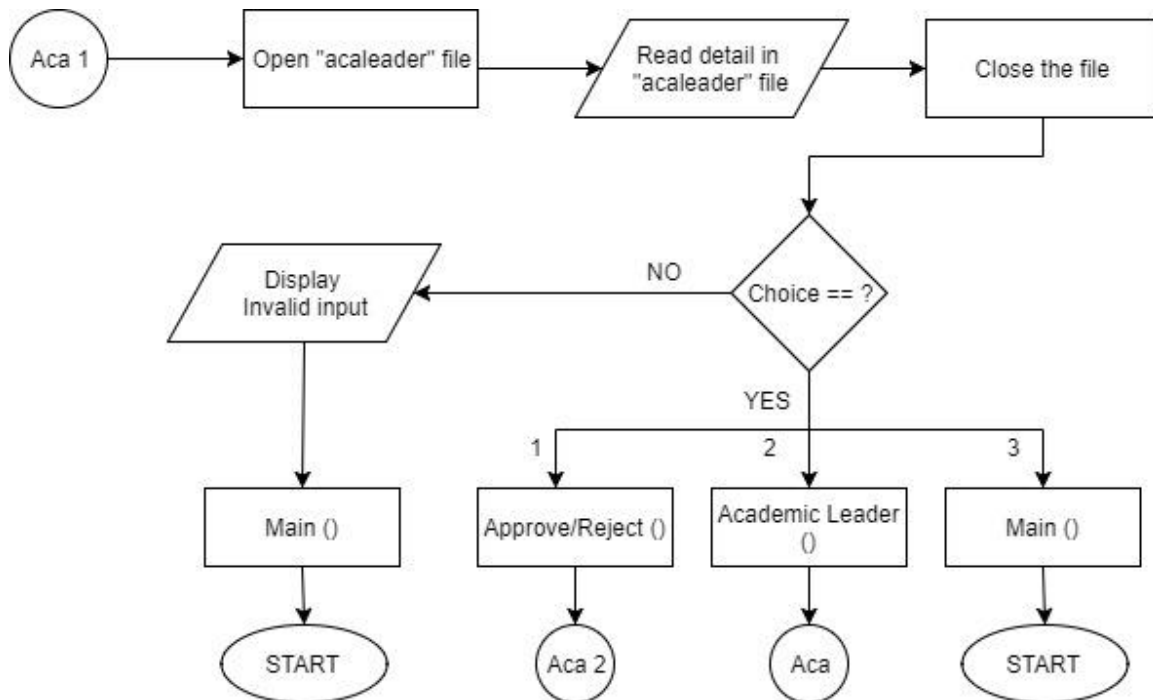
Flowchart diagram 15: Update pilgrimage leave policies



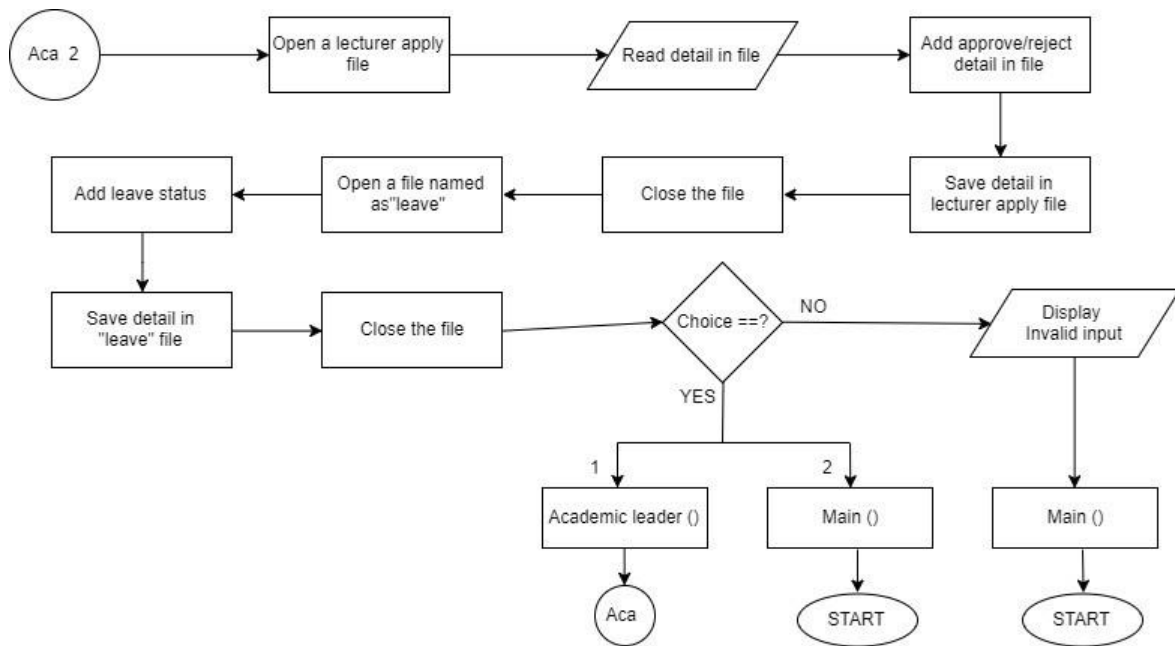
Flowchart diagram 16: Update medical leave policies



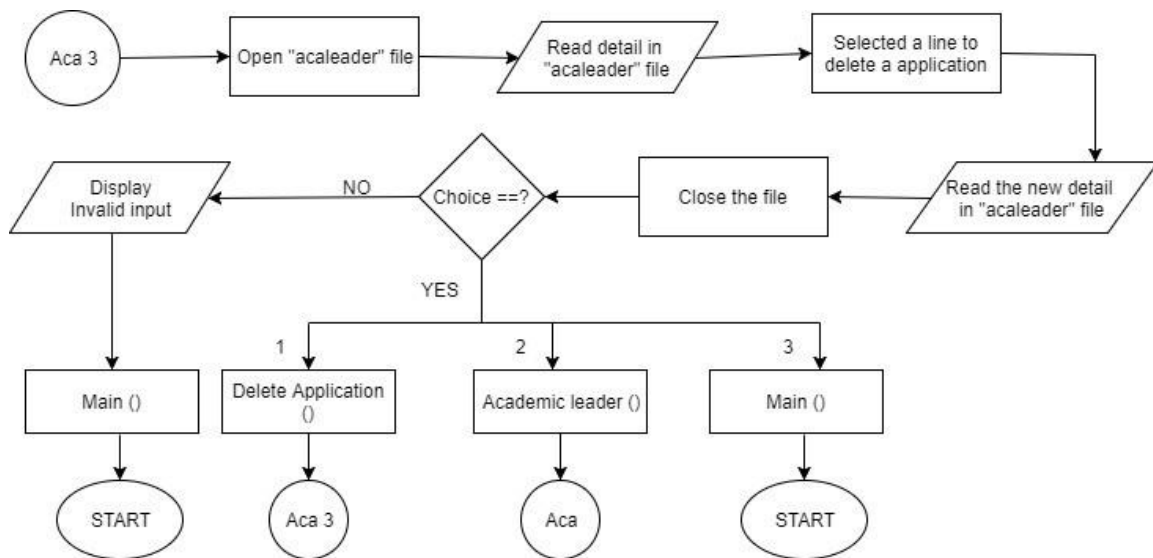
Flowchart diagram 17: Academic leader option



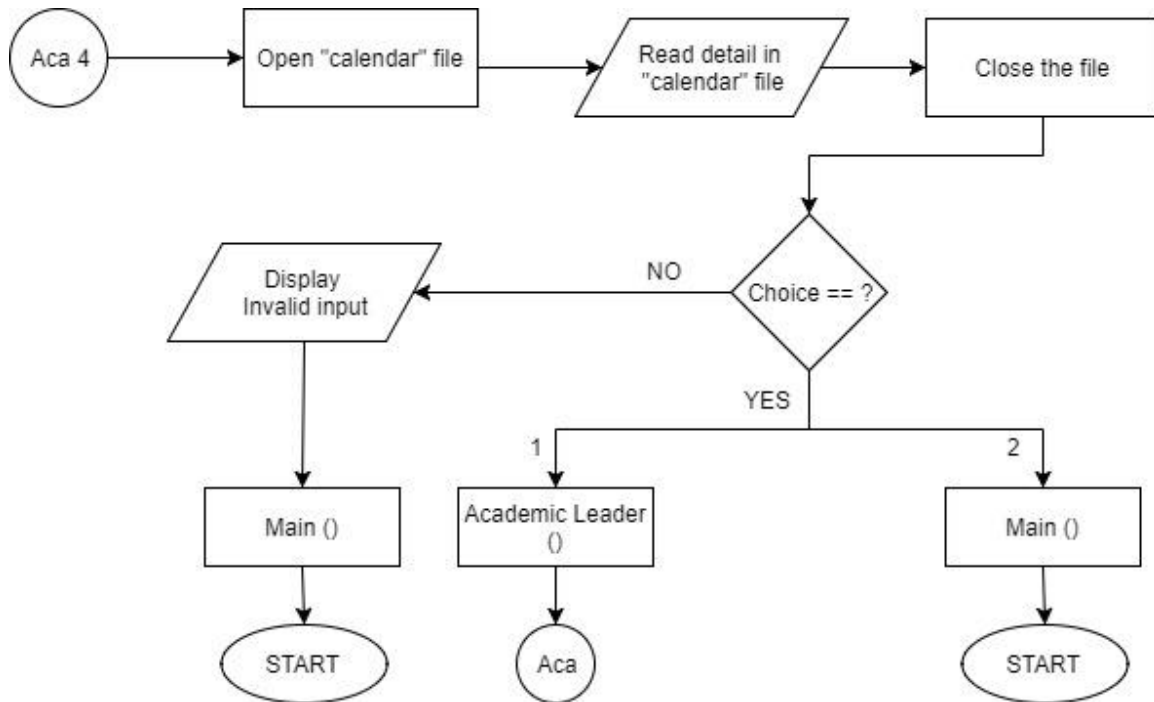
Flowchart diagram 18: View lecturer's leave application



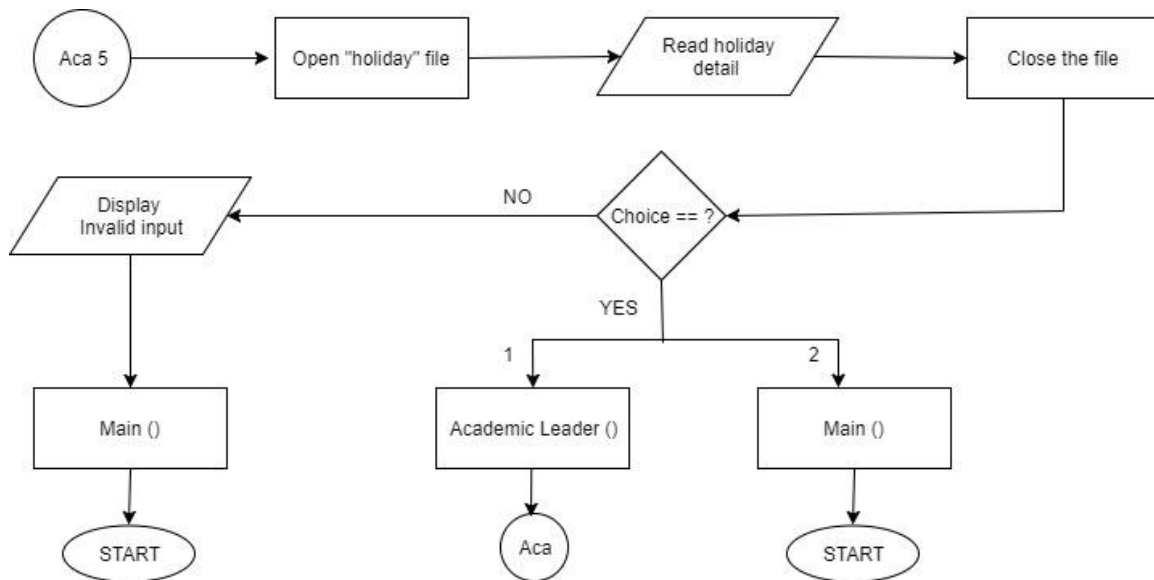
Flowchart diagram 19: Approve/reject the leave



