Programming Fundamentals project



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Topic: Numl Account Management System

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dated: May 23rd, 2022

class: BSSE-1-B

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***Spring, 2022***

**Numl Account Management System**

**Flow chart**

**Student Account**

System ID

Name

Father Name

Department

Semester

Fee

**Faculty Account**

System ID

Name

Age

Salary

Subject

**Admin Account**

User name

Password

1. To create Faculty

Account

1. To create Student Account

**Project Report**

**Description:**

In this Program:

* We store the data of Admin (Username=admin, Password=admin)
* We store the data of 2 Faculties (Faculty ID1=1, Faculty ID2=2)
* And we store the data of 5 Students (ID1=numl-s22-40840,

ID2=numl-s22-67923, ID3=nuuml-s22-47326,

ID4=numl-s22-47326, ID5=numl-s22-31091)

**Functions:**

A function is simply a “chunk” of code that you can use over and over again, rather than writing it out multiple times. Functions enable programmers to break down or decompose a problem into smaller chunks, each of which performs a particular task. We can call a function again and again by its name in any program. **We use the followng functions in this Program.**

* Adminlogin()
* AddFaculties()
* AddStudents()
* Faculty()
* ShowFacultiesDetail()
* ShowStudentsDetail()
* Student()
* EnterAdminOption()
* ChooseOption()
* Main()
* **Arrays:**

In coding and programming, an array is a collection of items, or data, stored in contiguous memory locations, also known as database systems. The purpose of an array is to store multiple pieces of data of the same type together. **In this program we use multiple and different types of arrays**.

**Statements:**

In coding and programming, we use statements to check and compare multiple conditions in program. **In this program we use the following statements:**

* if Statement
* if else Statement
* Switch Statement

**Loops:**

In coding and programming, loops are used for the repetition of program. **In this program we use the following loops:**

* For Loop
* While Loop

**Program:**

#include<iostream>

using namespace std;

//admin login

string adminUserName="admin";

string adminPassword="admin";

bool adminLogin(){

//for new entry

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Admin Login\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

string adminNewUserName;

string adminNewPassword;

cout<<"Enter Admin's User Name :-'"<<endl;

cin>>adminNewUserName;

cout<<"Enter Admin's Password :-'"<<endl;

cin>>adminNewPassword;

if(adminNewUserName==adminUserName && adminNewPassword==adminPassword ){

return true;

}else {

return false;

}

}

//student

string systemIDD;

string studentDepartmentt;

string studentNamee;

int studentSemeterr;

float feee;

string studentUserName;

string studentPassword;

void studentAccount(){

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Student Information \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"Enter System ID :-'"<<endl;

cin>>systemIDD;

cout<<"Enter Department :-'"<<endl;

cin>>studentDepartmentt;

cout<<"Enter Student Name :-'"<<endl;

cin>>studentNamee;

cout<<"Enter Semester :-'"<<endl;

cin>>studentSemeterr;

cout<<"Enter Student Fee :-'"<<endl;

cin>>feee;

cout<<"Enter Student User Name :-'"<<endl;

cin>>studentUserName;

cout<<"Enter Password :-'"<<endl;

cin>>studentPassword;

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* You Entered \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"You Entered :- \nSystem ID:- "<<systemIDD<<"\n"<<"Department :- "<<studentDepartmentt<<"\n"<<"Name:-"<<studentNamee<<"\nSemester:-"<<studentSemeterr<<endl;

cout<<"Fee :-"<<feee<<"\nUser Name:- "<<studentUserName<<"\nPassword:- "<<studentPassword<<endl;

}

// faculty

string facultyName;

string departmentName;

string memberName;

float salary;

void facultyAccount(){

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Faculty Information \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"Enter Faculty Name :-'"<<endl;

cin>>facultyName;

cout<<"Enter Department Name :-'"<<endl;

cin>>departmentName;

cout<<"Enter Member Name :-'"<<endl;

cin>>memberName;

cout<<"Enter Member Salary :-'"<<endl;

cin>>salary;

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* You Entered \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"You Entered :- \nFacylty Name:- "<<facultyName<<"\n"<<"Department :-"<<departmentName<<"\n"<<"Member:-"<<memberName<<"\nSalry:-"<<salary<<endl;

}

//faculty new

int teacherID[2];

string teacherName[2];

string teacherAge[2];

string teacherSubjects[2];

int teacherSalary[2];

void addFaclties(){

//first teacher

teacherID[0]=1 ;

teacherName[0]="Mrs. Anum";

teacherAge[0]="26";

teacherSubjects[0]="Programmming Fundamental";

teacherSalary[0]=55000;

//second teacher

teacherID[1]=2 ;

teacherName[1]="Hasnain";

teacherAge[1]="30";

teacherSubjects[1]="ICT";

teacherSalary[1]=55000;

