

**Project Title:**  
**Online Out pass Management System**  
**Programming Fundamentals Lab (COMP-111L)**



**Submitted To:**  
Engr. Usama Manzoor

**Submitted By:**

- 1) **Husnain Ahmed**
- 2) Muhammad Asjad
- 3) Umer zaib

Department of IT & Computer Sciences  
Pak-Austria Fachhochschule Institute of Applied Sciences and Technology

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## **Introduction:**

The “Online Out Pass Management system” is the foundation of this project. These types of software are designed to cut down on paper effort, also this type of software saves time.

This type of management system can generally reduce the amount of manual effort required. Reduce the number of errors and help us to handle large amount of data and easy to keep record. This program has also ability to keep the track of the students on daily basis. It reduces the work of the warden, in such way that warden can login anywhere and approve or reject the application of the student.

## **Objectives:**

The following below are the main objective of our project:

1. It will save the time of both student and warden.
2. It will help to decrease the manual work of the warden.
3. It will keep the record of the students.
4. It will convert all time-consuming and error-prone manual work to a completely automated system.
5. It will make the system more viable and versatile, making information retrieval more convenient.
6. It will help to minimize the system's cost element.
7. To avoid any ambiguity, make the system more dependable.
8. Lessens the strain on the student and warden.
9. Application can be approved or rejected by warden quickly.

**What we learn from this project:**

We learned the proper use of function, structure. The learned use of switch and if else statements in menu driven interface as well as use of local and global variables.

We also learned about different data types and their proper usage. We learned how to handle the large amount of data. We also

## Code:

```
#include<iostream>

#include<stdlib.h>

#include<string>

#include<fstream>

#include<cctype>

using namespace std;


//===== S T R U C T U R E S
=====
=====

struct create

{
```

```
string student_id;           //    Attributes

string student_name;        //    For

string student_uni;         //    Account

string student_password;    //    Creation


string student_purpose;       //    Attributes

string student_timefrom;    //    For

string student_timeto;      //    Data Entry

string student_department;  //    For

string student_semester;    //    Outpass

char decision;              //Used In WARDEN Function
That Decides If The Outpass Is Approved Or Rejected

};

struct login
{
```

```
string student_id;           //    Attributes  Which  Will  Be  
Compared
```

```
string student_name;        //    With  The  Account  Creation  
Attributes
```

```
string student_password;    //    In Structure 'create' For Login
```

```
string warden_name;         //    Attributes To Login As  
A Warden, There Is Only One Warden Programmed In The Program
```

```
string warden_password;     //    Programmed Warden Name Is  
"ahsan" and Password Is "12345678"
```

```
};
```

```
int static application_number=0;    /*Global Variable Used In LOGIN  
Function To Keep Track Of The Number Of Applications
```

```
And In  
WARDEN Function To Display no Of Applications */
```

```
//===== FUNCTION PROTOTYPES  
=====
```

```
int CREATE(create[],int);
```

```
void LOGIN(create[],login,int );
```

```
void OUTPASS_INPUT(create[],int);
```

```
void WARDEN(create[],int,int);
```

```
int static student_number=0;
```

```
int const max_accounts=5;          //Constant Integer That Contains  
The Number Of Maximum Accounts That Can Be Made
```

```
create account[max_accounts];
```

```
//===== I N T M A I N
```

```
=====
```

```
=====
```

```
int main()
```

```

{

    //Used in Account Creation To Count Accounts Until 5 Accounts
Have Been Created

    char main_option,        //Used To Choose Between Student,Admin And
Exit Option, It Is In Char Data Type So That It Can Give Output If Characters Are
Given

    student_option;          //Used To Choose Between Create
Account, Login and Exit Option in Student Menu

    /*Global Variable Used In LOGIN Function To Keep Track Of
The Number Of Applications

                                And In
WARDEN Function To Display no Of Applications */;        //Used To
Count The Number Of Total Applications And Show Them In The Warden's Menu

    /* The Structure Identifier "create" Is Called With A Array Variable
"account", We Could Have

                                Simply Written 5 In
The Array But We Used The Variable "max_accounts" Because It Would Be
Compared

```



Later In The Program

```
*/
```

```
login sign_in; //The Structure Identifier
```

"login" Is Called With A Array Variable "sign-in"

```
main_again: //Programmer Defined
```

