**MULTIMEDIA UNIVERSITY OF KENYA**

**FACULTY OF COMPUTER AND INFORMATION TECHNOLOGY**

**SOFTWARE ENGINEERING**

**CCS 2211**

**OBJECT ORIENTED PROGRAMMING I**

**GROUP CODE(RENTHUB)**

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#include<iostream>

using namespace std;

class Tenant{

protected:

    string tName, dateEntry;

    int tidNo,roomType;

    double bill;

public:

    Tenant();

    virtual void roommType(){};

    void settenantName();

    void settenantIDno();

    void setdateofEntry();

    //void setRoom type();

    void viewtenantDetails();

    //void readPayment(int &rent);

};

Tenant::Tenant(){}

void Tenant::settenantName(){

cout<<"Enter your name: \n";

cin>>tName;

}

void Tenant::settenantIDno(){

cout<<"Enter your identification number: \n";

cin>>tidNo;

cout<< tName << " enter you date of entry(today's date):  \n";

cin>>dateEntry;

}

void Tenant::setdateofEntry(){

cout<< tName << " enter you date of entry(today's date):  \n";

cin>>dateEntry;

}

void Tenant::viewtenantDetails() {

cout<<"These are the details that you have input: \n";

cout<< tName << " is you name \n";

cout<< tName << " you date of entry is " << dateEntry << endl;

cout<< tName << " you identification number is " << tidNo << endl;

char yu;

cout<<"Is there any wrong information?(answer with a Y/N) \n";

cin>>yu;

if(yu=='Y'|| yu=='y')

{

settenantName();

settenantIDno();

setdateofEntry();

cout<<"Your Details have been updated\n";

}

else

cout<<"PROCEED TO ROOM SELECTION:\n ";

}

class Rent:public Tenant

{

protected:

    int roomType;

    double bill;

public:

    void setRoomtype();

    void readPayment(int &rent);

};

void Rent::setRoomtype(){

cout<< tName << " choose any room type from the list below: \n";

cout<<"1. Single shared \n";

cout<<"2. Doubly shared \n";

cout<<"3. Quadruply shared \n";

cout<<"REMEBER ROOM PRICE IS SET AT 20000 KSH FOR ALL THE ROOMS ABOVE!!! \n";

cout<<"PROCEED TO PAYMENT\n";

cin>>roomType;

}

void Rent::readPayment(int &rent){

bill=rent;

int choice;

double amount;

cout<<"---PAYING RENT--- \n";

cout<<"---CHOOSE YOUR ROOMTYPE AGAIN--- \n";

cout<< "Choose your room type " <<endl;

cout<<"1. Single shared \n";

cout<<"2. Doubly shared \n";

cout<<"3. Quadruply shared \n";

cout<<"4. Exit \n";

cin>>choice;

switch(choice){

case 1:

   rent=20000;

   cout << "Your rent for this room is 20000. Please proceed with the payment.\n";

   do{

   cout<< "Enter amount payable: \n";

   cin>> amount;

   if (amount!=rent){

    cout<<"Not fully paid. Please pay in full: \n";

   }

   }while(amount!=rent);

    cout<<"Rent paid Thanks.\n";

    break;

case 2:

   rent=10000;

   cout << "Your rent for this room is 10000(Since you live with a roommate). Please proceed with the payment.\n";

  do{

   cout<< "Enter amount payable: \n";

   cin>> amount;

   if (amount!=rent){

    cout<<"Not fully paid. Please pay in full: \n";

   }

   }while(amount!=rent);

   cout<<"Rent paid Thanks.\n";

   break;

case 3:

   rent=5000;

   cout << "Your rent for this room is 4000(since you live with 3 room mates). Please proceed with the payment.\n";

   do{

   cout<< "Enter amount payable: \n";

   cin>> amount;

   if (amount!=rent){

    cout<<"Not fully paid. Please pay in full: \n";

   }

   }while(amount!=rent);

   cout<<"Rent paid Thanks.\n";

   break;

default:

    cout<<"Invalid choice.\n";

    return;

}

}

class CareTaker : public Tenant {

protected:

    string buildingName;

public:

        string CaretakerName;

    void receivePayment(int &rent) {

        cout<<" CARETAKER"<<endl;

        cout<<"---RECEIVING PAYMENT--"<<endl;

        cout << "Amount paid by " << tName << " is: " ;

        cout<< rent<< endl;

    }

   void setName() {

        cout << "Enter caretaker name: \n";

        cin >> CaretakerName;

        //newton

        cout<< "Name of caretaker is " << CaretakerName <<endl;

    }

    void setBuildingName() {

        cout << "Enter building name: \n";

        cin >> buildingName;

        cout<< " Name of building managed by " << CaretakerName << " is " << buildingName ;

       }

       void roomType() {

        int singleShared, doubleShared, quadrupleShared;

            cout << "Enter number of single share rooms: \n";

            cin>>singleShared;

            cout << "Enter number of double share rooms: \n";

            cin>>doubleShared;

            cout << "Enter number of quadruple share rooms: \n";

            cin>>quadrupleShared;

            cout<< " Number of single share rooms is: \n"<<singleShared<<endl;

            cout<<" Number of double share rooms is: \n"<<doubleShared<<endl;

            cout<<"Number of quadruple share rooms is: \n"<<quadrupleShared<<endl;

            cout <<CaretakerName<<" The total number of rooms is: \n"<<singleShared + doubleShared + quadrupleShared <<endl;

               }

};

class Landlord : public CareTaker

{

private:

    string flatName;

public:

    void receivePayment(int &rent);

    void setBuildingName();

};

void Landlord::setBuildingName()

{

cout<<"---LANDLORD---\n";

cout << "Enter Apartment name: ";

cin >> buildingName;

}

void Landlord::receivePayment(int &rent)

    {

        double amountPaid=0.0;

        amountPaid+=rent;

        cout << " Total Amount from caretaker is " << " is " << rent << endl;

        cin >> rent;

    }

int main()

{

int rent=0;

Tenant t;

Tenant t1;

t.settenantName();

t.settenantIDno();

t.viewtenantDetails();

t1.settenantName();

t1.settenantIDno();

t1.viewtenantDetails();

Rent r;

r.setRoomtype();

r.readPayment(rent);

CareTaker caretaker1;

caretaker1.receivePayment(rent);

caretaker1.setName();

caretaker1.setBuildingName();

caretaker1.roomType();

Landlord landlord1;

landlord1.setBuildingName();

landlord1.receivePayment(rent);

return 0;

}