}

//student new

int arrayLength=5;

string systemIDs[5];

string names[5];

string fatherNames[5];

string departments[5];

string semesters[5];

int fees[5];

void addStudents(){

//add students to array First:-

systemIDs[0]="numl-s22-40840";

names[0]="Amir Sohail";

fatherNames[0]="Ali Khan";

departments[0]="SE";

semesters[0]="First";

fees[0]=89000;

//add students to array Second :-

systemIDs[1]="numl-s22-67923";

names[1]="Asmatullah";

fatherNames[1]="Mohammad Ayoub";

departments[1]="SE";

semesters[1]="First";

fees[1]=0;

//add students to array Third :-

systemIDs[2]="nuuml-s22-47326";

names[2]="Shukranuddin";

fatherNames[2]="ikhtiar udin";

departments[2]="SE";

semesters[2]="First";

fees[2]=89000;

//add students to array Fourth :-

systemIDs[3]="numl-s22-47326";

names[3]="Hammad mir";

fatherNames[3]="ishtiaq zafar mir";

departments[3]="SE";

semesters[3]="First";

fees[3]=89000;

//add students to array Fiveth :-

systemIDs[4]="numl-s22-31091";

names[4]="Saif Ullah";

fatherNames[4]="Usman Din";

departments[4]="SE";

semesters[4]="First";

fees[4]=89000;

}

//student

int facultyID;

void faculty(){

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Faculy Information \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"Search Faculty By ID :-'"<<endl;

cin>>facultyID;

int matchedIndex=-1;

for (int i = 0; i < 2; i++) {

if(facultyID==teacherID[i]){

matchedIndex=i;

}

}

if(matchedIndex>-1 && matchedIndex <3){

// detail here

cout<<"ID Matched With :- "<<teacherID[matchedIndex]<<"\nTeacher Name:- "<<teacherName[matchedIndex]<<"\nAge:- "<<teacherAge[matchedIndex]<<"\nSubjects:- "<<teacherSubjects[matchedIndex]<<endl;

cout<<"Teacher Salary :- "<<teacherSalary[matchedIndex]<<endl;

}else{

cout<<"No Faculty Found ! "<<endl;

}

}

void showFacultiesDetail(){

for (int i = 0; i < 2; i++) {

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Details for Faculty "<<teacherID[i]<<":- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"ID :- "<<teacherID[i]<<"\nTeacher Name:- "<<teacherName[i]<<"\nAge:- "<<teacherAge[i]<<"\nSubjects:- "<<teacherSubjects[i]<<endl;

cout<<"Teacher Salary :- "<<teacherSalary[i]<<endl;

}

}

void showStudentsDetail(){

for (int i = 0; i < 5; i++) {

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Details for Student "<<systemIDs[i]<<":- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"ID Matched With :- "<<systemIDs[i]<<"\nStudent Name:- "<<names[i]<<"\nFather Name:- "<<fatherNames[i]<<"\nDepartment:- "<<departments[i]<<endl;

cout<<"Semester :- "<<semesters[i]<<"\nFee:- "<<fees[i]<<endl;

}

}

//student

string systemID;

void student(){

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Student Information \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"Search Student By System ID :-'"<<endl;

cin>>systemID;

int matchedIndex=-1;

for (int i = 0; i < 5; i++) {

if(systemID==systemIDs[i]){

matchedIndex=i;

}

}

if(matchedIndex>-1 && matchedIndex <5){

// detail here

cout<<"ID Matched With :- "<<systemIDs[matchedIndex]<<"\nStudent Name:- "<<names[matchedIndex]<<"\nFather Name:- "<<fatherNames[matchedIndex]<<"\nDepartment:- "<<departments[matchedIndex]<<endl;

cout<<"Semester :- "<<semesters[matchedIndex]<<"\nFee:- "<<fees[matchedIndex]<<endl;

}else{

cout<<"System ID Not Found !"<<endl;

}

}

//enter admin detail:-

int adminOption;

void enterAdminOption(){

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Select Option Admin ! \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"Type Option 1 To create Faculties :-"<<endl;

cout<<"Type Option 2 To create Students :-"<<endl;

cin>>adminOption;

switch(adminOption){

case 1:

// faculty

facultyAccount();

// showFacultiesDetail();

break;

case 2:

// student

studentAccount();

// showStudentsDetail();

break;

}

}

//provide three option for admin to choose

int option;

void chooseOption(){

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* NUML Accounting Mangement System \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<"Type Option to Poroceed ! :-'"<<endl;

cout<<"1 For Admin :-"<<endl;

cout<<"2 For Faculty :-"<<endl;

cout<<"3 For Student :-"<<endl;

cin>>option;

bool isTrue;

bool isStudentTrue;

bool isFacultyTrue;

switch(option){

case 1:

// go to admin

isTrue=adminLogin();

if(isTrue){

enterAdminOption();

}else{

cout<<"Wrong Credentials :-"<<endl;

}

break;

case 2:

// go to faculty

faculty();

break;

case 3:

// go to student

student();

break;

}

}

int main()

{

//choose option

while(true){

addStudents();

addFaclties();

chooseOption();

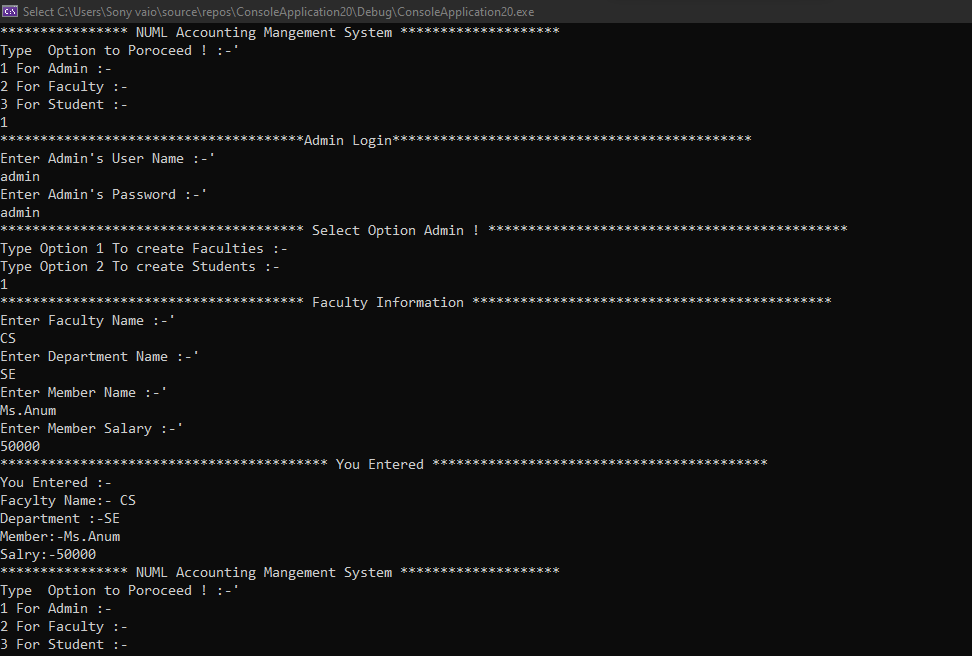
}

return 0;