Identifier Used As Jump Statement Which Would Be Used Multiple Times During The Program

```
// _____ M A I N M E N U _____
```

```
cout<<"\t"<<"-----"<<endl;
```

```
cout<<"\t"<<"--WELLCOME TO ONLINE OUTPASS PORTAL--"<<endl;
```

```
cout<<"\t"<<"-----"<<endl;
```

```
cout<<"\t"<<endl<<endl<<"\t"<<"\t"<<"1.Student"<<endl<<endl<<"\t"<<"\t"<<"2.Warden"<<endl<<endl<<"\t"<<"\t"<<"0.Exit"<<endl;
```

```
cin>>main_option;
```

```
//
```

```
_____ S T U D E N T _____
```

```
switch(main_option)
```

```
{
```

```
case '1':      system("CLS");
```

```
              cout<<"1.Create      Account"<<endl<<endl<<"2.Log-  
In"<<endl<<endl<<"0.Exit"<<endl;
```

```
              cin>>student_option;
```

```
              switch(student_option)
```

```
{
```

```
//----- for account creation -----
```

```
-----
```

```
case '1':
```

```
if(student_number<max_accounts)      //Checks If The Number Of  
Accounts Have Reached The Maximum Limit i.e. 5
```

```
{
```

```
student_number+= CREATE(account,student_number);      /*  
CREATE Function Takes The Details For The Creation Of New Account and  
returns Value '1'
```

Each Time An Account Is Created. Whenever An Account Is Created, An  
Increment Is Made

To The Variable Student Number Until Is Reaches 5. '5' Is The Maximum Account  
Limit \*/

```

                                goto
main_again;

                                }

                                else

                                //Displays 'Maximum Number Of Accounts
Reached', When User Tries To Create More Than 5 Accounts

                                {

                                system("CLS");

                                cout<<"Maximum Number Of Accounts Reached, Cannot Create More
Accounts..."<<endl<<endl;

                                system("PAUSE");

                                system("CLS");

                                goto

main_again;

                                }

```

```
//----- for login -----  
  
-----  
  
case '2' :  
    LOGIN(account,sign_in,main_option);           //LOGIN      Function  
Takes Login Values From The User And Compares It To The Created Accounts  
  
  
  
system("CLS");  
  
goto  
main_again;  
  
  
  
case '0' :           system("CLS");  
  
goto  
main_again;  
  
  
  
default:           cout<<"Invalid      Option  
Entered..."<<endl;  
  
system("PAUSE");
```

```
system("CLS");
```

```
goto main_again;
```

```
}
```

```
break;
```

```
//
```

```
_____ W A R D E N _____
```

```
case '2':    WARDEN(account,application_number,student_number);
```

```
/*WARDEN Function Takes Login Values From The User  
And Compares It To The Login Data Of Warden
```

```
Which Is Fed Into The Program i.e.
```

```
Name:ahsan Password:12345678 */
```

```
system("CLS");
```

```
goto main_again;
```

```
//\
```

```
_____ E X I T P R O G R A M _____
```

```
case '0':          exit (0);
```

```
default:          cout<<"Invalid Option Entered..."<<endl;
```

```
                  system("PAUSE");
```

```
                  system("CLS");
```

```
                  goto main_again;
```

```
}
```

```
}
```

```
int CREATE(create account[],int i)           //This Function Takes Account  
Creation Data From The User
```

```
{
```

```
    system("CLS");
```

```
    cout<<"Enter Name: "<<endl;
```

```
    cin.ignore();
```

```
    getline(cin,account[i].student_name);
```

```
    cout<<"Enter Student ID (In Capital Letters): "<<endl;
```

```
    getline(cin,account[i].student_id);
```



```
cout<<"Create Password: "<<endl;

getline(cin,account[i].student_password);

cout<<"Your Account Has Been Created"<<endl;

system("PAUSE");

system("CLS");

return 1;
```

```
}
```

```
void LOGIN(create account[],login sign_in, int main_option) //Compares
Login Credentials Given By The User With Number Of Accounts Created.
OUTPASS Function Is Also Called In It
```

```
{
```

```
char login_option; //Used To Navigate Inside Login  
Menu
```

```
system("CLS");
```

```
cout<<"Student ID (In Capital Letters): "<<endl;
```

```
cin>>sign_in.student_id;
```

```
cin.ignore();
```

```
cout<<"Enter Password: "<<endl;
```

```
getline(cin,sign_in.student_password);
```

```
for(int i=0;i<5;i++) //Two Loops Are Used because The  
Program Was Giving 4 'Invalid Credentials' Statements If Only 1 Account Is Made
```

```
{
```

```
for(int j=0;j<5;j++) //Used To Go Through All Index  
Values Of Structure 'account' Array
```

```
{
```

```
if(sign_in.student_id==account[j].student_id    &&  
sign_in.student_password==account[j].student_password)    //Compares The  
Student Id And Password Given During Login To The Student Id And Password  
Of All The Created Accounts
```

```
{
```

```
    student_login:
```

```
    //Identifier Used For Goto Jump Statement
```

```
    system("CLS");
```

```
    //          -----Login menu-----
```

```
    cout<<"\t"<<"\t"<<"HELLO
```

```
"<<account[j].student_name<<" !"<<endl<<endl;
```

```
    cout<<"1.Request Outpass"<<endl<<"2.Outpass  
Status"<<endl<<"3.Log Out"<<endl;
```

```
    cin>>login_option;
```

```
    switch(login_option)
```

```

{

//----- request outpass -----

-

case '1':    OUTPASS_INPUT(account,j);
//OUTPASS_INPUT Function Is Called Here Which Enters Outpass
Details

application_number++;
//Increment Is Made In This Variable Every Time Outpass Is Created

goto student_login;

//----- checks outpass status -----
-----

case '2':    if(account[j].student_uni=="PAF-
IAST")

{

cout<<"Name:

"<<account[j].student_name<<endl;

cout<<"Student    Id:

"<<account[j].student_id<<endl;

