OVERVIEW OF C++

C++ is a statically typed, compiled, general purpose, case-sensitive, free-form programming language that supports procedural, object-oriented, and generic programming. C++ is regarded as a middle-level language, as it comprises a combination of both high-level and low-level language features.

C++ was developed by Bjarne Stroustrup starting in 1979 at Bell Labs in Murray Hill, New Jersey as an enhancement to the C language and originally named C with Classes but later it was renamed C++ in 1983.C++ is a superset of C, and that virtually any legal C program is a legal C++ program.

C++ is used by hundreds of thousands of programmers in essentially every application domain. C++ is being highly used to write device drivers and other software that rely on direct manipulation of hardware under real-time constraints. C++ is widely used for teaching and research because it is clean enough for successful teaching of basic concepts. Anyone who has used either an Apple Macintosh or a PC running Windows has indirectly used C++ because the primary user interfaces of these systems are written in C++.

OOP’S CONCEPT 

Why was object-oriented programming implemented?   
  
Procedure-oriented programming separates the function and the data manipulated by them. Its drawbacks are:   
  
->Susceptible to design changes.

->Leads to increased time and cost overheads during design changes.   
  
**Object based programming** is a newer paradigm in which data and its associated meaningful functions are enclosed in a single entity, a class separates the implementation details and the user interface. Object oriented programming has been developed with a view to overcome the drawbacks of conventional programming approaches. The OOP approach is based on these concepts:   
  
1) DATA ABSTRACTION

It refers to the act of representing essential features without including the background details. 

2) DATA ENCAPSULATION

It is the wrapping up of data and functions into a single with is used t0 hide unimportant implementation details from other objects. 

3) MODULARITY

It is the property of a system that has been decomposed into a set of cohesive and loosely coupled modules.   
  
4) INHERITANCE

It is the capability of one class of things to derive capabilities or properties from another class.   
  
5) POLYMORPHISM

It is the property by which the same message can be sent to objects of several different classes and each object can respond to the message in different ways depending on its class.

**SYNOPSIS**   
  
The idea behind this project was to make collection, modification and presentation of data, user-friendly and efficient.   
  
Our project “SURVEY MANAGEMENT SYSTEM” aims at designing and making survey collection simple and effective. It has functions to create, modify, update and display the data in the survey. It can be used by the administrator to create a survey or make changes to the existing one and the user to fill in the details.

HEADER FILES

Program Description:-  
To write a program to design a user-friendly survey using classes and files.   
  
Function analysis:-

void line()

To print a line of ‘\_’ for a user-friendly display.   
  
void mode()

To display the menu of operating mode (user or administrator) and to accept the user’s choice. Function adminmode() is invoked if choice is admin. If choice is user mode, contents of file “SURVEYDAT” is read   
and survey::fill() is invoked.   
  
void adminmode()

To check the password entered by the user, if valid, function survey::adminmenu() is invoked else survey::mode() is called.   
  
void adminmenu()

To display the menu and invoke the related functions according to the user’s choice.

 void create()

To create a new survey and input required data like questions and options from user.   
  
void fill()

To display the questions with options and to accept user choice. It increments the values of options selected by the user and updates the values, if submitted, else goes to the beginning of the function.   
  
void display()

To display all the questions with options and to represent the statistics of the survey.   
  
void modify()

To input the question number to be modified and check if it exists. If it does, new question and options are updated by the user.   
  
void displayques()

To display all the questions with the options. This function is invoked by modify() and deleteques().   
  
void main()

This is the first function to be compiled and the execution of the program begins with it. It calls the function survey::mode().

PROGRAM CODE:

#include<conio.h>

#include<iostream.h>

#include<math.h>

#include<string.h>

#include<ctype.h>

#include<stdio.h>

#include<fstream.h>

#include<stdlib.h>

#include<graphics.h>

/\*\*\*FUNCTIONS\*\*\*/

void mode();

void adminmenu();

void adminmode();

void home();

void line();

/\*\*\*REQUIRED CLASS\*\*\*/

struct question

{

char q[200];

char a[200],b[200],c[200],d[200];

};

struct answer

{

int a,b,c,d;

}ans[10];

class survey

{

public:

question ques[10];

int qno;

char name[200];

void fill();

void create();

void modify();

void display();

void deleteques();

void displayques();

}s;

/\*\*\*FUNCTION TO DRAW A LINE\*\*\*/

void line()

{

cout<<endl;

for (int i=0;i<80;i++)

cout<<"\_";

cout<<endl;

}

void box()

{

clrscr();

int top, bottom , right, left , i;

top=8;

bottom=21;

right=65;

left=11;

textcolor(4);

for(i=left;i<=right;i++)