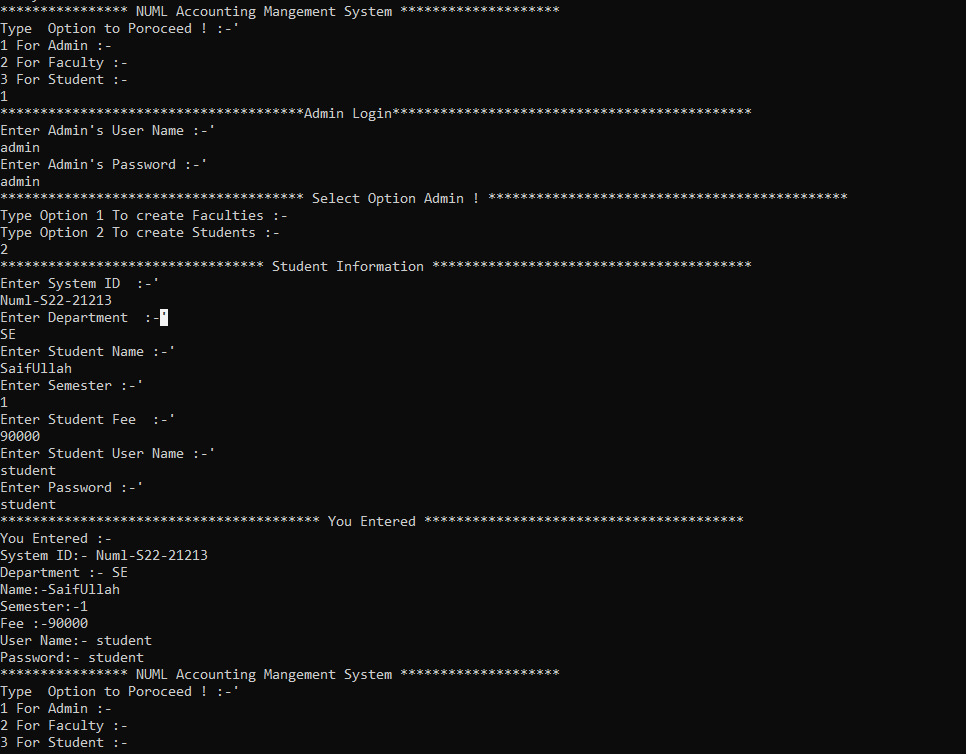
}

**Output:**

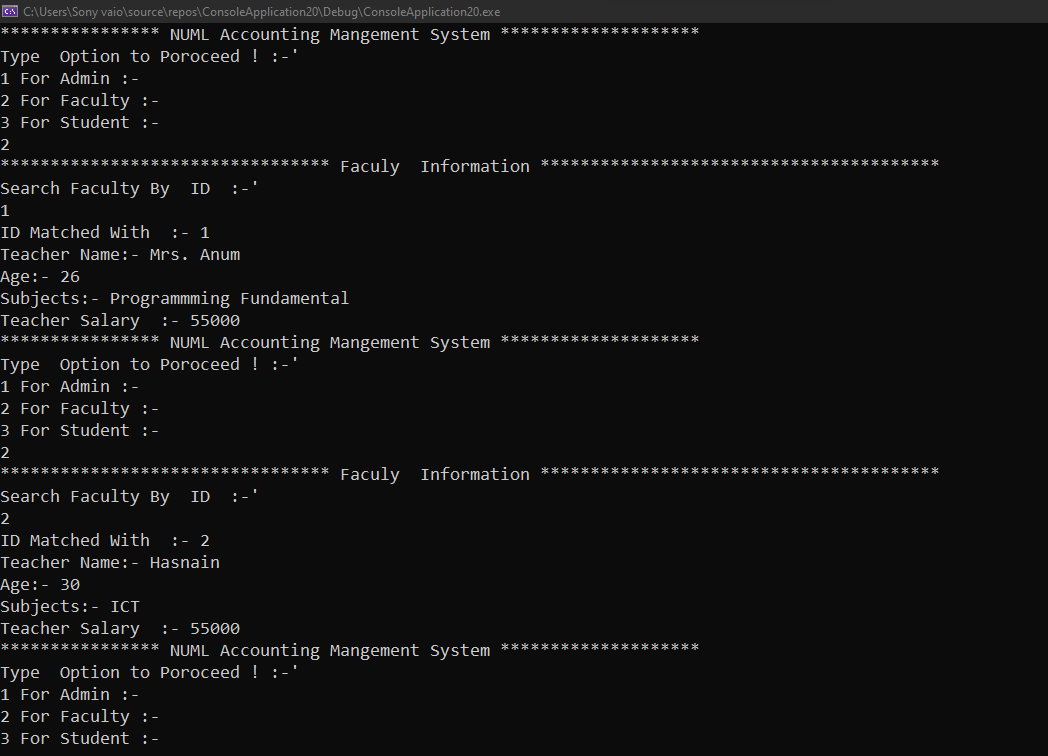
* In this screenshot user entered 1 for admin account then user entered 1 to create account for Faculty.

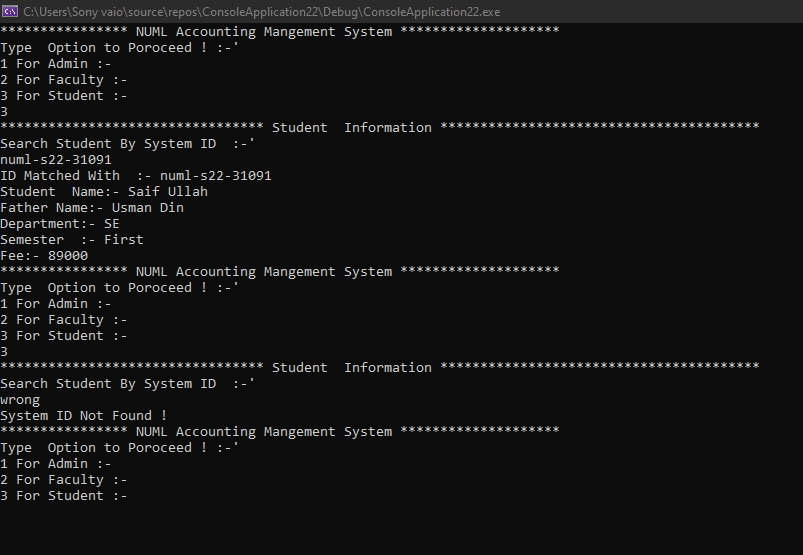


* In this screenshot user entered 1 for admin account then user entered 2 to create account for Student.



* In this screenshot user entered 2 to check Faculty information then user entered Faculty ID.



* In this screenshot user entered 3 to check Student information then user entered Student ID then the program simply displays the student details. 

***Thank You !***