```

```

cout<<"Department:
"<<account[j].student_department<<endl;

cout<<"Semester:
"<<account[j].student_semester<<endl;

cout<<"Purpose:
"<<account[j].student_purpose<<endl;

cout<<"From:
To:
"<<account[j].student_timefrom<<
"<<account[j].student_timeto<<endl<<endl;

if(account[j].decision=='1') //Shows Approved If Outpass
Is Approved By The Warden

cout<<"Status:
Approved"<<endl;

else
if(account[j].decision=='2') //Shows Approved If Outpass Is Rejected
By The Admin

cout<<"Status:
Rejected"<<endl;

```

```
else

cout<<"Status:

Pending"<<endl;

system("PAUSE");

goto student_login;

}

else

{

cout<<"No    Applications

Yet"<<endl<<endl;

system("PAUSE");

goto student_login;

}

case '3':    system("CLS");
```

```

main();

default:

cout<<"Invalid
Credentials"<<endl

<<"Please try again"<<endl;

system("pause");

goto student_login;

}

}

}

if(sign_in.student_id!=account[i].student_id &&
sign_in.student_password!=account[i].student_password)

{

cout<<"Invalid Credentials"<<endl;

system("PAUSE");

```

```
        }  
        break;  
    }  
  
}
```

```
void OUTPASS_INPUT(create account[],int j)
```

```
{  
  
    cout<<"Name: "<<account[j].student_name<<endl;  
  
    cout<<"Student Id: "<<account[j].student_id<<endl;  
  
    cout<<"Uni Name (Capital): ";  
  
    cin>>account[j].student_uni;
```



```
cout<<"Department: ";

cin>>account[j].student_department;

cout<<"Semester: ";

cin>>account[j].student_semester;

cout<<"Purpose: ";

cin>>account[j].student_purpose;

cout<<"Time:"<<endl<<"From: ";

cin>>account[j].student_timefrom;

cout<<"To: ";

cin>>account[j].student_timeto;

cout<<endl;

system("PAUSE");
```

```
}
```

```
void WARDEN(create account[], int application_number, int student_number)
```

```
{
```

```
    system("CLS");
```

```
    login sign_in;
```

```
    warden_again:
```

```
