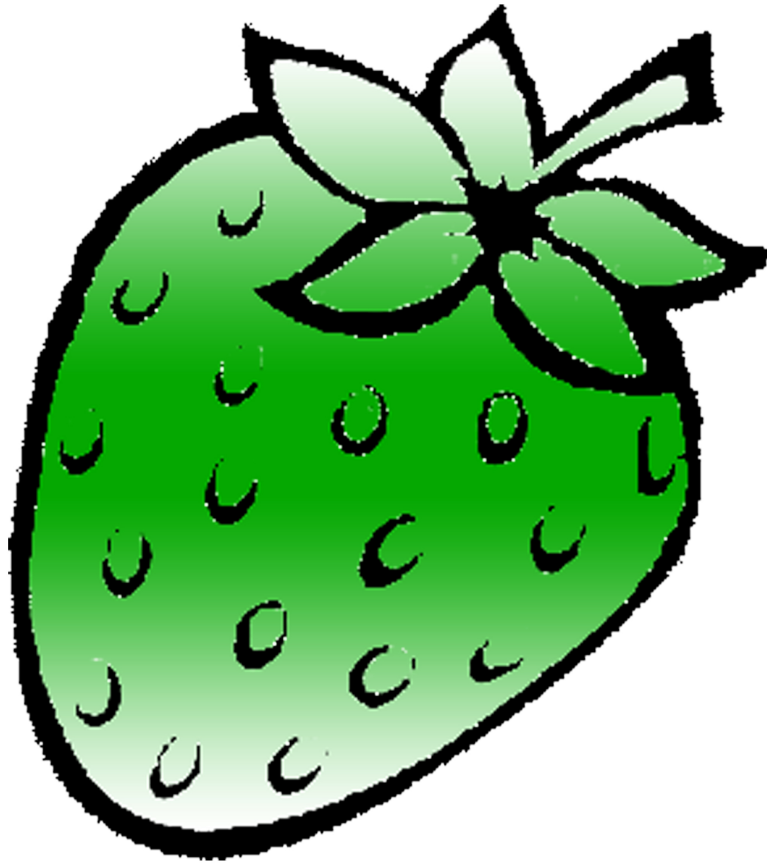


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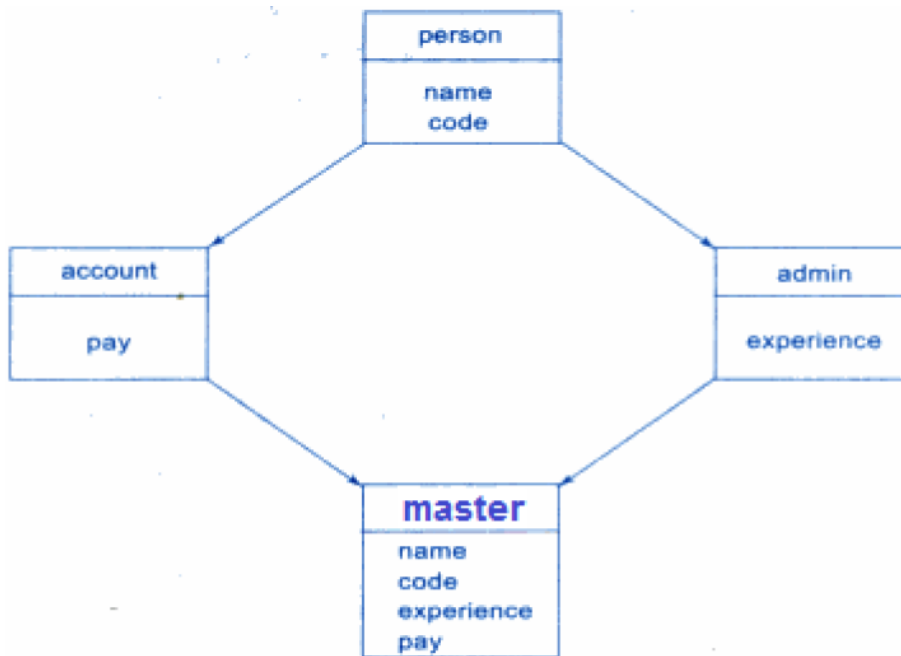
Experiment No. 8

PART A

(PART A: TO BE REFERRED BY STUDENTS)

A.1 Aim: To understand the below concept of Inheritance (Part II)

P1: Consider the class hierarchy in the figure below. The class master derives information from both account and admin classes which in turn derive information from the class person. Define all the four classes and write a program to create, update and display the information contained in master objects.



