

oop final solution

[Document subtitle]



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**QUESTION 1**

**Part 1 :-**

float operator~(cube c);

**Part 2 :-**

ifstream fin("point.txt");

point p1;

int pos;

pos = (5 - 1) \* sizeof(point);

fin.seekg(pos);

**Part 3 :-**

template <typename T,typename S>

class point {

private:

T x;

S y;

public:

};

**Part 4 :-**

abc

xyz.com

**Part 5 :-**

try,throw,catch

**Part 6 :-**

istream

**QUESTION 2**

**Part 1 :-**

class patient

{

private:

int id;

float temperatue;

int heartrate;

public:

friend ostream& operator<<(ostream& c,patient p);

};

ostream& operator<<(ostream& c, patient p)

{

c << "ID: " <<p. id << endl;

c << "Temperatue: " << p.temperature << endl;

c << "Heartrate: " <<p. heartrate << endl;

return c;

1. }

int main()

{

patient p1;

patient p2(10,30,40);

cout << p1 << p2;

}

**Part 2 :-**

bool operator<(patient p)

{

if (id < p.id)

{

return true;

}

else

{

return false;

}

}

**Part 3 :-**

void displaypatientdata(int records)

{

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

{

patient p;

p.input();

ofstream f("patient.txt",ios::app|ios::binary);

f.write(reinterpret\_cast<char\*>(&p), sizeof(patient));

ifstream f1("patient.txt",ios::binary);

f1.read(reinterpret\_cast<char\*>(&p), sizeof(patient));

while (!f1.eof())

{

if (p.gett() > 99 || p.getheartrate() < 60)

{

p.print();

}

f1.read(reinterpret\_cast<char\*>(&p), sizeof(patient));

}

}

}

**QUESTION 3 (whole solution)**

#include<iostream>

#include<string>

using namespace std;

class date {

int day;

int month;

int year;

public:

date()

{

day = 0;

month = 0;

year = 0;

}

date(int day, int month, int year)

{

this->day = day;

this->month = month;

this->year = year;

}

void input()

{

cout << "Enter day: ";

cin >> day;

cout << "Enter month: ";

cin >> month;

cout << "Enter year: ";

cin >> year;

}

void display()

{

cout << day << "/" << month << "/" << year << endl;

}

};

class loanapplicant

{

protected:

int loan;

date startdate;

int months;

int salary;

public:

loanapplicant()

{

loan = 0;

startdate;

months = 0;

salary = 0;

}

loanapplicant(int loan, date startdate, int months, int salary)

{

this->loan = loan;

this->startdate = startdate;

this->months = months;

this->salary = salary;

}

virtual void input()

{

cout << "Enter loan amount: ";

cin >> loan;

cout << "Enter start date: "; startdate.input();

cout << "Enter total recovery months: ";

cin >> months;

cout << "Enter salary: ";

cin >> salary;

}

virtual void print() = 0;

virtual bool isapproved() = 0;

};

class homeloanapplicant :public loanapplicant {

private:

int landvalue;

public:

homeloanapplicant()

{

landvalue = 0;

}

homeloanapplicant(int loan, date startdate, int months, int salary, int landvalue) :loanapplicant(loan, startdate, months, salary)

{

this->landvalue = landvalue;

}

void print()

{

cout << "Loan: " << loan << endl;

cout << "Start Date: "; startdate.display();

cout << "Loan Recovery Months: " << months << endl;

cout << "Salary: " << salary << endl;

cout << "Land Value: " << landvalue << endl;

}

void input()

{

loanapplicant::input();

cout << "Enter land value: ";

cin >> landvalue;

}

bool isapproved()

{

if (landvalue > loan && loan >= (salary \* 50))

{

return true;

}

else

{

return false;

}

}

};

class carloanapplicant :public loanapplicant {

private:

int modelyear;

public:

carloanapplicant() {

modelyear = 0;

}

carloanapplicant(int loan, date startdate, int months, int salary, int modelyear) :loanapplicant(loan, startdate, months, salary)

{

this->modelyear = modelyear;

}

void print()

{

cout << "Loan: " << loan << endl;

cout << "Start Date: "; startdate.display();

cout << "Loan Recovery Months: " << months << endl;

cout << "Salary: " << salary << endl;

cout << "Model year: " << modelyear << endl;

}

void input()

{

loanapplicant::input();

cout << "Enter model year: ";

cin >> modelyear;

}

bool isapproved()

{

if (modelyear <2020 && loan >= (salary \* 20))

{

return true;

}

else

{

return false;

}

}

};

int main()

{

loanapplicant\* ptr[2];

ptr[0] = new homeloanapplicant;

ptr[0]->input();

ptr[0]->print();

if (ptr[0]->isapproved())

{

cout << "Home Loan is approved" << endl;

}

else

{

cout << "Home Loan dissapproved" << endl;

}

cout << endl << endl;

ptr[1] = new carloanapplicant;

ptr[1]->input();

ptr[1]->print();

if (ptr[1]->isapproved())

{

cout << "Car Loan is approved" << endl;

}

else

{

cout << "Car Loan dissapproved" << endl;

}

}