    cout<<"Enter Warden Name:    //Fixed As 'ahsan' "<<endl;
```

```
    cin>>sign_in.warden_name;
```

```
    cout<<"Enter Password        //Fixed As '12345678': "<<endl;
```

```
    cin>>sign_in.warden_password;
```

```
        if(sign_in.warden_name=="ahsan"                                &&  
sign_in.warden_password=="12345678")
```

```
    {
```

```
        int n=0;
```

```
        system("CLS");
```

```
        cout<<"\t"<<"Welcome Ahsan!!"<<endl<<endl;
```

```
        cout<<"You have received "<<application_number<<"
New Application(s)."<<endl<<endl;

        system("PAUSE");

        for(int x=0;x<5;x++)

        {

                if(account[x].student_uni=="PAF-IAST")

                {

                        cout<<"Application                                #"
<<endl<<endl;

                        cout<<"Name:
<<account[x].student_name<<endl;

                        cout<<"Student                                Id:
<<account[x].student_id<<endl;

                        cout<<"Department:
<<account[x].student_department<<endl;
```

```

                                cout<<"Semester:
"<<account[x].student_semester<<endl;

                                cout<<"Purpose:
"<<account[x].student_purpose<<endl;

                                cout<<"From:
"<<account[x].student_timefrom<<"                                To:
"<<account[x].student_timeto<<endl<<endl;

                                cout<<"1.      Approve"<<"\t"<<"\t"<<"2.
Reject"<<endl;

                                cin>>account[x].decision;

                                system("PAUSE");

                                system("CLS");

                                }

                                }

                                }

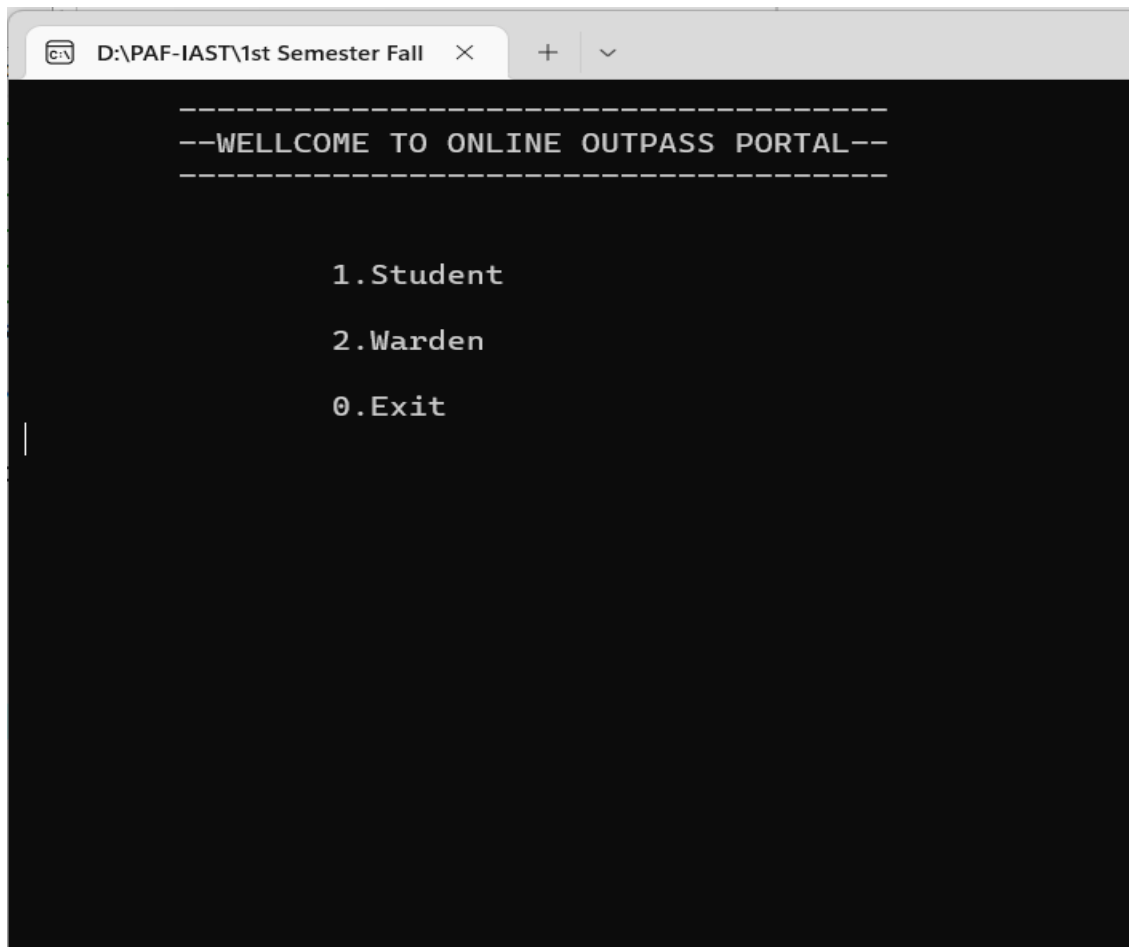
                                else

                                {