Flowchart diagram 20: Delete the leave applications

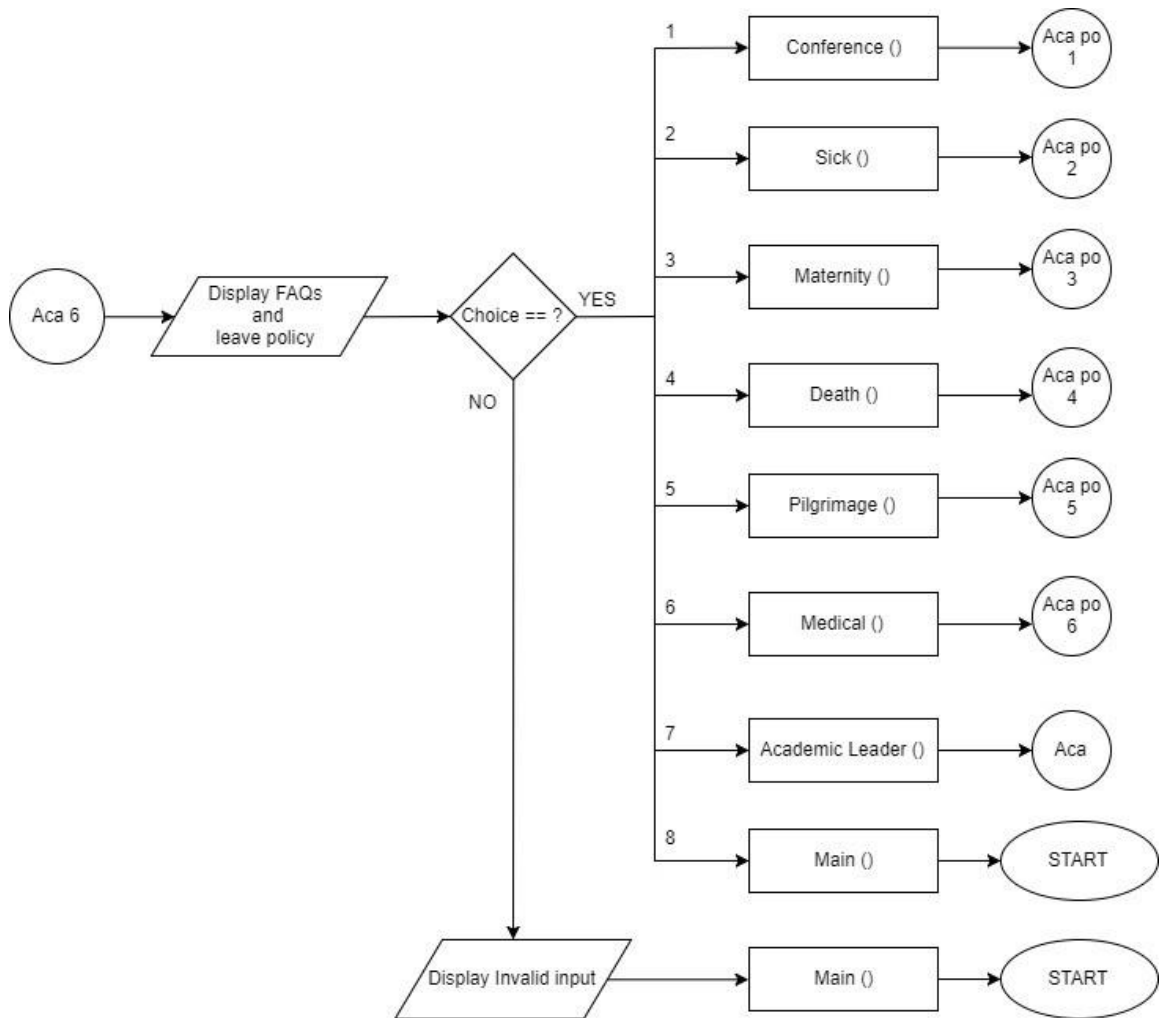


Flowchart diagram 21: View calendar

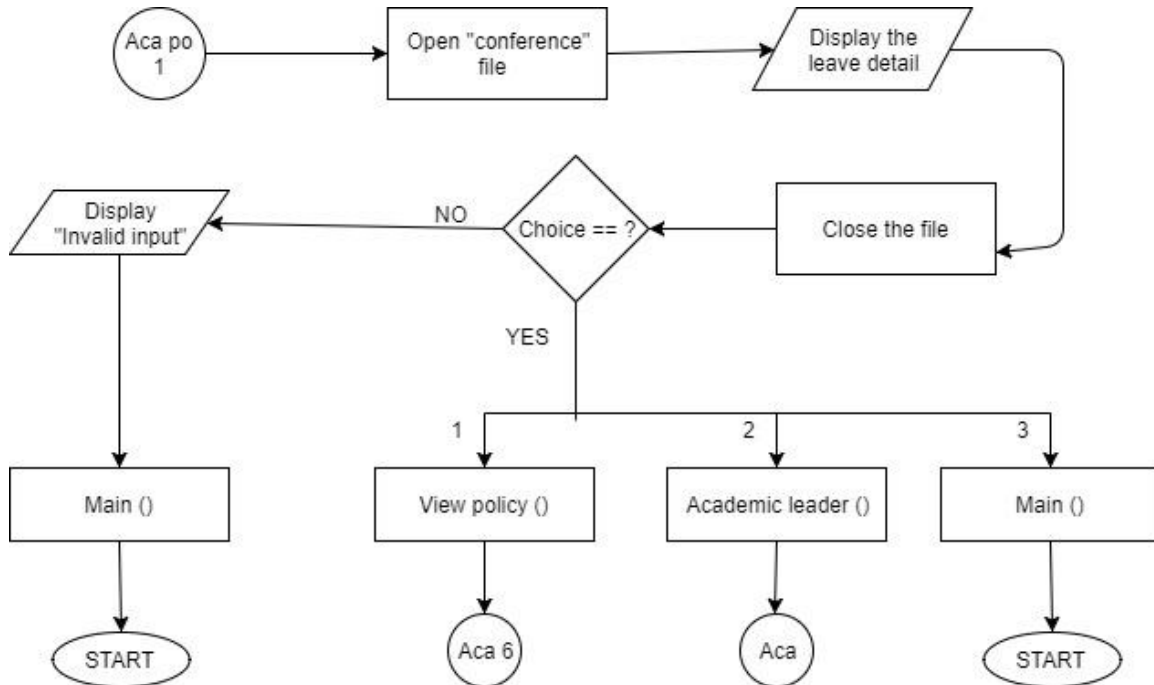


Flowchart diagram 22: View all public and university holidays

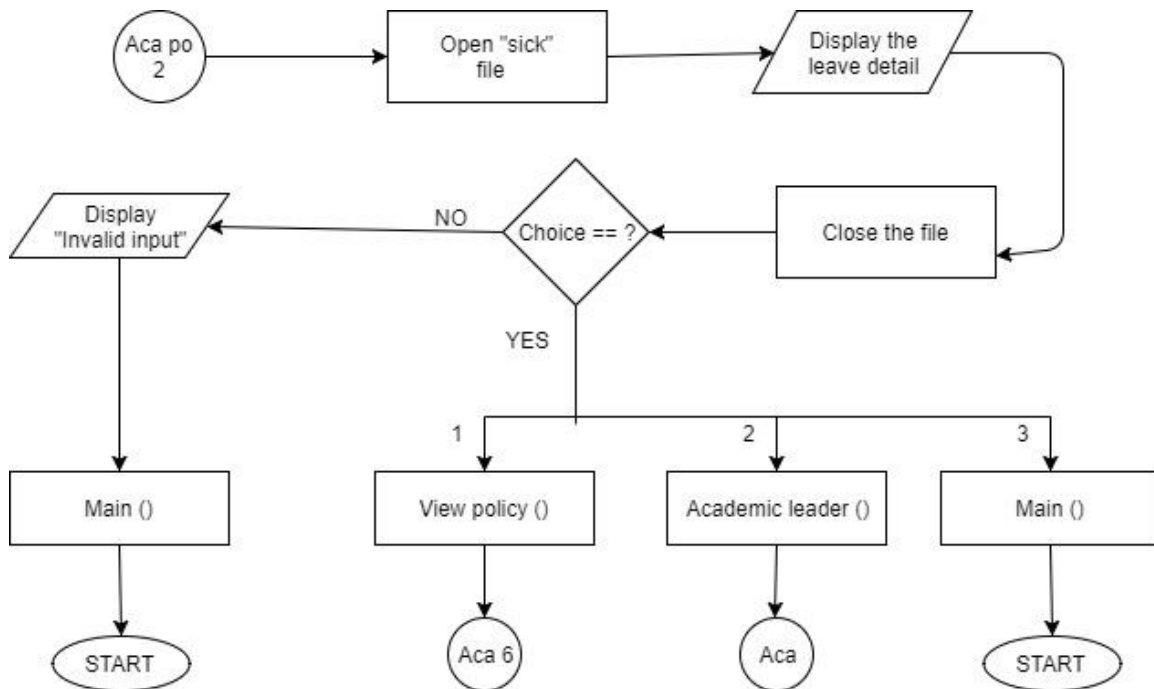




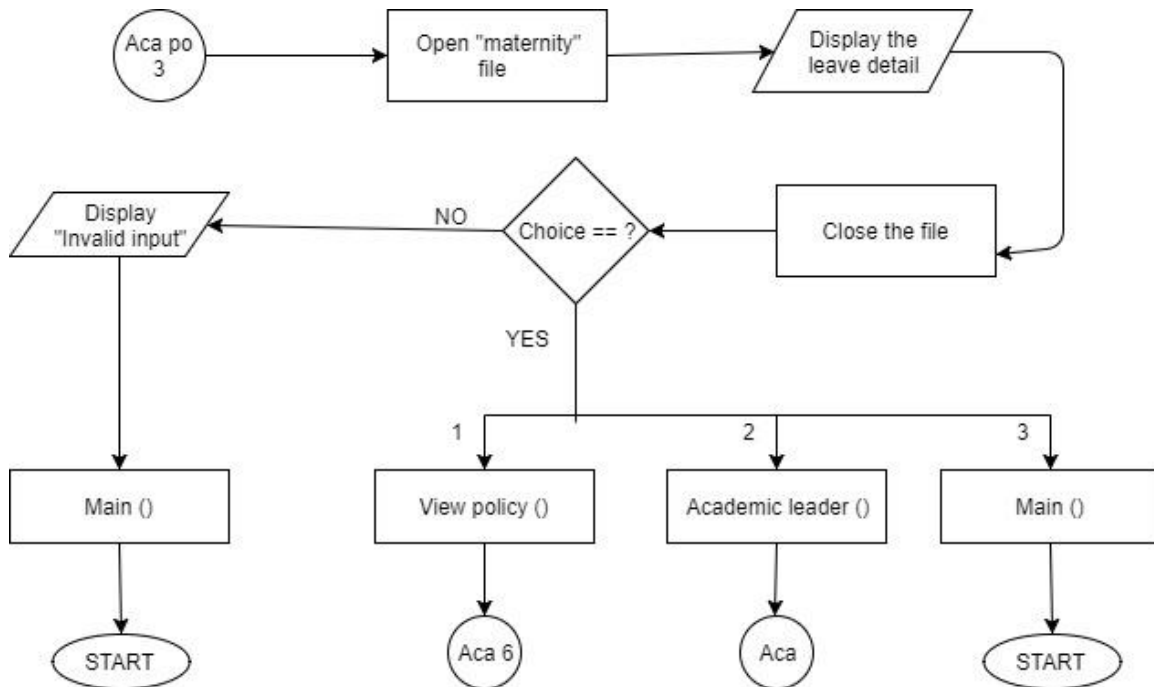
Flowchart diagram 23: View FAQs and university's leave policies