{

gotoxy(i,top);

putch(char(205));

gotoxy(i,bottom);

putch(char(205));

}

for(i=top;i<=bottom;i++)

{

gotoxy(left,i);

putch(char(186));

gotoxy(right,i);

putch(char(186));

}

gotoxy(left,top);

putch(char(201));

gotoxy(right,top);

putch(char(187));

gotoxy(left,bottom);

putch(char(200));

gotoxy(right,bottom);

putch(char(188));

gotoxy(1,1);

gotoxy(35,14);

textcolor(2);

cout<<"SURVEY";

gotoxy(33,15);

cout<<"MANAGEMENT";

getch();

clrscr();

}

int error()

{

clrscr();

survey temp;

fstream f;

f.open("Survey.DAT",ios::in);

f.read((char\*)&temp,sizeof(temp));

if (temp.qno==0)

{

cout<<"\n\n";

line();

cout<<"\n\t\t\t\t ERROR\n";

line();

cout<<"\n\n\n\t\t\tNo Questions Exist !\n";

cout<<"\n\n\t\t\tPress any key to go back !";

getch();

f.close();

clrscr();

return 0;

}

else

{

f.close();

clrscr();

return 1;

}

}

/\*\*\*FUNCTION TO GUIDE THE ADMINISTRATOR\*\*\*/

void adminmode()

{

clrscr();

textcolor(2);

cout<<"\n\n";

line();

cout<<"\n\t\t\t\t ADMINSTRATOR MODE\n";

line();

cout<<"\n\n";

cout<<"\t\tENTER THE PASSWORD:";

char ch[20];

gets(ch);

if (strcmpi(ch,"access")!=0)

{

cout<<"\n\t Wrong Password!\n\tAccess Denied !!! \n\n\n\t\tABORTING !";

for(int i=0;i<3;i++)

cout<<"\a";

mode();

}

else

cout<<"\n\t\tPassword Accepted !";

cout<<"\n\n\t\tLoading Admin Menu";

for(int i=0;i<1;i++)

cout<<"\a.";

clrscr();

adminmenu();

}

/\*\*\*FUNCTION TO DISPLAY ADMINS'S MENU\*\*\*/

void adminmenu()

{

int choice;

restart:

clrscr();

textcolor(2);

line();

cout<<"\n\t\t\t ADMINISTRATOR MAIN MENU"<<endl;

line();

cout<<"\t 1.CREATE SURVEY"<<endl;

cout<<"\t 2.MODIFY SURVEY"<<endl;

cout<<"\t 3.DISPLAY RESULTS"<<endl;

cout<<"\t 4.DELETE QUESTION"<<endl;

cout<<"\t 5.DISPLAY QUESTIONS"<<endl;

cout<<"\t 6.BACK TO MAIN MENU"<<endl;

retry:cout<<"\n\n\n\t\tENTER YOUR CHOICE:";

cin>>choice;

switch(choice)

{

case 1://CREATE

fstream f1;

f1.open("Survey.DAT",ios::out||ios::binary);

remove("Answer.DAT");

for(int k=0;k<s.qno;k++)

{

ans[k].a=0;

ans[k].b=0;

ans[k].c=0;

ans[k].d=0;

}

s.create();

f1.write((char\*)&s,sizeof(s));

f1.close();

goto restart;

break;

case 2://MODIFY

int x=error();

if(x!=0)

{

fstream f4,f9;

f4.open("Survey.DAT",ios::in||ios::out||ios::binary);

f9.open("Answer.DAT",ios::in||ios::out||ios::binary);

f4.seekg(0,ios::beg);

f9.seekg(0,ios::beg);

f4.read((char\*)&s,sizeof(s));

f9.read((char\*)&ans,sizeof(ans));

s.modify();

f4.seekg(0,ios::beg);

f4.write((char\*)&s,sizeof(s));

clrscr();

cout<<"\n\n\n";

line();

cout<<"\n\t\tQuestion has been successfully modified.\n\n";

line();

cout<<"\n\n\n\n\t\t\tPress any key to continue.";

getch();

f4.close();

getch();

}

goto restart;

break;

case 3://DISPLAY

int y=error();

if(y!=0)

{

fstream f3,f2;

f3.open("Survey.DAT",ios::in||ios::binary);

f2.open("Answer.DAT",ios::in||ios::binary);

f3.seekg(0,ios::beg);

f2.seekg(0,ios::beg);

f3.read((char\*)&s,sizeof(s));

f2.read((char\*)&ans,sizeof(ans));

s.display();

f3.close();

f2.close();

}

goto restart;

break;

case 4://DELETE QUESTION

int z=error();

if(z!=0)