```

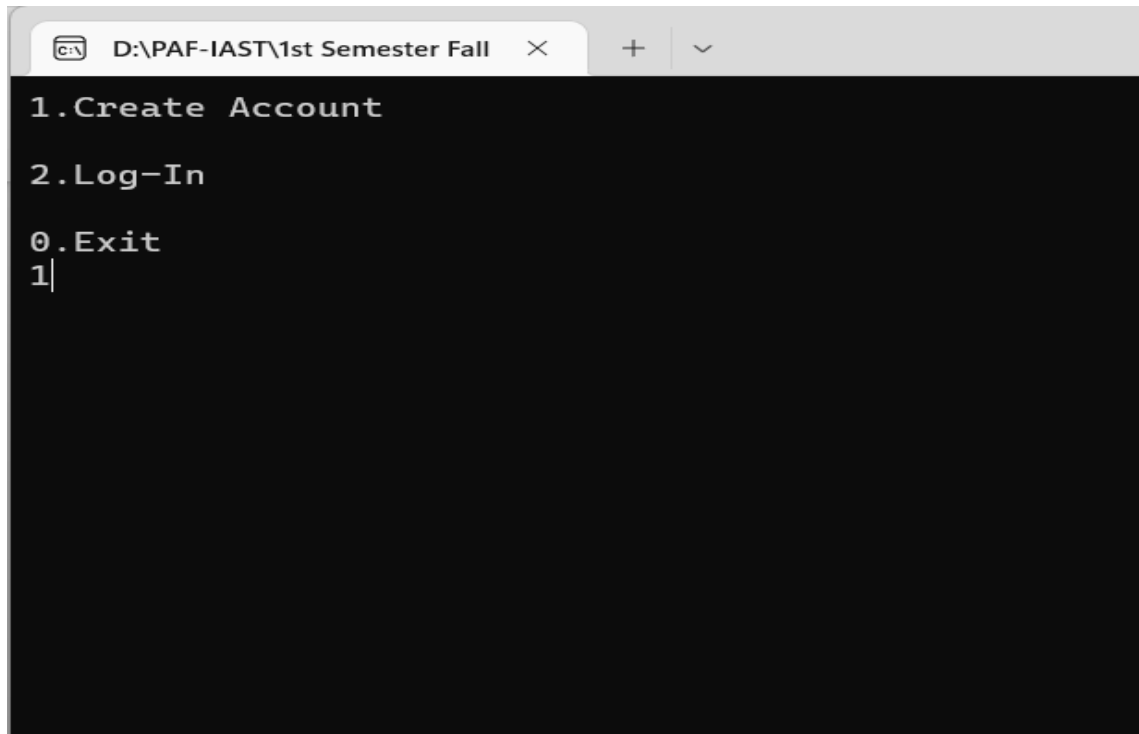
```
        cout<<"Invalid  Credentials,  Enter  Details  Again:"  
    "<<endl;  
  
        goto warden_again;  
  
    }  
  
}
```