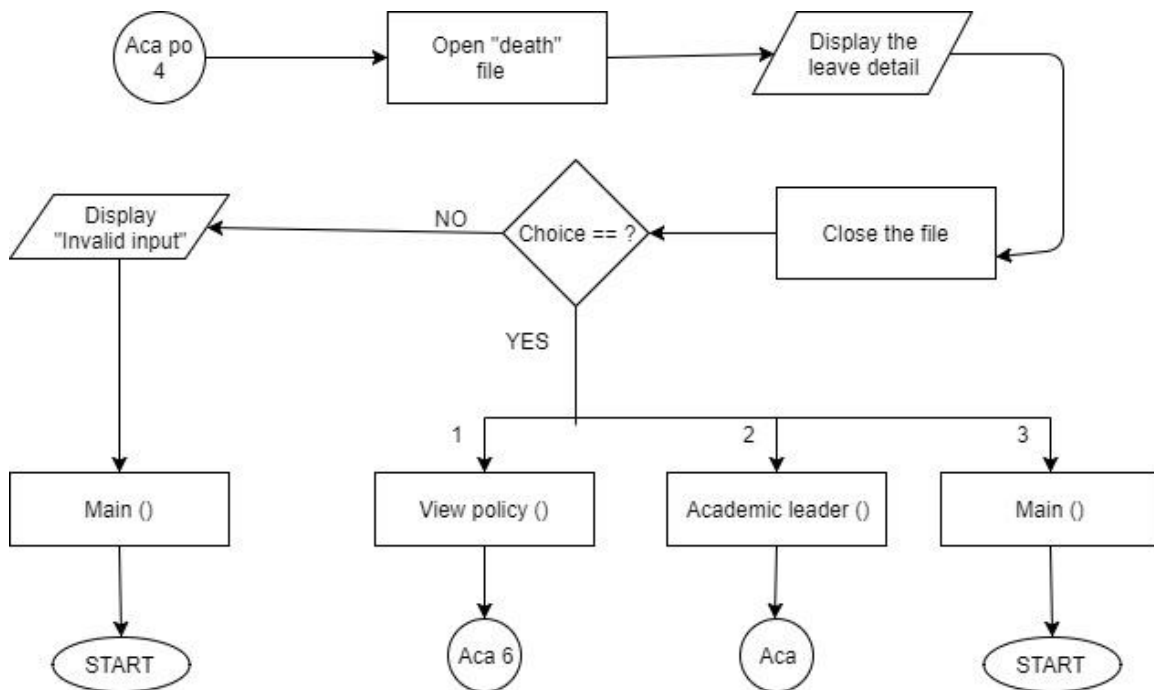
Flowchart diagram 24: View conference leave policies



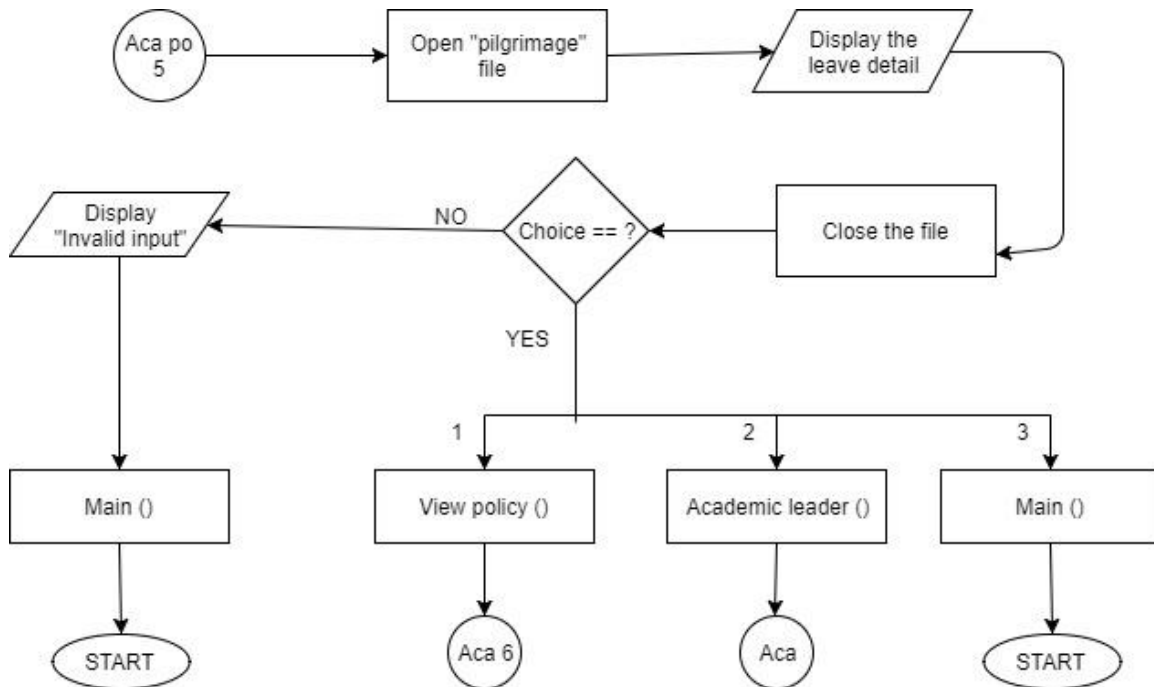
Flowchart diagram 25: View sick leave policies



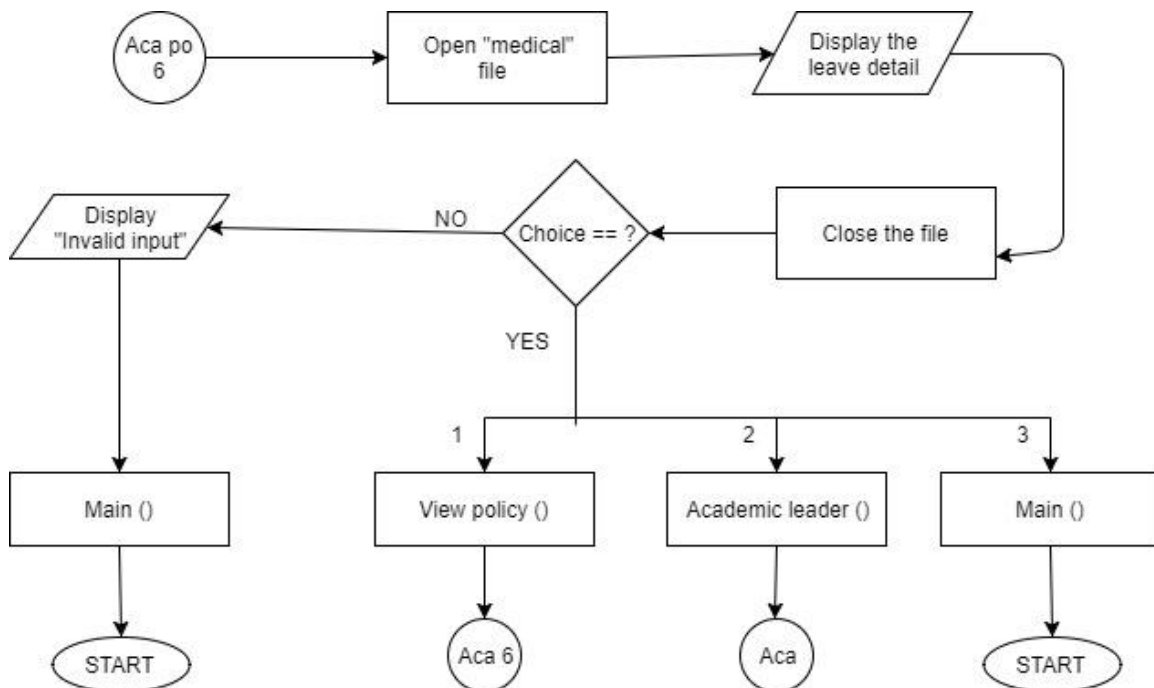
Flowchart diagram 26: View maternity leave policies



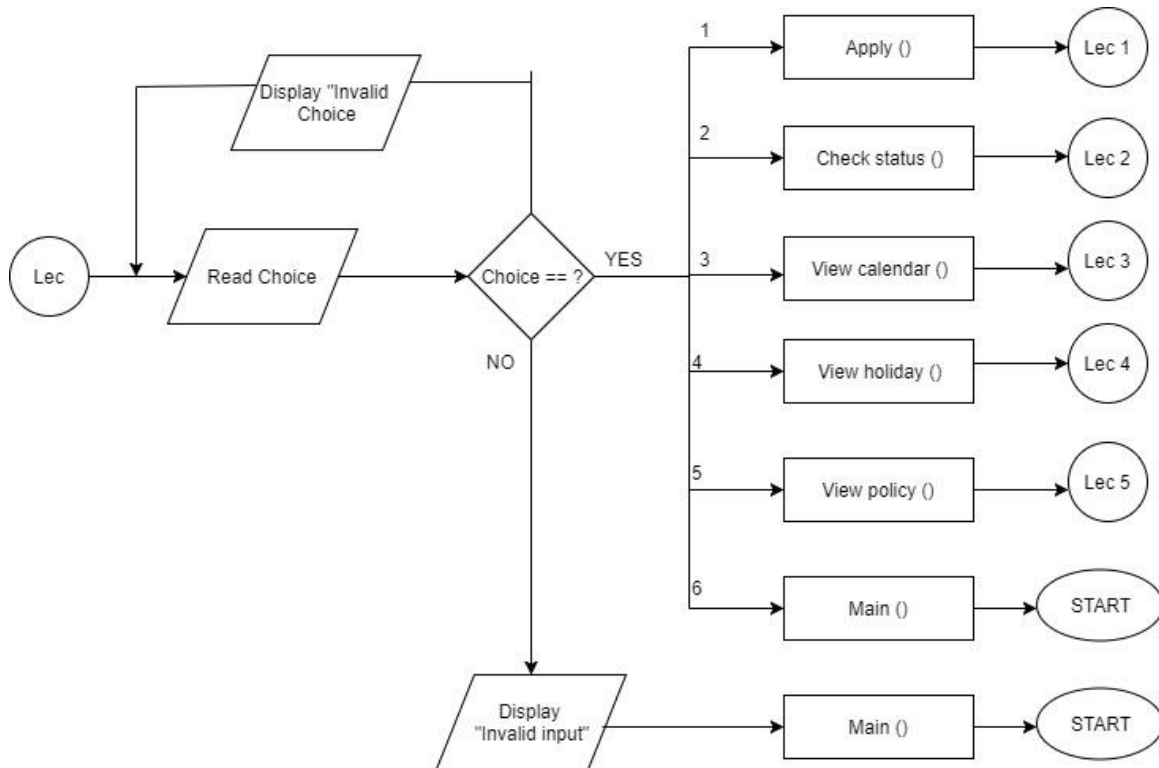
Flowchart diagram 27: View death leave policies