{

fstream f5,f6;

f5.open("Survey.DAT",ios::in||ios::out||ios::binary);

f6.open("Answer.DAT",ios::in||ios::out||ios::binary);

f5.seekg(0,ios::beg);

f6.seekg(0,ios::beg);

f5.read((char\*)&s,sizeof(s));

f6.read((char\*)&ans,sizeof(ans));

s.deleteques();

f5.seekp(0,ios::beg);

f6.seekp(0,ios::beg);

f5.write((char\*)&s,sizeof(s));

f6.write((char\*)&ans,sizeof(ans));

}

clrscr();

cout<<"\n\n\n";

line();

cout<<"\n\t\tQuestion has been successfully deleted.\n\n";

line();

cout<<"\n\n\n\t\t\tPress any key to continue.";

getch();

goto restart;

break;

case 5://DISPLAY QUESTIONs

int p=error();

if(p!=0)

{

fstream f7;

f7.open("Survey.DAT",ios::in||ios::binary);

f7.seekg(0,ios::beg);

f7.read((char\*)&s,sizeof(s));

s.displayques();

}

goto restart;

break;

case 6:

mode();

break;

default:

cout<<"\n\nInvalid Choice. Please try again !";

goto retry;

}

}

/\*FUNCTION TO SELECT ADMIN/USER MODE

\*/

void mode()

{

restart:

clrscr();

line();

char modech;

cout<<"\n\t\t\t SELECT THE OPERATOR MODE"<<endl;

line();

cout<<"\n\t\t\t1.USER MODE - To fill survey form"<<endl;

cout<<"\n\t\t\t2.ADMIN MODE - To manage survey"<<endl;

cout<<"\n\t\t\t3.EXIT"<<endl;

cout<<"\n\n\n\t\tENTER YOUR CHOICE:";

cin>>modech;

if(modech=='1')

{

int a;

a=error();

if(a!=0)

{

fstream f1,f2;

f1.open("Survey.DAT",ios::out||ios::in||ios::binary);

f1.seekg(0);

f1.read((char\*)&s,sizeof(s));

f2.open("Answer.DAT",ios::out||ios::in||ios::binary);

f2.seekg(0,ios::beg);

f2.read((char\*)&ans,sizeof(ans));

s.fill();

f2.seekp(0,ios::beg);

f2.write((char\*)&ans,sizeof(ans));

f1.close();

f2.close();

}

goto restart;

}

else

if(modech=='2')

adminmode();

else if (modech=='3')

exit(0);

else

cout<<"INVALID CHOICE"<<endl;

}

void survey::create()

{

clrscr();

line();

cout<<"\n\t\t\t\tNEW SURVEY\n";

line();

cout<<"Enter the name of the survey :";

gets(name);

cout<<"\n\tHow many questions do you wish to include in the survey ?\n\n\t\t";

cin>>qno;

for(int i=0;i<qno;i++)

{

clrscr();

line();

cout<<"\n\n\t\t\t\t"<<name<<"\n\n";

line();

cout<<"\n\n";

cout<<"\t\tEnter question number "<<i+1<<endl;

gets(ques[i].q);

cout<<"\tEnter Option A : ";

gets(ques[i].a);

cout<<"\tEnter Option B : ";

gets(ques[i].b);

cout<<"\tEnter Option C : ";

gets(ques[i].c);

cout<<"\tEnter Option D : ";

gets(ques[i].d);

cout<<"\n\n";

line();

}

}

void survey::fill()

{

clrscr();

char x;

restart:

for(int i=0;i<qno;i++)

{

clrscr();

cout<<"\n\n\n";

line();

cout<<"\t\t\t\t"<<name;

line();

cout<<"\n\n\tQ: "<<i+1<<"."<<ques[i].q;

cout<<"\n\tOption A: "<<ques[i].a;

cout<<"\n\tOption B: "<<ques[i].b;

cout<<"\n\tOption C: "<<ques[i].c;

cout<<"\n\tOption D: "<<ques[i].d;

retry:cout<<"\n\n\tEnter your choice (A/B/C/D): ";

cin>>x;

switch(x)

{

case '1':

case 'a':

case 'A':++ans[i].a;

break;

case '2':

case 'b':

case 'B':++ans[i].b;

break;

case '3':

case 'c':

case 'C':++ans[i].c;

break;

case '4':

case 'd':

case 'D':++ans[i].d;

break;

default:cout<<"\n\nInvalid Choice. Please try again\n";

goto retry;

}

}

reenter:

cout<<"\n\n\t'1':Submit survey form\n\t'2':Restart\n";

cout<<"\t\tEnter your choice(1/2):";

char ch;

cin>>ch;

switch(ch)

