//Assignment 1

#include <iostream>

using namespace std;

class bank\_acc{

long long int acc\_no,wd,bal,depo, limit = 10000;

int n;

string name ;

public:

void read(){

cout<<"enter account number ";

cin>>acc\_no;

cout<<"enter your name ";

cin>>name;

cout<<"enter your balance ";

cin>>bal;

if(bal<10000){

cout<<"you need to keep minimum balance of 10000"<<endl;

exit(0);

}

cout<<"\n\n";

}

void display(){

cout<<"account number is "<<acc\_no<<endl;

cout<<"your name "<< name<<endl;

cout<<"your balance"<< bal<<endl;

cout<<"\n";

}

void deposit (){

cout<<"enter the amount that you want to deposit"<<endl;

cin>>depo;

bal= bal+ depo;

cout<<"current balnce = "<<bal<<endl;

}

void withdraw(){

cout<<"enter the amount that you want to withdraw "<<endl;

cin>>wd;

if(wd>bal){

cout<<"insufficient balance"<<endl;

cout<<"do you want to take loan?";

exit(0);

}

if(bal - wd <= limit ){

cout<<"you cant withdraw "<< wd <<"as you need to maintain minimum balance of 10000"<< endl;

}

else{

cout<<wd << "debited";

}

bal= bal - wd;

cout<<"current balnce = "<<bal<<endl;

}

int getacc\_no(){

return acc\_no;

}

// ~bank\_acc(){

// acc\_no=0;

// wd=0;

// bal=0;

// depo=0;

// name = "NULL";

// // cout<<"\n Destructor executed"<<endl;

// // display();

// }

// bank\_acc(){

// //default ocnstructor

// }

// bank\_acc(bank\_acc &a){

// acc\_no = a.acc\_no;

// wd = a.wd;

// bal = a.bal;

// depo = a.depo;

// //cop constructor

// }

};

int find(bank\_acc o[1000],int acc){

int I,i,n;

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

if(acc==o[i].getacc\_no()){

I=i;

}

}

return I;

}

int main()

{

bank\_acc o[1000];

int n;

cout<<"enter number of user"<<endl;

cin>>n;

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

o[i].read();

}

int acc;

cout<<"enter account number that you want to search"<<endl;

cin>>acc;

int search\_result = find(o,acc);

cout<<"account number is present at "<<search\_result<< " position"<<endl<<endl;

int ch;

do{

cout<<"do you want to display info, deopsit money, withdraw money or exit "<<endl;

cout<<"enter 0 to display information, 1 to deposit money, 2 to withdraw money and 3 to exit"<<endl;

cin>>ch;

if(ch==0){

o[search\_result].display();

}

else if(ch==1){

o[search\_result].deposit();

}

else if(ch==2){

o[search\_result].withdraw();

}

else if(ch==3){

exit(0);

}

else{

cout<<"An unexpected error occured"<<endl;

}

}while(1);

return 0;

}

//Assignment 2

#include<iostream>

using namespace std;

class student{

string name, div, blood\_grp, address;

int roll\_no, Class, dob, telephone\_no;

public:

inline void read(){

cout<<"Enter name: ";

cin>>name;

cout<<"Enter address: ";

cin>>address;

cout<<"Enter class: ";

cin>>Class;

cout<<"Enter D.O.B: ";

cin>>dob;

cout<<"Enter blood group: ";

cin>>blood\_grp;

cout<<"Enter phone no: ";

cin>>telephone\_no;

cout<<"Enter division: ";

cin>>div;

}

inline void print(){

cout<<"Name: "<<name<<endl;

cout<<"Address: "<<address<<endl;

cout<<"Class: "<<Class<<endl;

cout<<"Division: "<<div<<endl;

cout<<"Roll No: "<<roll\_no<<endl;

cout<<"D.O.B: "<<dob<<endl;

cout<<"Blood Group: "<<blood\_grp<<endl;

cout<<"Phone No: "<<telephone\_no<<endl;

}

student(){

roll\_no = 0;

name = "null";

address = "null";

Class = 0;

dob = 0;

blood\_grp = "null";

div = "null" ;

telephone\_no = 0;

}

~student(){

roll\_no = 0;

name = "null";

address = "null";

Class = 0;

dob = 0;

blood\_grp = "null";

div = "null" ;

telephone\_no = 0;

}

};

int main()

{

cout<<"\n # Student Database System # \n"<<endl;

static int n;

cout<<"enter number of students ";

cin>>n;

student o[n];

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

{

o[i].read();

}

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

{

o[i].print();

}

return 0;

}

//Assignment 3

#include <iostream>

using namespace std;

class vehicle{

public:

int milege,price;

};

class car:public vehicle{

public:

int ownership\_cost, warranty , seating\_capacity;

string fuel\_type;

};

class bike:public vehicle{

public:

int no\_cylinders, no\_gears;

string cooling\_type, wheel\_type;

int fuel\_tank\_size;