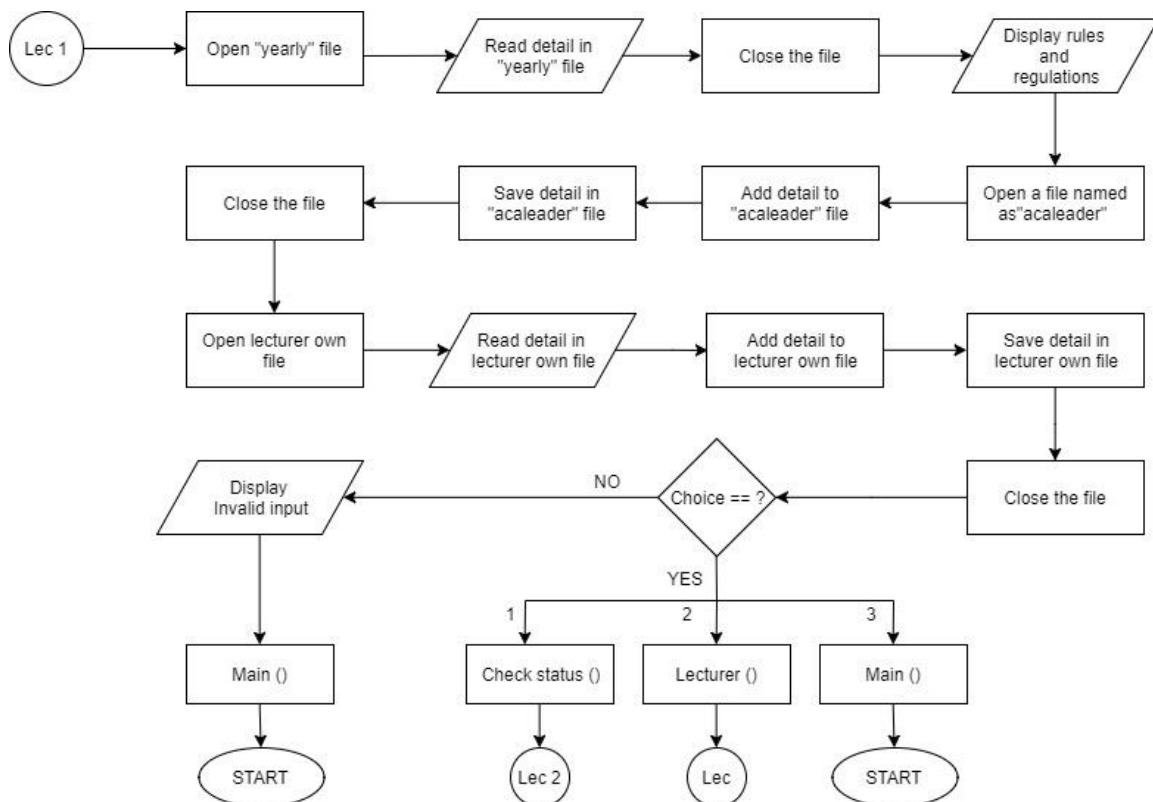
Flowchart diagram 28: View pilgrimage leave policies



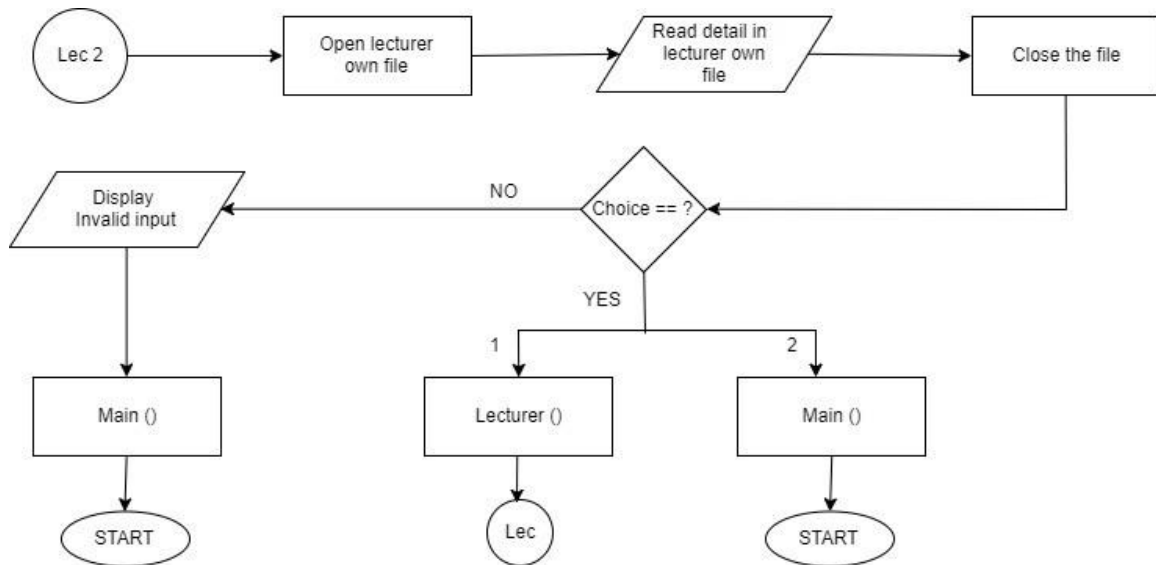
Flowchart diagram 29: View medical leave policies