{

case '1':

clrscr();

cout<<"\n\n\n\n\n\n\t\t";

cout<<"Thank you for filling the survey form.\n";

cout<<"\n\n\n\n\n\n\n\n\n\n\n\t\t\t\t\t\tEnter any key to continue.";

getch();

break;

case '2':

goto restart;

default:

cout<<"Invalid Choice.Please enter again.";

goto reenter;

}

}

void survey::display()

{

int j;

char ch;

clrscr();

for(int i=0;i<qno;i++)

{

clrscr();

line();

cout<<"\t\t\t\tRESULTS\n:";

line();

cout<<"Q:"<<i+1<<" ";

cout<<ques[i].q<<endl;

cout<<"A:"<<ques[i].a<<endl;

cout<<"B:"<<ques[i].b<<endl;

cout<<"C:"<<ques[i].c<<endl;

cout<<"D:"<<ques[i].d<<endl;

line();

cout<<"\nOption A:"<<ans[i].a<<" | ";

for(j=0;j<ans[i].a;j++)

cout<<"\*";

cout<<" |";

cout<<"\nOption B:"<<ans[i].b<<" | ";

for(j=0;j<ans[i].b;j++)

cout<<"\*";

cout<<" |";

cout<<"\nOption C:"<<ans[i].c<<" | ";

for(j=0;j<ans[i].c;j++)

cout<<"\*";

cout<<" |";

cout<<"\nOption D:"<<ans[i].d<<" | ";

for(j=0;j<ans[i].d;j++)

cout<<"\*";

cout<<" |";

cout<<endl;

cout<<"\n\n\t\t\t\tPress any key to continue...";

getch();

}

adminmenu();

}

void survey::modify()

{

clrscr();

int i;

char x;

restart:

cout<<"\n\n\t\tDo you wish to view the questions ?(y/n):";

cin>>x;

switch(x)

{

case 'y':

case 'Y':

clrscr();

displayques();

break;

case 'n':

case 'N':

break;

default:

clrscr();

cout<<"\n\n\n\t\t\t\t\tInvalid Option.Please enter again.";

goto restart;

}

retry:

clrscr();

line();

cout<<"\n\nEnter the question number you want to modify:";

cin>>i;

line();

if(i>qno)

{

cout<<"\n\n\nQuestion does not exist.\n";

getch();

goto retry;

}

else

{

clrscr();

line();

cout<<"\n\n\nThe Question is :\t";

line();

cout<<ques[i-1].q;

cout<<"\n\n\tEnter the new question:";

gets(ques[i-1].q);

cout<<"\nEnter Option A:";

gets(ques[i-1].a);

cout<<"\nEnter Option B:";

gets(ques[i-1].b);

cout<<"\nEnter Option C:";

gets(ques[i-1].c);

cout<<"\nEnter Option D:";

gets(ques[i-1].d);

cout<<"\n\n";

ans[i-1].a=0;

ans[i-1].b=0;

ans[i-1].c=0;

ans[i-1].d=0;

}

}

void survey::deleteques()

{

int i,flag;

char x;

restart:

clrscr();

line();

cout<<"\n\n\t\tDo you wish to view the questions ?(y/n):";

cin>>x;

line();

switch(x)

{

case 'y':

case 'Y':

clrscr();

displayques();

break;

case 'n':

case 'N':

break;

default:

clrscr();

cout<<"\n\n\n\t\t\t\t\tInvalid Option.Please enter again.";

goto restart;

}

retry:

cout<<"\n\n\nWhich question do you want to delete:";

cin>>i;

if (i>qno)

{

clrscr();

cout<<"Question does not exist.\n";

getch();

goto retry;

}

else

{

for(int j=i=1;j<qno-1;j++)

{

strcpy(ques[j].q,ques[j+1].q);

strcpy(ques[j].a,ques[j+1].a);

strcpy(ques[j].b,ques[j+1].b);

strcpy(ques[j].c,ques[j+1].c);

strcpy(ques[j].d,ques[j+1].d);

ans[j].a=ans[j+1].a;

ans[j].b=ans[j+1].b;

ans[j].c=ans[j+1].c;

ans[j].d=ans[j+1].d;

}

qno=qno-1;

}

}

void survey::displayques()

{

clrscr();

char x;

line();

cout<<"\t\t\t\tQUESTIONS\n";

line();

cout<<"\n";

for(int a=0;a<qno;a++)

{

cout<<"\t"<<a+1<<"."<<ques[a].q<<"\n";

}

cout<<"\n\n\t\t\t\t\t\tPress any key to continue...\n";

getch();

}

/\*\*\*\*\*\*

MAIN PROGRAM

\*\*\*/

void main ()

{

clrscr ();

box();

mode();

getch();

}











