};

class audi:public car{

public:

string model\_type;

void read\_audi();

void display\_audi();

};

class ford:public car{

public:

string model\_type;

void read\_ford();

void display\_ford();

};

class bajaj:public bike{

public:

string make\_type;

};

class tvs:public bike{

public:

string make\_type;

};

void audi :: read\_audi(){

cout<<"welcome to Audi"<<endl;

cout<<"enter model type: ";

cin>>model\_type;

cout<<"enter owernship cost";

cin>>ownership\_cost;

cout<<"enter warrenty in year";

cin>>warranty;

cout<<"enter seating capacity";

cin>>seating\_capacity;

cout<<"enter fuel type (diesel or petrol)";

cin>>fuel\_type;

cout<<"enter milege";

cin>>milege;

cout<<"enter price of the vehicle";

cin>>price;

}

void ford :: read\_ford(){

cout<<endl;

cout<<"welcome to ford "<<endl;

cout<<"enter model type: ";

cin>>model\_type;

cout<<"enter owernship cost";

cin>>ownership\_cost;

cout<<"enter warrenty in year";

cin>>warranty;

cout<<"enter seating capacity";

cin>>seating\_capacity;

cout<<"enter fuel type (diesel or petrol)";

cin>>fuel\_type;

cout<<"enter milege";

cin>>milege;

cout<<"enter price of the vehicle";

cin>>price;

}

void audi :: display\_audi(){

cout<<endl;

cout<<"model type is "<<model\_type<<endl;

cout<<"owernship cost is "<<ownership\_cost<<endl;

cout<<"warrenty in year is "<<warranty<<endl;

cout<<"seating capacity is "<<seating\_capacity<<endl;

cout<<"fuel type (diesel or petrol) is "<<fuel\_type;

cout<<"milege is "<<milege<<endl;

cout<<"price of the vehicle is "<<price<<endl;

}

void ford :: display\_ford(){

cout<<endl;

cout<<"model type is "<<model\_type<<endl;

cout<<"owernship cost is "<<ownership\_cost<<endl;

cout<<"warrenty in year is "<<warranty<<endl;

cout<<"seating capacity is "<<seating\_capacity<<endl;

cout<<"fuel type (diesel or petrol) is "<<fuel\_type;

cout<<"milege is "<<milege<<endl;

cout<<"price of the vehicle is "<<price<<endl;

}

int main()

{

audi o1;

ford o2;

o1.read\_audi();

o1.display\_audi();

o2.read\_ford();

o2.display\_ford();

return 0;

}

//Assignment 4

#include <iostream>

using namespace std;

class complex{

int real,imag;

public:

complex(){

real=0;

imag=0;

}

complex(int r,int i){

real=r;

imag=i;

}

complex operator+(complex c1){

complex ret;

ret.real=real+c1.real;

ret.imag=imag+c1.imag;

return ret;

}

complex operator\*(complex c1){

complex ret;

ret.real=real\*c1.real - imag\*c1.imag;

ret.imag=real\*c1.imag + imag\*c1.real;

return ret;

}

friend ostream & operator<< (ostream& out, complex& c);

friend istream & operator>> (istream& din, complex& c);

};

ostream & operator<< (ostream& out, complex& c)

{

out<<"("<<c.real<<"+"<<c.imag<<"i)";

return out;

}

istream& operator>> (istream &din, complex &c){

cout<<"Enter :";

din>>c.real;

din>>c.imag;

return din;

}

int main()

{

complex c1,c2,c3,c4;

cin>>c1;

cin>>c2;

c3=c1+c2;

c4=c1\*c2;

cout<<endl<<"Addition :"<<c3<<endl;

cout<<"Multiplication :"<<c4;

return 0;

}

//assignment 5

#include<iostream>

using namespace std;

class Shape

{

public:

double length,breadth;

Shape()

{

length=0;

breadth=0;

}

void get\_data()

{

cout<<"\nEnter length :"<<endl;

cin>>length;

cout<<"\nEnter Breadth :"<<endl;

cin>>breadth;

}

virtual void display\_area()

{

}

};

class Triangle : public Shape

{

public:

void getdata(){

Shape::get\_data();

}

void display\_area(){

cout<<"\nArea of Triangle = "<<(length\*breadth)/2<<endl;

}

};

class Rectangle : public Shape

{

public:

void getdata(){

Shape::get\_data();

}

void display\_area(){

cout<<"\nArea of Rectangle = "<<(length\*breadth)<<endl;

}

};

int main(){

int ch;

Shape \*base\_ptr;

Triangle tr;

Rectangle rec;

cout<<"\n1.triangle\n2.rectangle\n";

cout<<"Enter your choice:"<<endl;

cin>>ch;

switch(ch){

case 1:

base\_ptr=&tr;

tr.get\_data();

tr.display\_area();

break;

case 2:

base\_ptr=&rec;

rec.get\_data();

rec.display\_area();

break;

}

return 0;

}