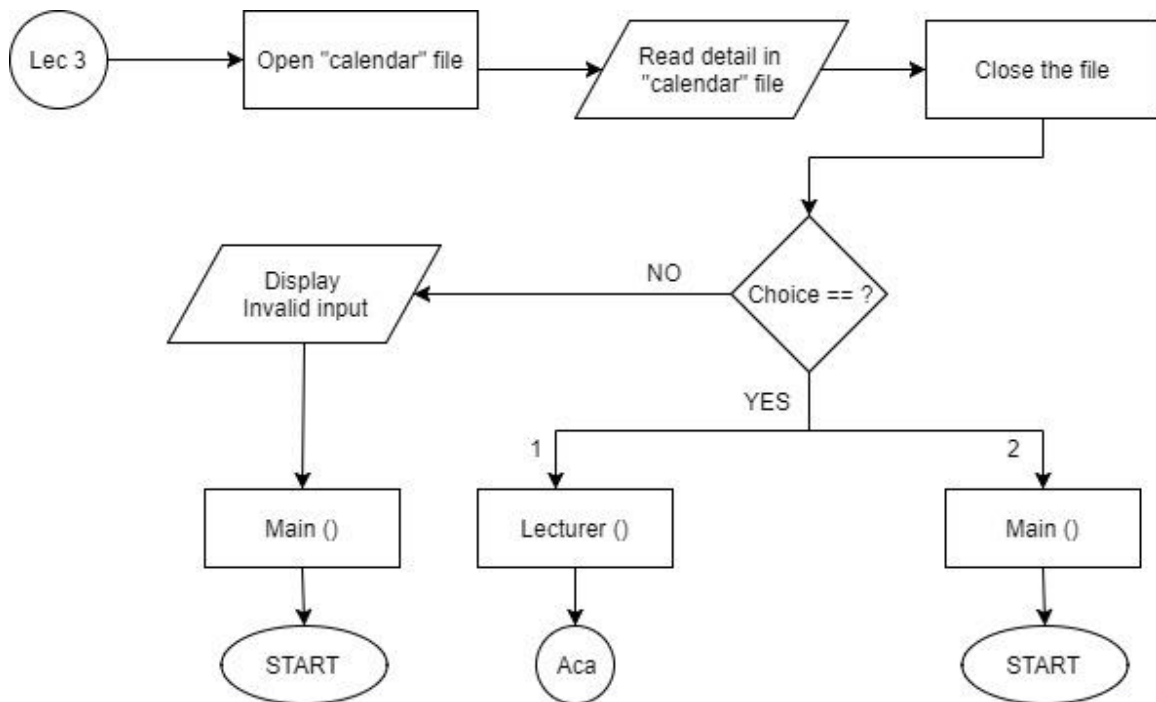
Flowchart diagram 30: Lecturer option



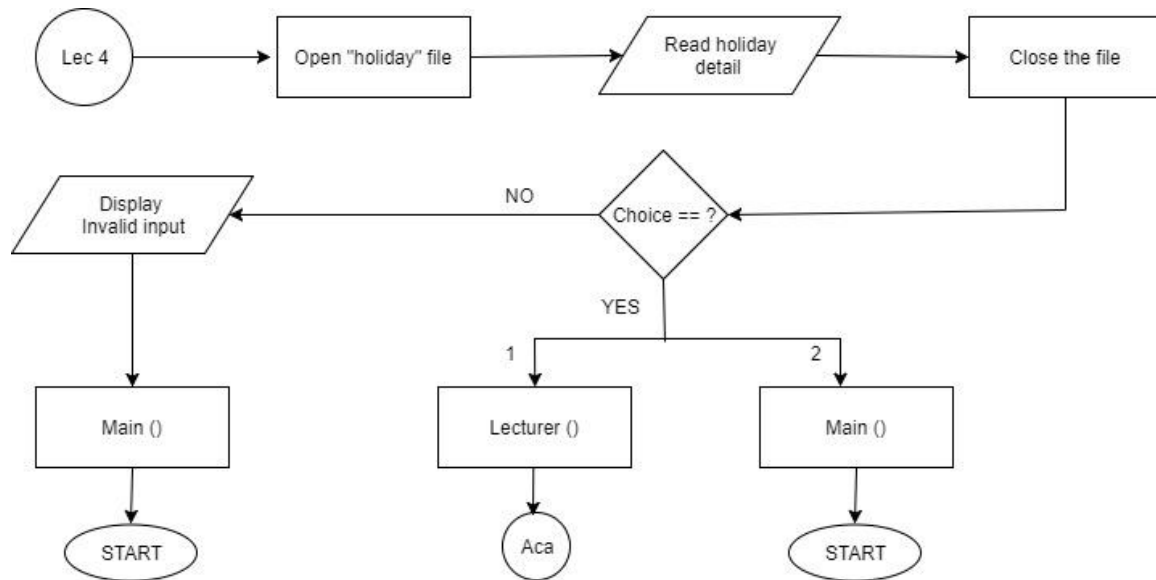
Flowchart diagram 31: Apply for leave



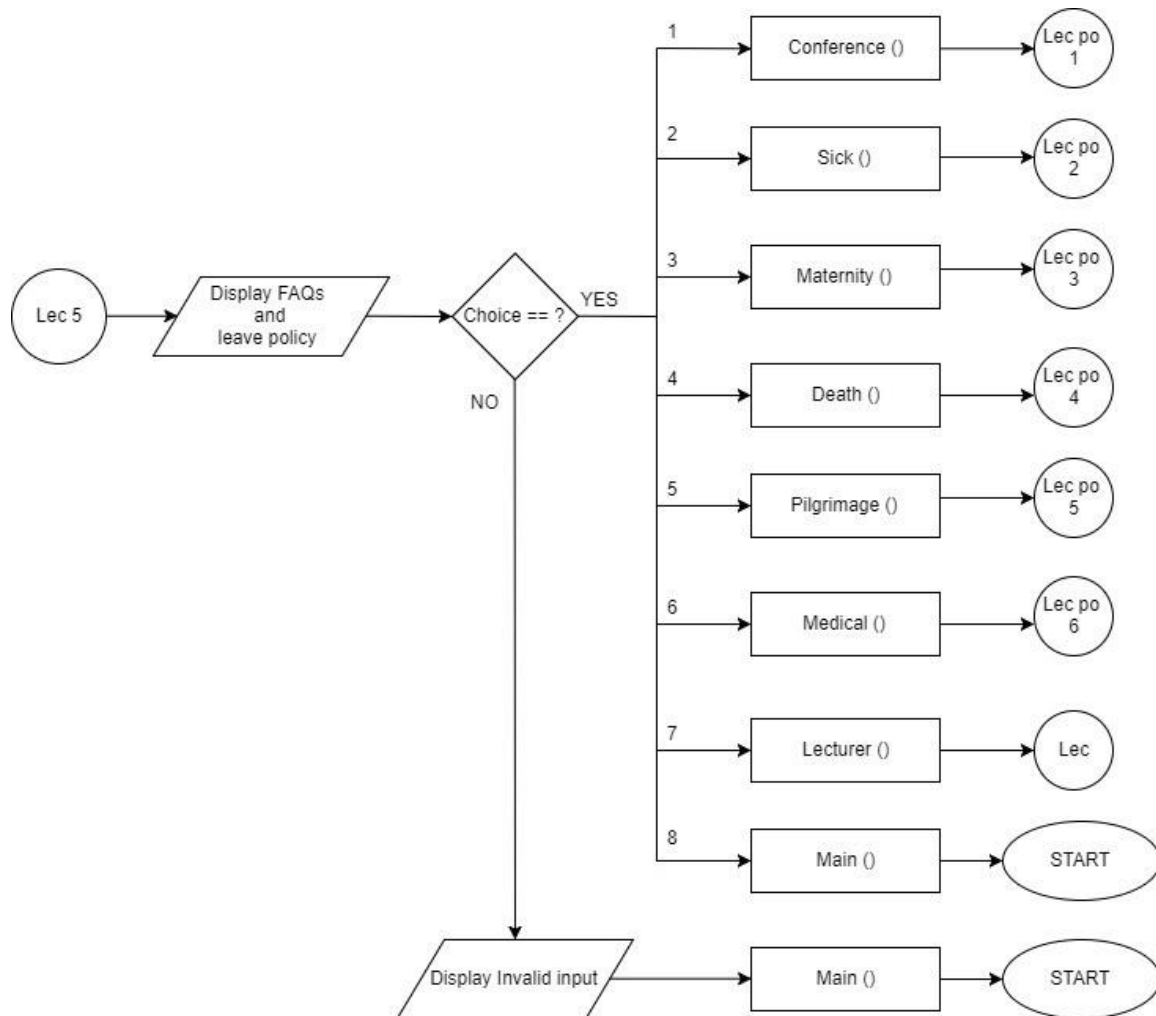
Flowchart diagram 32: Check the status of leave application



Flowchart diagram 33: View Calendar

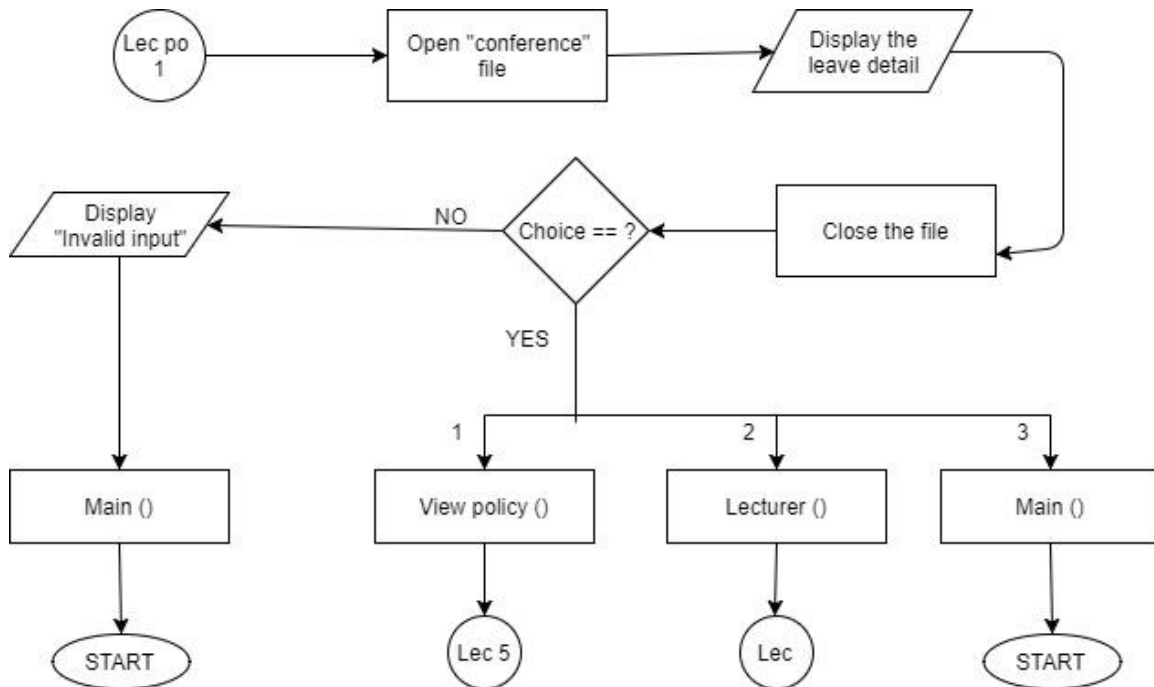


Flowchart diagram 34: View all public and university holidays

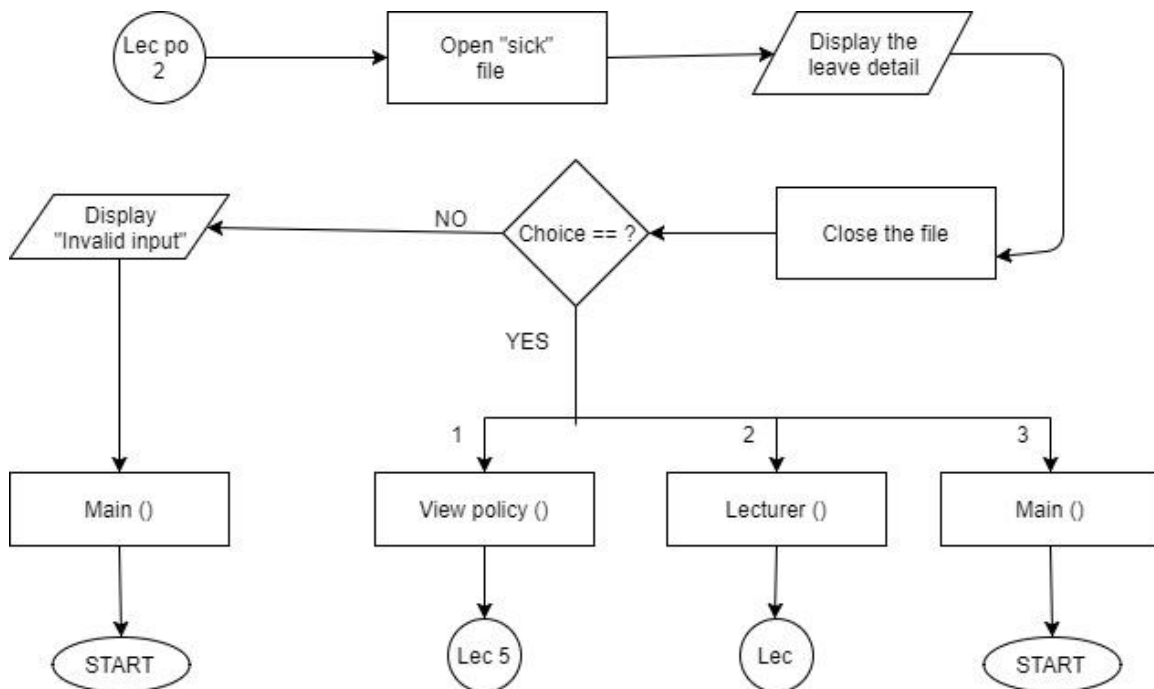


Flowchart diagram 35: View FAQs and university's leave policies

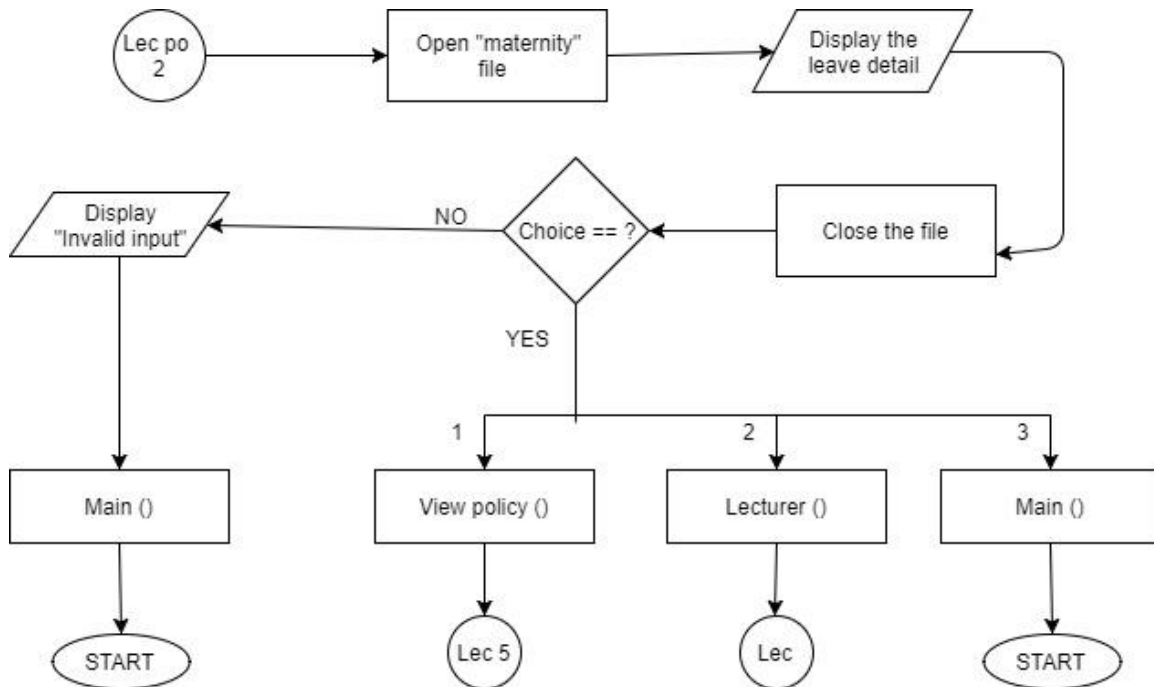




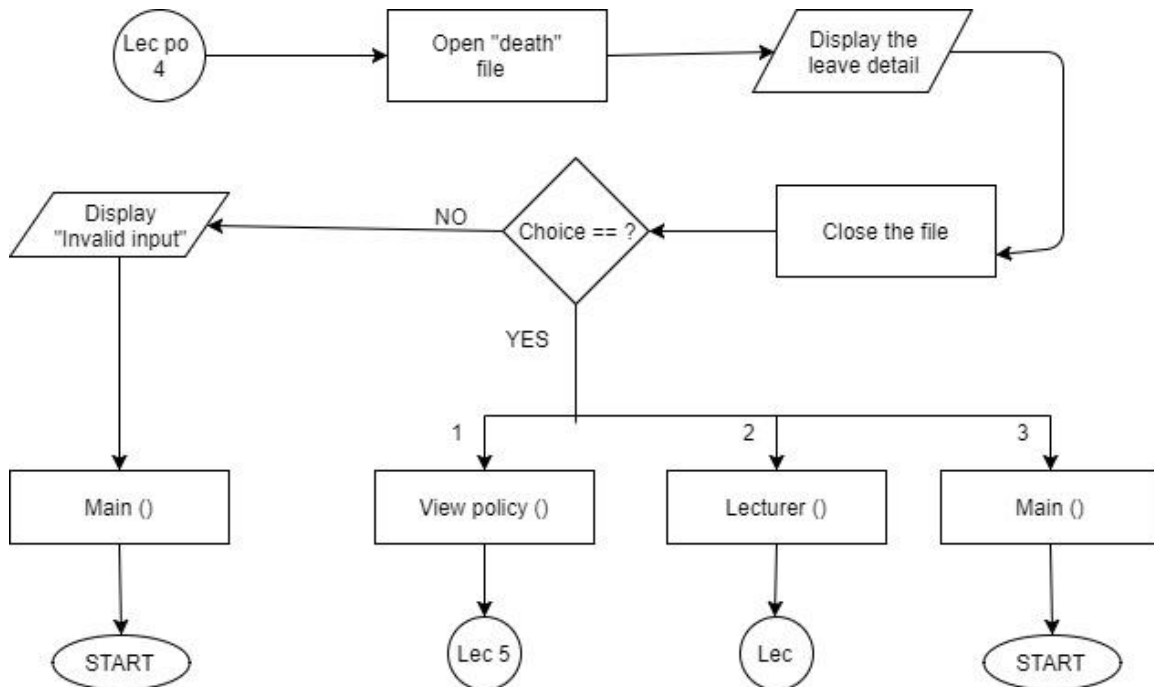
Flowchart diagram 36: View conference leave policies



