Lab 7

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Question1:

Code:

```cpp
#include<iostream>
#include<cstring>
using namespace std;

class Amazon_music{
    public:
        string singer_name, album_name;
        int no_songs, playtime;
        Amazon_music(){
            cout << "Enter singer name : ";
            cin >> singer_name;
            cout << "Enter album name : ";
            cin >> album_name;
            cout << "Enter number of songs :";
            cin >> no_songs;
            cout << "Enter playtime in minutes : ";
            cin >> playtime;
        }
        virtual void display(){
            cout << "Singer name : " <<  singer_name << endl;
            cout << "Album name : " <<  album_name << endl;
            cout << "Number of songs :" <<  no_songs << endl;
            cout << "Playtime in minutes : " <<  playtime << endl;
        }
        virtual ~Amazon_music(){
            cout << "\nAmazon_music destructor called.....\n";
        };
};

class Music_info : public Amazon_music{
    string genre;
    public:
        Music_info(){
            cout << "Enter genre :";
            cin >> genre;
        }
        virtual void display(){
            Amazon_music::display();
            cout << "Genre : " << genre << endl;
        }
        ~Music_info(){
            cout << "\nMusic_info desturctor called.....\n";
```

```cpp
        };
};


int main(){
    Amazon_music a, *p1, *p2;
    Music_info m;
    cout << "--------------------------------------" << endl;
    a.display();
    cout << "--------------------------------------" << endl;
    m.display();
    cout << "--------------------------------------" << endl;
    p1 = &a;
    p1->display();
    cout << "--------------------------------------" << endl;
    p2 = &m;
    p2->display();
    cout << "--------------------------------------" << endl;


    Amazon_music *p = new Music_info(m);
    delete p;
    cout << "\nObject of Music_info class is deleted.\n" << endl;
    return 0;
}
```

Input & Output:

```
PS C:\Users\DELL\OneDrive\Desktop\Labs> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 7\" ; if ($?) { g++ 1.cpp -o 1 } ; if ($?) { .\1 }
Enter singer name : Alan
Enter album name : Faded
Enter number of songs :15
Enter playtime in minutes : 75
Enter singer name : Alan
Enter album name : Spectre
Enter number of songs :20
Enter playtime in minutes : 100
Enter genre :Rock
--------------------------------------
Singer name : Alan
Album name : Faded
Number of songs :15
Playtime in minutes : 75
--------------------------------------
Singer name : Alan
Album name : Spectre
Number of songs :20
Playtime in minutes : 100
Genre : Rock
--------------------------------------
Singer name : Alan
Album name : Faded
Number of songs :15
Playtime in minutes : 75
--------------------------------------
Singer name : Alan
Album name : Spectre
Number of songs :20
Playtime in minutes : 100
Genre : Rock
--------------------------------------

Music_info desturctor called.....

Amazon_music destructor called.....

Object of Music_info class is deleted.

Music_info desturctor called.....
```

```
Amazon_music destructor called.....

Amazon_music destructor called.....
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 7>
```

Question2:

Code:

```cpp
#include<iostream>
#include<cstring>
using namespace std;

class Account_Details{
    public:
        string client_name;
        int acc_no;
        double curr_bal;
        double withdraw_amount, deposit_amount;
        void create(){
            cout << "Enter your name : ";
            cin >> client_name;
            cout << "Enter your account number :";
            cin >> acc_no;
            cout << "Enter your current balance :";
            cin >> curr_bal;
        }
        void deposit_money(){
            double deposit_amount;
            cout << "Enter amount you want to deposit : ";
            cin >> deposit_amount;
            curr_bal = curr_bal + deposit_amount;
            cout << "Your current balance : " << curr_bal << endl;
        }
        void withdraw_money(){
            double withdraw_amount;
            cout << "Enter amount you want to withdraw : ";
            cin >> withdraw_amount;
            curr_bal = curr_bal - withdraw_amount;
            cout << "Your current balance : " << curr_bal << endl;
        }
        void display(){
            cout << "************DETAILS***************\n";
            cout << "Enter your name : " << client_name << endl;
            cout << "Enter your account number :" << acc_no << endl;
            cout << "Enter your current balance :" << curr_bal << endl;
            cout << "*********************************\n";
        }
};

class Regular : public Account_Details{

};
```

```cpp
class VIP : public Account_Details{
    public:
        double upper_limit, interest, pending;
        VIP(){
            upper_limit = 500;
            interest = 11.125;
        }
        virtual void create(){
            Account_Details::create();
            cout << "Enter upper-limit to loan : ";
            cin >> upper_limit;
            cout << "Enter simple interest to loan : ";
            cin >> interest;
        }
        virtual void withdraw_money(){
            int time;
            cout << "Enter money you want to withdraw : ";
            cin >> withdraw_amount;
            if(curr_bal < withdraw_amount){
                if(withdraw_amount - curr_bal <= upper_limit){
                    cout << "Enter time period to return loan : ";
                    cin >> time;
                    pending = (withdraw_amount - curr_bal) + ((withdraw_amount-curr_bal) * time * interest)/100;
                }
                else{
                    cout << "Difference amount is greater than Upper-limit exceeded";
                }
            }
            else{
                pending = 0;
            }
            curr_bal = curr_bal - withdraw_amount;
        }
        virtual void display(){
            Account_Details::display();
            cout << "Pending amount to pay : " << pending << endl;
        }
};

int main(){
    cout << "-------------Regular---------------\n";
    Regular r;
    r.create();
    r.deposit_money();
    r.withdraw_money();
    r.display();
    cout << "-----------------------------------\n\n";
```

```cpp
    cout << "----------------VIP------------------\n";

    VIP v;

    v.create();

    v.deposit_money();

    v.withdraw_money();

    v.display();

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


    return 0;
}
```

Input & Output:

```
PS C:\Users\DELL\OneDrive\Desktop\Labs> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 7\" ; if ($?) { g++ 2.cpp -o 2 } ; if ($?) { .\2 }
---------------Regular----------------
Enter your name : Bruce
Enter your account number :12345
Enter your current balance :1200
Enter amount you want to deposit : 500
Your current balance : 1700
Enter amount you want to withdraw : 200
Your current balance : 1500
*************DETAILS****************
Enter your name : Bruce
Enter your account number :12345
Enter your current balance :1500
**********************************
-------------------------------------

----------------VIP------------------
Enter your name : Tony
Enter your account number :56789
Enter your current balance :2500
Enter upper-limit to loan : 400
Enter simple interest to loan : 11.125
Enter amount you want to deposit : 200
Your current balance : 2700
Enter money you want to withdraw : 3000
Enter time period to return loan : 5
*************DETAILS****************
Enter your name : Tony
Enter your account number :56789
Enter your current balance :-300
**********************************
Pending amount to pay : 466.875
-------------------------------------

PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 7>
```