A.2 Prerequisite:

Knowledge of classes and object and concept of inheritance along with access specifier.

A.3 Outcome:

After successful completion of this experiment students will be able to

1. Know the inheritance implementation

A.4 Theory:

In Hybrid inheritance derived class has multiple base classes. It includes both multilevel and multiple inheritance. These intermediate base classes have a common base class. To avoid getting multiple copies of common base class in the derived class, intermediate base classes inherit the base class as virtual. Hence only one copy of base class will be given in derived class.

Example:

```
#include <iostream.h>
using namespace std;
class student{
    protected:
        int roll_number;
    public:
        void get_number(int a){
            roll_number=a;
        }
        void put_number(void){
            cout<<"Roll Number :"<<roll_number;
        }
};

class test: public student{
    protected:
        float part1,part2;
    public:
        void get_marks(float x, float y){
            part1=x;
            part2=y;
        }
        void put_marks(void){
            cout<<"Marks Obtained :"<<endl
<<"Part1: "<<part1<<endl
```

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```

<<"Part2: "<<part2<<endl;
};

}
class spots{
protected:
    float score;
public:
    void get_score(float s){
        score=s;
    }
    void put_score(void){
        cout<<"Sports Wt:"<<score<<endl;
    }
}

Class result:public test,public sports{
float total;
public:
    void display(void);
}

void result :: display(void){
    total=part1+part2+score;
    put_number();
    put_marks();
    put_score();
    cout<<"Total score:"<<total<<endl;
}

int main(){
    result student_1;
    student_1.get_number(1234);
    student_1.get_marks(27.5, 33.0);
    student_1.get_score(6.0);
    student_1.display();
    return 0;
}

```

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Output:

Roll Number: 1234

Marks Obtained:

Part1: 27.5

Part2: 33.0

Sports Wt: 6

Total score: 66.5

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PART B

(PART B: TO BE COMPLETED BY STUDENTS)

(Students must submit the soft copy as per following segments within two hours of the practical. The soft copy must be uploaded on the Blackboard or emailed to the concerned lab in charge faculties at the end of the practical in case the there is no Black board access available)

Roll No. N008	Name: AKSHAY BANDA
Program: MBA TECH CS	Division: C
Semester: 2	Batch : C1
Date of Experiment: 18/3/2015	Date of Submission: 18/3/2015
Grade :	

B.1 Software Code written by student:

(Paste your C++ code completed during the 2 hours of practical in the lab here)

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

class person
{
    string n;
    int c;
public:
    void pgetdata()
    {
        cout<<"\nEnter name : ";
        cin>>n;
        cout<<"\nEnter code : ";
        cin>>c;
    }
    void pdisplay()
    {
        cout<<"\nName : "<<n;
    }
};
```

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```

class account: public virtual person
{
    double p;
public:
    void agetdata()
    {
        cout<<"\nEnter pay : ";
        cin>>p;
    }
    void adisplay()
    {
        cout<<"\nPay : "<<p;
    }
};

```

```

class admin: public virtual person
{
    int e;
public:
    void adgetdata()
    {
        cout<<"\nEnter experience : ";
        cin>>e;
    }
    void addisplay()
    {
        cout<<"\nExperience : "<<e;
    }
};

```