### Output:

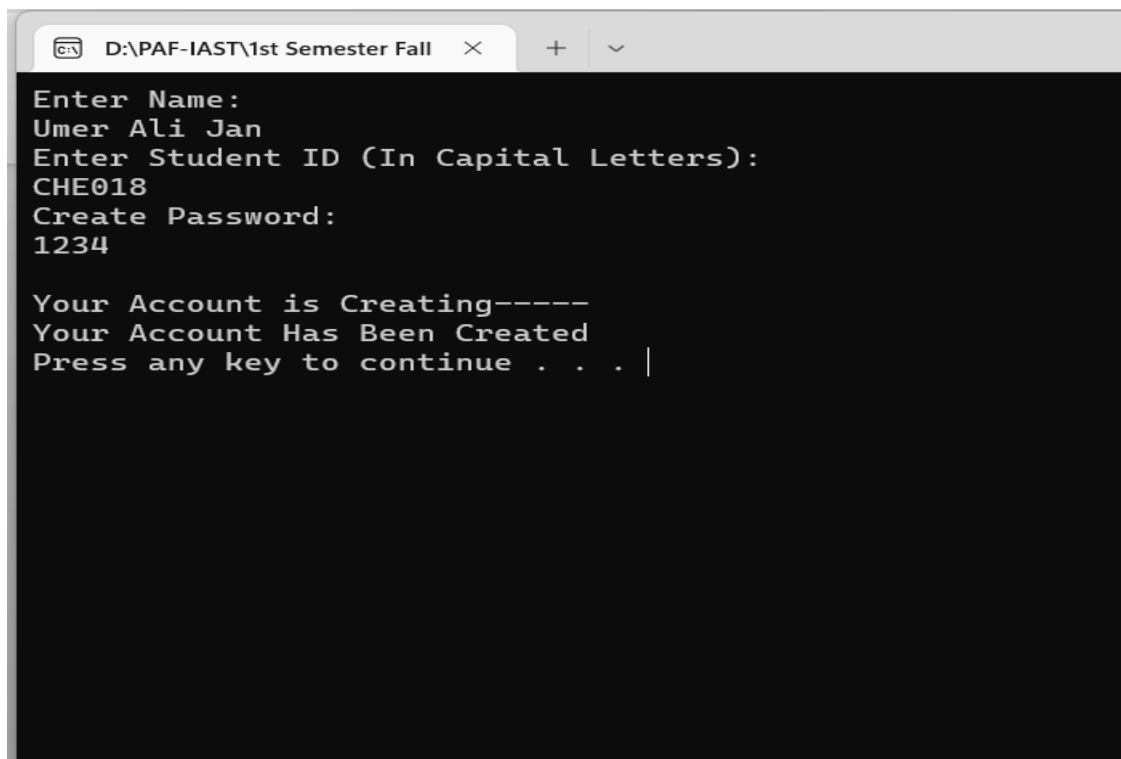


```
-----  
--WELLCOME TO ONLINE OUTPASS PORTAL--  
-----  
  
1.Student  
2.Warden  
0.Exit  
|
```