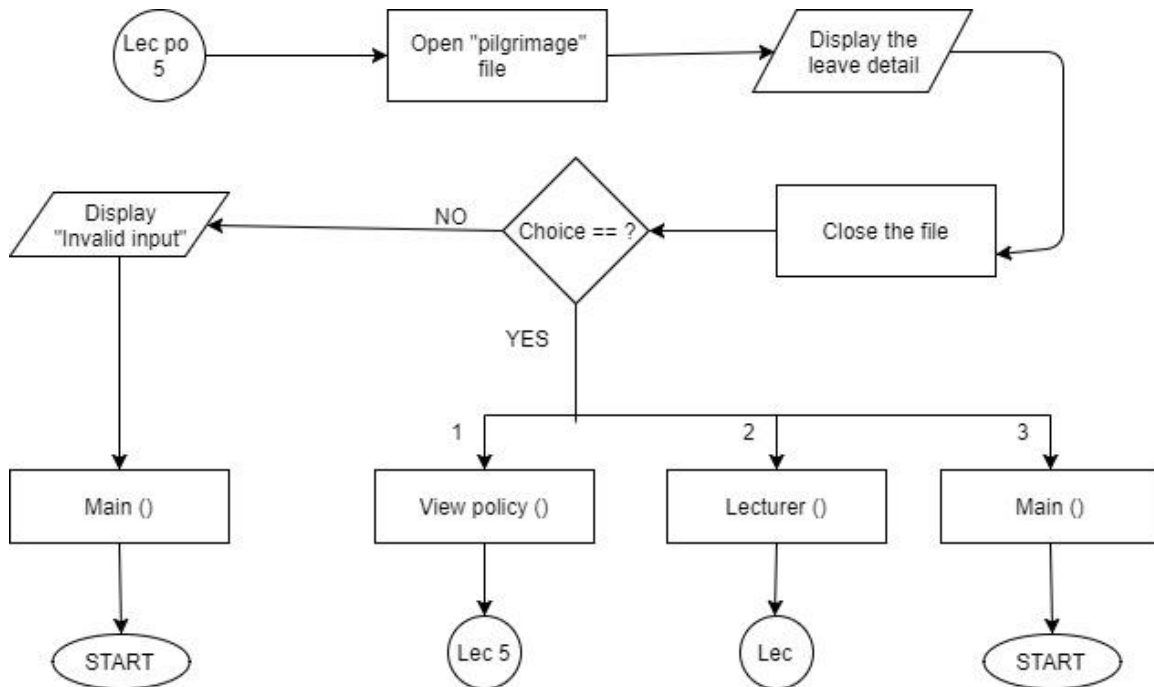
Flowchart diagram 37: View sick leave policies



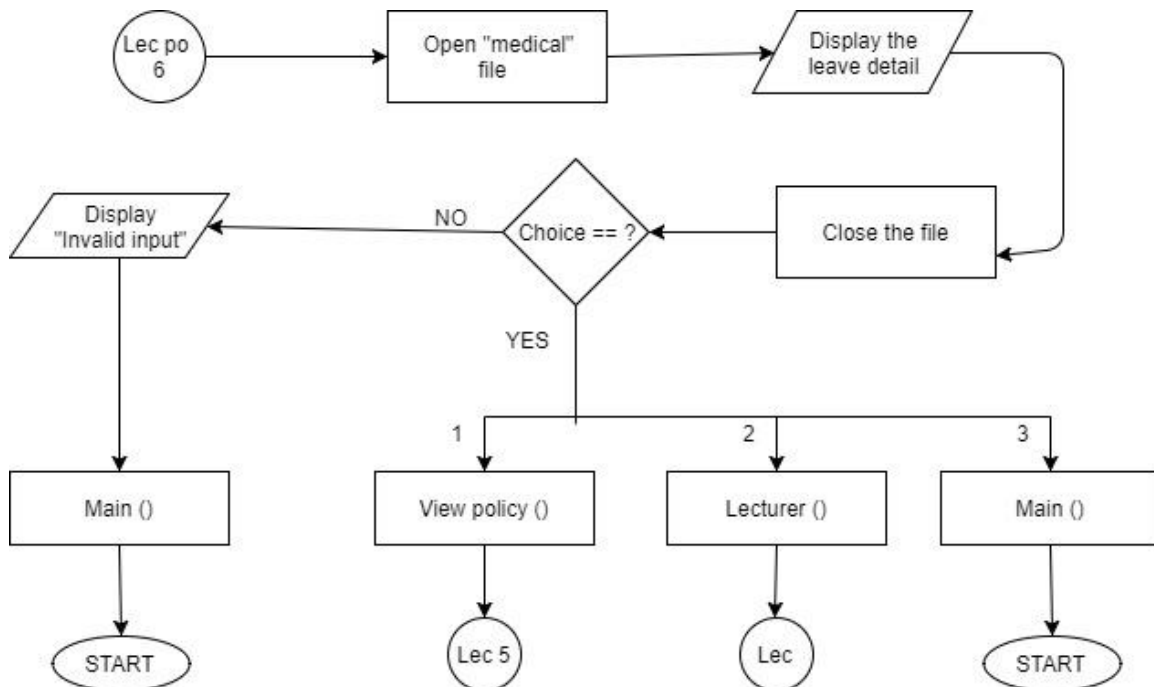
Flowchart diagram 38: View maternity leave policies



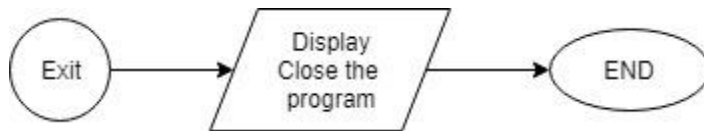
Flowchart diagram 39: View death leave policies



Flowchart diagram 40: View pilgrimage leave policies



Flowchart diagram 41: View medical leave policies



Flowchart diagram 42: Exit program

## Psuedocode

```

Start program;
Display main page;
Read choice;
Selection a choice;
Display Human Resources, Academic Leader, Lecturer, Exit;
IF:
    Selection Human Resources;
    Display login;
    IF:
        Username and Password are match;
        Go to Human Resource;
    ELSE:
        Exit program;
ELSEIF:
    Selection Academic Leader;
    Display login;
    IF:
        Username and Password are match;
        Go to Academic Leader;
    ELSE:
        Exit program;
ELSEIF:
    Selection Lecturer;
    Display login;
    IF:
        Username and Password are match;
        Go to Lecturer;
    ELSE:
        Exit program;
ELSEIF:
    Selection Exit;
    Exit Program;
    ELSE:
        Invalid input;
        Display invalid choice;
        return to main page;
End program.
  
```

```
Start the program;
Human resource page;
Read choice;
Selection a choice;
Display register profile, view profile, delete profile, leaves status, delete status, upload yearly
leaves, upload holiday, update FAQ and policies, main page;
IF:
    Selection 1;
    go to register profile;
ELSEIF:
    Selection 2;
    go to view profile;
ELSEIF:
    Selection 3;
    go to delete profile;
ELSEIF:
    Selection 4;
    go to leaves status;
ELSEIF:
    Selection 5;
    go to delete status;
ELSEIF:
    Selection 6;
    go to upload yearly leaves;
ELSEIF:
    Selection 7;
    go to upload holiday;
ELSEIF:
    Selection 8;
    go to update FAQ and policies;
ELSEIF:
    Selection 9;
    go to main page;
ELSE:
    Invalid input;
    Display invalid choice;
    return to human resource page;
End program.
```

```
Start the program;
Register profile page;
Open a file named as "employee";
input detail firstname, lastname, id, lecturer or academic leader, level, contact no.;
Save detail in "employee" file;
Close the file;
Open a file named as "user NAME";
input detail firstname, lastname, id, lecturer or academic leader, level, contact no.;
```

Save detail in “user NAME”

Close the file;

Read choice;

Selection a choice;

Display register, human resource, main page

IF:

Selection 1;

register again;

ELSEIF:

Selection 2;

go to human resource;

ELSEIF:

Selection 3;

go to main page;

ELSE:

Invalid input;

Display invalid input;

return to main page;

End program.

Start the program;

View profile page;

Open “employee” file;

Read detail in “employee” file;

Close the file;

Read choice;

Selection a choice;

Display human resource, main page;

IF:

Selection 1;

go to human resource;

ELSEIF:

Selection 2;

go to main page ;

ELSE:

Invalid input;

Display invalid input;

return to main page;

End program.

Start the program;

Delete profile page;

Open “employee” file;

Read detail in “employee” file;

Selected a line to delete a profile;

Read the new detail in “employee” file;

Close the file;

Read choice;

Selection a choice;  
Display delete profile, human resource, main;  
IF:  
    Selection 1;  
    go to delete profile;  
ELSEIF:  
    Selection 2;  
    go to human resource;  
ELSEIF:  
    Selection 3;  
    go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;  
End program.

Start the program;  
Delete profile page;  
Open “employee” file;  
Read detail in “employee” file;  
Selected a line to delete a profile;  
Read the new detail in “employee” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display delete profile, human resource, main;  
IF:  
    Selection 1;  
    go to delete profile;  
ELSEIF:  
    Selection 2;  
    go to human resource;  
ELSEIF:  
    Selection 3;  
    go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;  
End program.

Start the program;  
Delete the employee leave status page;  
Open “leave” file;  
Read detail in “leave” file;  
Selected a line to delete a profile;  
Read the new detail in “employee” file;

Close the file;  
Read choice;  
Selection a choice;  
Display deleted status, human resource, main page;  
IF:

    Selection 1;  
    go to deleted status;  
ELSEIF:  
    Selection 2;  
    go to human resource;  
ELSEIF:  
    Selection 3;  
    go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
Upload the yearly leave page;  
Open a file named as “yearly” file;  
Update yearly leaves;  
Save detail in “yearly” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display human resource, main page;  
IF:

    Selection 1;  
    go to human resource;  
ELSEIF:  
    Selection 2;  
    go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
Upload the public and university holidays page;  
Open “holiday” file;  
Display the holiday;  
Add new holiday in file;  
Save detail in “holiday” file;  
Close the file;  
Read choice;



Selection a choice;  
Display update holiday, human resource, main page;  
IF:

    Selection 1;  
    go to update holiday;  
ELSEIF:  
    Selection 2;  
    go to human resource;  
ELSEIF:  
    Selection 3;  
    go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
Update FAQs and university' leave policies page;  
Read choice;  
Selection a choice;  
Display conference, sick, maternity, death, pilgrimage, medical, human resource, main page;  
IF:

    Selection 1;  
    go to conference;  
ELSEIF:  
    Selection 2;  
    go to sick;  
ELSEIF:  
    Selection 3;  
    go to maternity;  
ELSEIF:  
    Selection 4;  
    go to death;  
ELSEIF:  
    Selection 5;  
    go to pilgrimage;  
ELSEIF:  
    Selection 6;  
    go to medical;  
ELSEIF:  
    Selection 7;  
    go to human resource;  
ELSEIF:  
    Selection 8;  
    go to main page;  
ELSE:

```
        Invalid input;
        Display invalid input
        return to main page;
End program.

Start the program;
Update conference leave policies page;
Open "conference" file;
display the leave detail;
Add new detail;
Save detail in "conference" file;
Close the file;
Read choice;
Selection a choice;
Display update FAQs and policies, update FAQs and policies, main page;
IF:
    Selection 1;
    go to update FAQs and policies;
    ELSEIF:
    Selection 2;
    go to human resource;
ELSEIF:
    Selection 3;
    go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.

Start the program;
Update sick leave policies page;
Open "sick" file;
display the leave detail;
Add new detail;
Save detail in "sick" file;
Close the file;
Read choice;
Selection a choice;
Display update FAQs and policies, update FAQs and policies, main page;
IF:
    Selection 1;
    go to update FAQs and policies;
ELSEIF:
    Selection 2;
    go to human resource;
ELSEIF:
    Selection 3;
```

```
        go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.

Start the program;
Update maternity leave policies page;
Open "maternity" file;
display the leave detail;
Add new detail;
Save detail in "maternity" file;
Close the file;
Read choice;
Selection a choice;
Display update FAQs and policies, human resource, main page;
    IF:
        Selection 1;
        go to update FAQs and policies;
ELSEIF:
    Selection 2;
    go to human resource;
ELSEIF:
    Selection 3;
    go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.

Start the program;
Update death leave policies page;
Open "death" file;
display the leave detail;
Add new detail;
Save detail in "death" file;
Close the file;
Read choice;
Selection a choice;
Display update FAQs and policies, human resource, main page;
IF:
    Selection 1;
    go to update FAQs and policies;
ELSEIF:
    Selection 2;
    go to human resource;
```

ELSEIF:

Selection 3;  
go to main page;

ELSE:

Invalid input;  
Display invalid input;  
return to main page;

End program.

Start the program;  
Update pilgrimage leave policies page;  
Open "pilgrimage" file;  
display the leave detail;  
Add new detail;  
Save detail in "pilgrimage" file;  
Close the file;  
Read choice;  
Selection a choice;  
Display update FAQs and policies, human resource, main page;  
IF:

Selection 1;  
go to update FAQs and policies;

ELSEIF:

Selection 2;  
go to human resource;

ELSEIF:

Selection 3;  
go to main page;

ELSE:

Invalid input;  
Display invalid input;  
return to main page;

End program.

Start the program;  
Update medical leave policies page;  
Open "medical" file;  
display the leave detail;  
Add new detail;  
Save detail in "medical" file;  
Close the file;  
Read choice;  
Selection a choice;  
Display update FAQs and policies, human resource, main page;  
IF:

Selection 1;  
go to update FAQs and policies;

ELSEIF:

```
        Selection 2;
        go to human resource;
ELSEIF:
        Selection 3;
        go to main page;
ELSE:
        Invalid input;
        Display invalid input;
        return to main page;
End program.

Start the program;
academic leader page;
Read choice;
Selection a choice;
Display view application, approve/reject, delete application, view calendar, view holiday, view
policy, main page;
IF:
        Selection 1;
        go to view application;
ELSEIF:
        Selection 2;
        go to approve/reject;
ELSEIF:
        Selection 3;
        go to delete application;
ELSEIF:
        Selection 4;
        go to view calendar;
ELSEIF:
        Selection 5;
        go to view holiday;
ELSEIF:
        Selection 6;
        go to view policy;
ELSEIF:
        Selection 7;
        go to main page;
ELSE:
        Invalid input;
        Display invalid choice;
        return to human resource page;
program.

Start the program;
View lecturer's leave application;
Open "acaleader" file;
Read detail in "acaleader" file;
```

End

Close the file;  
Read choice;  
Selection a choice;  
Display approve/reject, academic leader, main page;  
IF:

    Selection 1;  
        go to approve/reject;  
ELSEIF:  
    Selection 2;  
        go to academic leader;  
ELSEIF:  
    Selection 3;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
Approve/reject page;  
Open lecturer own file;  
Read detail in file;  
Add approved/reject detail in file;  
Save detail in lecturer own file;  
Close the file;  
Open a file named as “leave”;  
Add leave status; Save detail in “leave” file;  
Close the program;  
Read choice;  
Selection a choice;  
Display update FAQs and policies, update FAQs and policies, main page;  
IF:

    Selection 1;  
        go to academic leader;  
ELSEIF:  
    Selection 2;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
Delete the leave application page;  
Open “aceleader” file;  
Read detail in “acaleader” file;

Selected a line to delete a profile;  
Read the new detail in “employee” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display delete application, academic leader, main page;  
IF:

    Selection 1;  
        go to delete application;  
ELSEIF:  
    Selection 2;  
        go to academic leader;  
ELSEIF:  
    Selection 3;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;  
End program.

Start the program;  
View calendar page;  
Open “calendar” file;  
Read detail in “calendar” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display academic leader, main page;  
IF:

    Selection 1;  
        go to academic leader;  
ELSEIF:  
    Selection 2;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;  
End program.

Start the program;  
View all public and university holiday page;  
Open “holiday” file;  
Read detail in “holiday” file;  
Close the file;  
Read choice;  
Selection a choice;

Display academic leader, main page;

IF:

Selection 1;  
go to academic leader;

ELSEIF:

Selection 2;  
go to main page;

ELSE:

Invalid input;  
Display invalid input;  
return to main page;

End program.

Start the program;

View FAQs and university' leave policies page;

Read choice;

Selection a choice;

Display conference, sick, maternity, death, pilgrimage, medical, academic leader, main  
page; IF:

Selection 1;  
go to conference;

ELSEIF:

Selection 2;  
go to sick;

ELSEIF:

Selection 3;  
go to maternity;

ELSEIF:

Selection 4;  
go to death;

ELSEIF:

Selection 5;  
go to pilgrimage;

ELSEIF:

Selection 6;  
go to medical;

ELSEIF:

Selection 7;  
go to academic leader;

ELSEIF:

Selection 8;  
go to main page;

ELSE:

Invalid input;  
Display invalid input  
return to main page;

End program.



Start the program;  
View conference leave policies page;  
Open “conference” file;  
Read detail in “conference” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display view policy, academic leader, main page;  
IF:

    Selection 1;  
        go to view policy;  
ELSEIF:  
    Selection 2;  
        go to academic leader;  
ELSEIF:  
    Selection 3;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
View sick leave policies page;  
    Open “sick” file;  
    Read detail in “sick” file;  
    Close the file;  
    Read choice;  
    Selection a choice;  
    Display view policy, academic leader, main page;  
    IF:

        Selection 1;  
            go to view policy;  
ELSEIF:  
        Selection 2;  
            go to academic leader;  
ELSEIF:  
        Selection 3;  
            go to main page;  
ELSE:  
        Invalid input;  
        Display invalid input;  
        return to main page;

End program.

Start the program;  
View maternity leave policies page;

Open “maternity” file;  
Read detail in “maternity” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display view policy, academic leader, main page;  
IF:

    Selection 1;  
        go to view policy;  
ELSEIF:  
    Selection 2;  
        go to academic leader;  
ELSEIF:  
    Selection 3;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
View death leave policies page;  
Open “death” file;  
Read detail in “death” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display view policy, academic leader, main page;  
IF:

    Selection 1;  
        go to view policy;  
ELSEIF:  
    Selection 2;  
        go to academic leader;  
ELSEIF:  
    Selection 3;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
View pilgrimage leave policies page;  
Open “pilgrimage” file;  
Read detail in “pilgrimage” file;

Close the file;  
Read choice;  
Selection a choice;  
Display view policy, academic leader, main page;  
IF:

    Selection 1;  
        go to view policy;  
ELSEIF:  
    Selection 2;  
        go to academic leader;  
ELSEIF:  
    Selection 3;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
View medical leave policies page;  
Open “medical” file;  
Read detail in “medical” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display view policy, academic leader, main page;  
IF:

    Selection 1;  
        go to view policy;  
ELSEIF:  
    Selection 2;  
        go to academic leader;  
ELSEIF:  
    Selection 3;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;

End program.

Start the program;  
Lecturer page;  
Read choice;  
Selection a choice;  
Display apply, check status, view calendar, view holiday, view policy, main page;  
IF:

```

        Selection 1;
        go to apply;
ELSEIF:
        Selection 2;
        go to check status;
ELSEIF:
        Selection 3;
        go to view calendar;
ELSEIF:
        Selection 4;
        go to view holiday;
ELSEIF:
        Selection 5;
        go to view policy;
ELSEIF:
        Selection 6;
        go to main page;
ELSE:
        Invalid input;
        Display invalid choice;
        return to human resource page;
program.
End

Start the program;
apply for leave page;
Open "yearly" file;
Read detail in "yearly" file;
Close the file;
Display the rules and regulations;
Open a file named as "acaleader";
Add detail to "acaleader" file;
Save detail in "acaleader" file;
Close the file;
Open lecturer own file;
detail in lecturer own file;
detail to lecturer own file;
the detail in lecturer own file; Close the file;
choice;
Selection a choice;
Display check status, lecturer, main page;
IF:
        Selection 1;
        go to check status;
ELSEIF:
        Selection 2;
        go to lecturer;
ELSEIF:

```

Read  
Add  
Save  
Read

```
        Selection 3;
        go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.

Start the program;
Check the status of leave application page;
Open lecturer own file;
Read detail in lecturer file;
Close the file;
Read choice;
Selection a choice;
Display lecturer, main page;
IF:
    Selection 1;
    go to lecturer;
ELSEIF:
    Selection 2;
    go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.

Start the program;
View calendar page;
Open "calendar" file;
Read detail in "calendar" file;
Close the file;
Read choice;
Selection a choice;
Display lecturer, main page;
IF:
    Selection 1;
    go to lecturer;
ELSEIF:
    Selection 2;
    go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.
```

Start the program;  
View all public and university holiday page;  
Open “holiday” file;  
Read detail in “holiday” file;  
Close the file;  
Read choice;  
Selection a choice;  
Display lecturer, main page;  
IF:

    Selection 1;  
        go to lecturer;  
ELSEIF:  
    Selection 2;  
        go to main page;  
ELSE:  
    Invalid input;  
    Display invalid input;  
    return to main page;  
End program.

Start the program;  
View FAQs and university’ leave policies page;  
    Read choice;  
    Selection a choice;  
    Display conference, sick, maternity, death, pilgrimage, medical, lecturer, main page;  
    IF:  
        Selection 1;  
            go to conference;  
ELSEIF:  
    Selection 2;  
        go to sick;  
ELSEIF:  
    Selection 3;  
        go to maternity;  
ELSEIF:  
    Selection 4;  
        go to death;  
ELSEIF:  
    Selection 5;  
        go to pilgrimage;  
ELSEIF:  
    Selection 6;  
        go to medical;  
ELSEIF:  
    Selection 7;  
        go to lecturer;  
ELSEIF:

```
        Selection 8;
        go to main page;
ELSE:
    Invalid input;
    Display invalid input
    return to main page;
End program.

Start the program;
View conference leave policies page;
Open "conference" file;
Read detail in "conference" file;
Close the file;
Read choice;
Selection a choice;
Display view policy, lecturer, main page;
IF:
    Selection 1;
    go to view policy;
ELSEIF:
    Selection 2;
    go to lecturer;
ELSEIF:
    Selection 3;
    go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.

Start the program;
View sick leave policies page;
Open "sick" file;
Read detail in "sick" file;
Close the file;
Read choice;
Selection a choice;
Display view policy, lecturer, main page;
IF:
    Selection 1;
    go to view policy;
ELSEIF:
    Selection 2;
    go to lecturer;
ELSEIF:
    Selection 3;
    go to main page;
```

ELSE:

Invalid input;  
Display invalid input;  
return to main page;

End program.