```

class master: public account, public admin
{
public:
    void getdata()
    {
        pgetdata();
        adgetdata();
        agetdata();
    }
};

```

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```

void display()
{
    pdisplay();
    adddisplay();
    adisplay();
}
};

int main()
{
    master m;
    int a,t=1;
    do
    {
        cout<<"\nEnter 1 for create";
        cout<<"\nEnter 2 for update";
        cout<<"\nEnter 3 for display";
        cin>>a;
        if(a==1)
        {
            if(t==1)
            {
                m.getdata();
                t++;
            }
            else
            {
                cout<<"\nCannot Create!";
            }
        }
        if(a==2)
        {
            if(t==1)
            {
                cout<<"\nCreate object first!";
            }
            else
            {
                m.getdata();
                t++;
            }
        }
    }
}

```

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```

    }
}
if(a==3)
{
    if(t==1)
    {
        cout<<"\nCreate object first!";
    }
    else
    {
        m.display();
        t++;
    }
}
}while(a>=1 && a<=3);
}

```

B.2 Input and Output:

(Paste your program input and output in following format. If there is error then paste the specific error in the output part. In case of error with due permission of the faculty extension can be given to submit the error free code with output in due course of time. Students will be graded accordingly.)

Enter 1 for create
 Enter 2 for update
 Enter 3 for display2

Create object first!
 Enter 1 for create
 Enter 2 for update
 Enter 3 for display3

Create object first!
 Enter 1 for create
 Enter 2 for update
 Enter 3 for display1

Enter name : akshay

Enter code : 2

Enter experience : 3

Enter pay : 1

Enter 1 for create

Enter 2 for update

Enter 3 for display1

Cannot Create!

Enter 1 for create

Enter 2 for update

Enter 3 for display3

Name : akshay

Experience : 3

Pay : 1

Enter 1 for create

Enter 2 for update

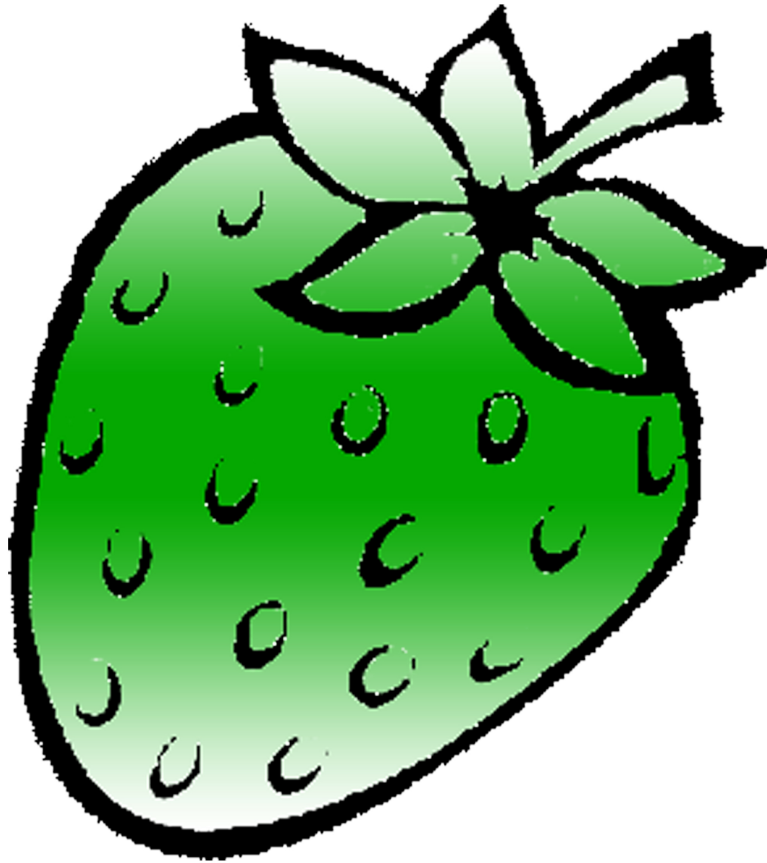
Enter 3 for display4

B.3 Conclusion:

(Students must write the conclusion as per the attainment of individual outcome listed above and learning/observation noted in section B.1)

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