## Student Login Outputs:



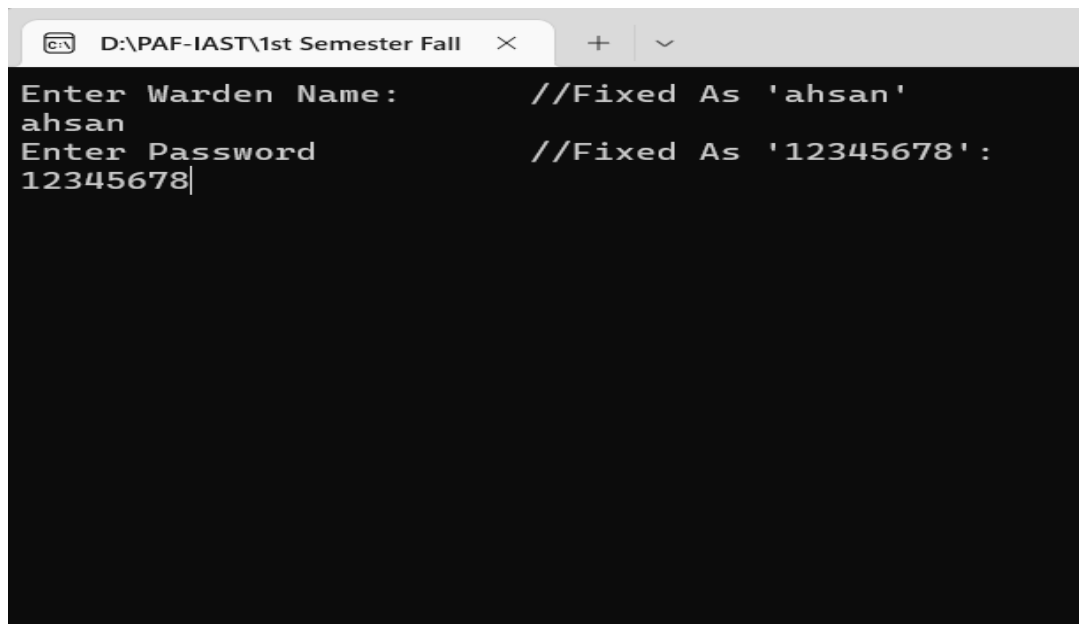
```
D:\PAF-IAST\1st Semester Fall  X  +  v
1.Create Account
2.Log-In
0.Exit
1|
```



```
D:\PAF-IAST\1st Semester Fall  X  +  v
Enter Name:
Umer Ali Jan
Enter Student ID (In Capital Letters):
CHE018
Create Password:
1234

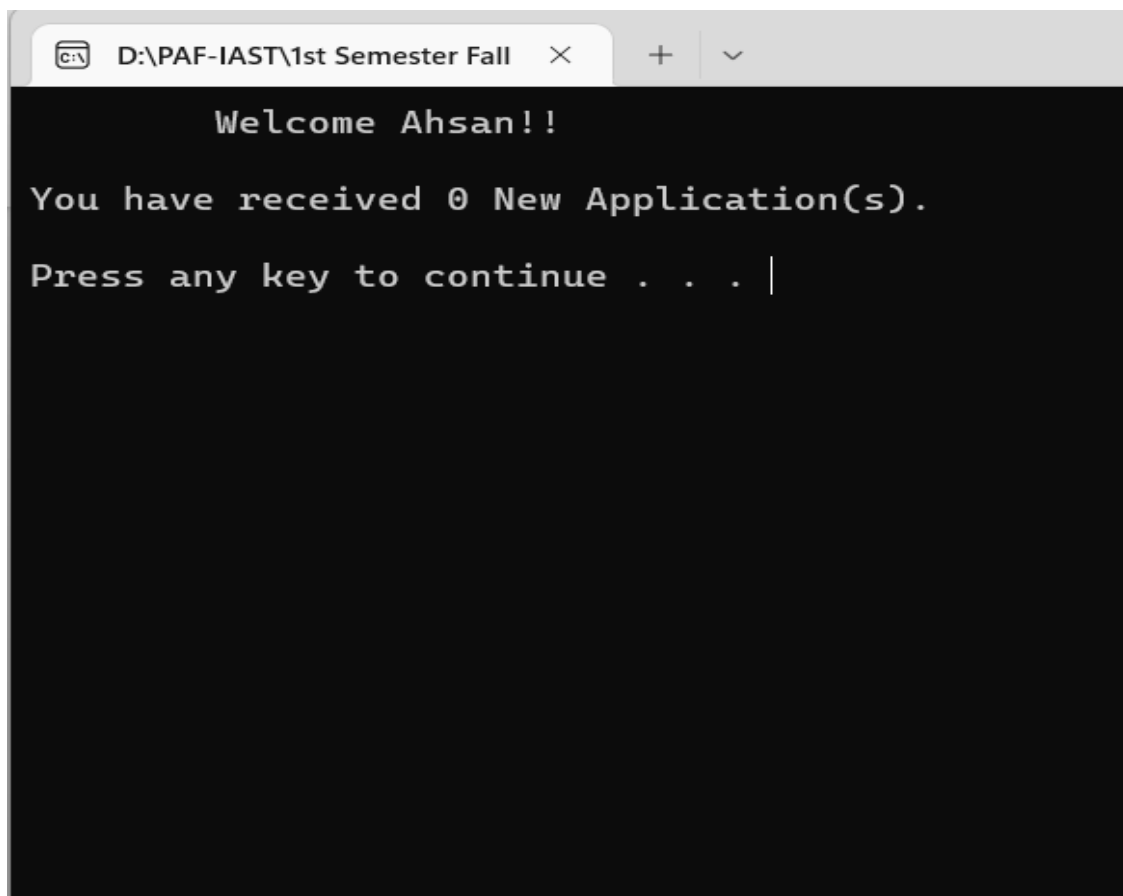
Your Account is Creating-----
Your Account Has Been Created
Press any key to continue . . . |
```

## Warden Login:



A screenshot of a terminal window with a single tab titled "D:\PAF-IAST\1st Semester Fall". The terminal displays the following text:

```
Enter Warden Name:      //Fixed As 'ahsan'  
ahsan  
Enter Password          //Fixed As '12345678':  
12345678|
```



A screenshot of a terminal window with a single tab titled "D:\PAF-IAST\1st Semester Fall". The terminal displays the following text:

```
Welcome Ahsan!!  
  
You have received 0 New Application(s).  
  
Press any key to continue . . . |
```

**Sending Request of OutPass:**