Start the program;

View maternity leave policies page;

Open “maternity” file;

Read detail in “maternity” file;

Close the file;  
Read choice;  
Selection a choice;  
Display view policy, lecturer, main page;

IF:

Selection 1;  
go to view policy;

ELSEIF:

Selection 2;  
go to lecturer;

ELSEIF:

Selection 3;  
go to main page;

ELSE:

Invalid input;  
Display invalid input;  
return to main page;

End program.

Start the program;

View death leave policies page;

Open “death” file;

Read detail in “death” file;

Close the file;

Read choice;

Selection a choice;

Display view policy, lecturer, main page;

IF:

Selection 1;  
go to view policy;

ELSEIF:

Selection 2;  
go to lecturer;

ELSEIF:

Selection 3;  
go to main page;

ELSE:



```
        Invalid input;
        Display invalid input;
        return to main page;
End program.

Start the program;
View pilgrimage leavepolicies page;
Open "pilgrimage" file;
Read detail in "pilgrimage" file;
Close the file;
Read choice;
Selection a choice;
Display view policy, lecturer, main page;
IF:
    Selection 1;
    go to view policy;
ELSEIF:
    Selection 2;
    go to lecturer;
ELSEIF:
    Selection 3;
    go to main page;
ELSE:
    Invalid input;
    Display invalid input;
    return to main page;
End program.
```

```
Start the program;
View sick medical policies page;
Open "medical" file;
Read detail in "medical" file;
Close the file;
Read choice;
Selection a choice;
Display view policy, lecturer, main page;
IF:
    Selection 1;
    go to view policy;
ELSEIF:
    Selection 2;
    go to lecturer;
ELSEIF:
    Selection 3;
    go to main page;
ELSE:
    Invalid input;
```

```

    Display invalid input;
    return to main page;
End program.

```

Start the program;  
Display close the program;  
End program.

## Explanation

```
printf("\n\t\t\t\t\tLecturer System Login Page\n\n");  
char id[]="leg",ida[10],pwd[]="1234",pwddb[10];int a, b;  
printf("\t\t\t\t\tPlease Enter Your Credentials\n");  
printf("\n\t\t\t\t\tUSER ID : ");  
scanf("%s",ida);  
printf("\n\t\t\t\t\tPASSWORD : ");  
scanf("%s",pwddb);  
a=strcmp(id,ida);b=strcmp(pwd,pwddb);  
if(a==0&&b==0)
```

Explanation diagram 1

There are 2 variable here, there are ID and password. I used the string compare to match the login ID and password.

[illegible]

### Explanation diagram 2

I used the function switch-case to selection option in this program. When the user key-in 1, the system will go to the option case 1, there is create a new profile for lecturer and academic leader.



## Additional Features

\*\*\* CALENDAR 2018 \*\*\*

JANUARY							FEBRUARY							MARCH													
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6		1	2	3					1	2	3											
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10							
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17							
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24							
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31							
APRIL							MAY							JUNE													
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7	1	2	3	4	5			1	2												
8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9							
15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16							
22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23							
29	30						27	28	29	30	31			24	25	26	27	28	29	30							
JULY							AUGUST							SEPTEMBER													
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7	1	2	3	4				1													
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8							
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15							
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22							
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	29							
							30																				
OCTOBER							NOVEMBER							DECEMBER													
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6		1	2	3					1													
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8							
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15							
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22							
28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29							
							30 31																				

Additional features diagram 1: c code calendar

View All Public And University Holidays

\*\*\* CALENDAR 2018 \*\*\*

JANUARY							FEBRUARY							MARCH						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6					1	2	3					1	2	3
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31

APRIL							MAY							JUNE						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7			1	2	3	4	5						1	2
8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9
15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16
22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23
29	30						27	28	29	30	31			24	25	26	27	28	29	30

JULY							AUGUST							SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7					1	2	3							1
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	29
														30						

OCTOBER							NOVEMBER							DECEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6					1	2	3							1
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22
28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29
														30	31					

### Additional features diagram 2: output calendar

[illegible]

Additional features diagram 3: c code type of leave entitlement

Update And Upload FAQs About University's Leave Policies	
LEAVE ENTITLEMENT	
1. CONFERENCE LEAVE	
2. SICK LEAVE	
3. MATERNITY LEAVE	
4. LEAVE BECAUSE OF DEATH OF A CLOSE FAMILY MEMBER	
5. PILGRIMAGE LEAVE	
6. LEAVE FOR SPECIAL MEDICAL DUTY	
7. Back To HR Page	
8. Back To Main Page	

Additional features diagram 4: output type of leave entitlement

*** PUBLIC HOLIDAYS 2018 ***		
1	JANUARY	NEW YEAR'S DAY
31	JANUARY	THAIPUSAM DAY
1	FEBRUARY	FEDERAL TERRITORY DAY
14	FEBRUARY	VALENTINE'S DAY
16	FEBRUARY	CHINESE LUNAR NEW YEAR'S DAY
17	FEBRUARY	SECOND DAY OF CHINESE LUNAR NEW YEAR'S DAY
30	MARCH	GOOD FRIDAY
1	APRIL	EASTER SUNDAY
13	APRIL	ISRA AND MI'RAJ
1	MAY	LABOUR DAY
16	MAY	RAMADAN BEGINS
29	MAY	WESAK DAY
30	MAY	HARVEST FESTIVAL
31	MAY	HARVEST FESTIVAL DAY 2
15	JUNE	HARI RAYA PUASA DAY 1
16	JUNE	HARI RAYA PUASA DAY 2
7	JULY	GEORGETOWN WORLD HERITAGE CITY DAY
14	JULY	PENANG GOVERNOR'S BIRTHDAY
22	AUGUST	HARI RAYA HAJI
31	AUGUST	MALAYSIA'S NATIONAL DAY
8	SEPTEMBER	THE YANG DI-PERTUAN AGONG'S BIRTHDAY
12	SEPTEMBER	MUHARRAM/NEW YEAR MUSLIM
16	SEPTEMBER	MALAYSIA'S DAY
7	NOVEMBER	DIWALI/DEEPAVALI'S DAY
21	NOVEMBER	THE PROPHET NABI MUHAMMAD'S BIRTHDAY
24	DECEMBER	CHRISTMAS EVE
25	DECEMBER	CHRISTMAS DAY
31	DECEMBER	NEW YEAR EVE

Additional features 5: c code public holidays 2018



	*** PUBLIC HOLIDAYS 2018 ***	
1	JANUARY	NEW YEAR'S DAY
31	JANUARY	THAIPUSAM DAY
1	FEBRUARY	FEDERAL TERRITORY DAY
14	FEBRUARY	VALENTINE'S DAY
16	FEBRUARY	CHINESE LUNAR NEW YEAR'S DAY
17	FEBRUARY	SECOND DAY OF CHINESE LUNAR NEW YEAR'S DAY
30	MARCH	GOOD FRIDAY
1	APRIL	EASTER SUNDAY
13	APRIL	ISRA AND MI'RAJ
1	MAY	LABOUR DAY
16	MAY	RAMADAN BEGINS
29	MAY	WESAK DAY
30	MAY	HARVEST FESTIVAL
31	MAY	HARVEST FESTIVAL DAY 2
15	JUNE	HARI RAYA PUASA DAY 1
16	JUNE	HARI RAYA PUASA DAY 2
7	JULY	GEORGETOWN WORLD HERITAGE CITY DAY
14	JULY	PENANG GOVERNOR'S BIRTHDAY
22	AUGUST	HARI RAYA HAJI
31	AUGUST	MALAYSIA'S NATIONAL DAY

Additional features 6: output public holidays 2018

## Sample Outputs

```

Enter Firstname : TAN
Enter Lastname : YIKERN
Enter ID : IT00000
Lecturer/Academic Leader : LECTURER
Enter Level (S1, S2, S3, S4, S5): S5
Enter Contact No : 0111111111

Create A Profile For Leave Application
Enter Firstname As File Name : TAN

Enter Firstname : TAN
Enter Lastname : YIKERN
Enter ID : IT00000
Lecturer/Academic Leader : LECTURER
Enter Level (S1, S2, S3, S4, S5): S5
Enter Contact No : 0111111111

-----SUCCESSFULLY REGISTER-----

```

Sample output diagram 1: Create new profile

ALL EMPLOYEES PROFILES					
Firstname	Lastname	ID	Position	Level	Contact No.
LIOW	SHIJIE	AL000000	ACADEMIC LEADER	S5	0111111111
WAN	JINGYI	AL111111	ACADEMIC LEADER	S4	0122222222
YAP	CHILING	AL222222	ACADEMIC LEADER	S3	0133333333
WU	ZHIKANG	LE000000	LECTURER	S4	0155444812
LEONG	JIAHAO	LE111111	LECTURER	S2	0154982316
LEONG	JIAHAO	LE111111	LECTURER	S2	0154982316

Sample diagram 2: View all employees profile



```

      Apply For Leave

      Employees Yearly Leaves
      -----
      Position S1 Yearly Leaves 18 Days
      Position S2 Yearly Leaves 19 Days
      Position S3 Yearly Leaves 20 Days
      Position S4 Yearly Leaves 21 Days
      Position S5 Yearly Leaves 22 Days
      Position S5 Yearly Leaves 22 Days
      -----

      *** RULES EMPLOYEES YEARLY LEAVES ***

      1. Each Employee is not allowed to take leaves more than a specified number days of current position.
      2. New employee have at least 18 days yearly leaves.
      3. Increase the number of yearly days have to work over 2 year in this university.
      4. Every 2 year working experience in university will raise up employee position a level.

      Type Your Name To Inform Academic Leader
      Enter Name : WU ZHI KANG

      Enter Your File Name: WU

      Firstname      Lastname      ID          Position      Level      Contact No.
      WU             ZHIKANG      LE000000    LECTURER      S4         0155444812

      Date leave : 26/1/2018
      Reason : FOOD POISON

      -----YOUR LEAVE LETTER HAD SENT-----
  
```

Sample output diagram 3: Apply a leave

```

      Lecturer Leave Application's Status

      Enter Your File Name: WU

      Firstname      Lastname      ID          Position      Level      Contact No.
      WU             ZHIKANG      LE000000    LECTURER      S4         0155444812

      Leave Date on 26/1/2018 due to FOOD POISON.
  
```

Sample output diagram 4: Lecturer leave application's status

```
LECTURER LEAVE APPLICATION
Name List
WU ZHI KANG

LEONG JIA HAO

TAN YIK ERN

CHRISTAN SIN

ELIZ FLANGER
```

Sample output diagram 5: Lecturer leave application's list

```
Approve/Reject The Leave
Enter Your File Name: LEONG

Firstname      Lastname      ID           Position     Level      Contact No.
LEONG          JIAHAO        LE1111111    LECTURER     S2          0154982316

Leave Date on 29/1/2018 due to SICK.

Approve/Reject : APPROVE
Date : 29/1/2018
```

Sample output diagram 6: Approve/Reject by academic leader

```
All Employee Leave Status

Lecturer      Status
WU ZHI KANG    APPROVE

TAN YIK ERN    REJECT

CHRISTAN SIN    REJECT

ELIZ FLANGER    APPROVE

LEONG JIA HAO    APPROVE
```

Sample output diagram 7: All employee leave status in human resource

## Conclusion

In conclusion, this is a program of Employees Leave Management System (ELMS) for University's leave management. This system is designed to benefit of university's leave management. The lecturer can faster processing of leave requests to academic leader. Then, academic leader also can view the leave of lecturer to approve or reject the leave.

Secondly, the whole process is paperless leave submission and processing. Because once the employees have registration and request a leave, all the data are saved. So, submit a leave request can any time, as the ELMS system could accessible via any web browser 24/7.

Beside that, it could also check the FAQs about the leave policies and list of public and university holidays when the user login in.

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