**1.ALGORITHM:**

//ClassHierarchy

//This program uses the protected access specifier to form

base and derived classes.

1. Declare the base class Manager with name, department,

employee ID, bonus as protected variables and in piblic

declare getdata(), setbonus(),

display().

2. Declare prodman as derived class from the base class

with a noOfsup as private variable and it has manageprod()

function in public similarly declare a derived class for

salesman.

3. In main function

a. Create an object of class prodman.

b. Create an object of class salesman.

c. Then by the help of getdata() function take the

input data from the user.

d. By setbonus() set the bonus for both the objects.

e. Then set the number of supervisors and salesmen

by the help of manageprod() and managesales().

4. The infor,ation is displayed by the display() defined in

base class and called in the derived class.

**2.CODE WITH COMMENTS:**

#include<iostream>

using namespace std;

class Manager{

protected :

string name;

string dept;

int empid;

int bonus;

public :

void getdata()

{

cout<<"Enter name : "<<endl;

cin>>name;

cout<<"Enter Department : "<<endl;

cin>>dept;

cout<<"Enter empid : "<<endl;

cin>>empid;

}

void setbonus(int b)

{

bonus=b;

cout<<"\nDepartment : "<<dept<<"\nBonus : "<<bonus<<endl;

}

void display(int n)

{

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

cout<<"\n Department : "<<dept<<endl;

cout<<"\n No. of employees : "<<n<<endl;

cout<<"\n Bonus : "<<bonus<<endl;

}

}; //class manager defined as base class

class prodman : public Manager{

int noOfsup;

public :

void manageprod(int n)

{

noOfsup=n;

cout<<"\nNo. of supervisors : "<<noOfsup<<endl;

display(noOfsup);

}

}; //class prodman defined as derived class

class salesman : public Manager{

int noOfsalesmen;

public :

void managesales(int n)

{

noOfsalesmen=n;

cout<<"\nNo. of salesmen : "<<noOfsalesmen<<endl;

display(noOfsalesmen);

}

}; //class salesman defined as derived class

int main()

{

prodman p; //object of prodman

salesman s; //object of salesman

p.getdata();

s.getdata();

p.setbonus(5000);

s.setbonus(3000);

p.manageprod(100);

s.managesales(50);

}

**3.SAMPLE INPUT AND OUTPUT:**

Enter name :

sanjay

Enter Department :

EC

Enter empid :

214

Enter name :

Navya

Enter Department :

CS

Enter empid :

218

Department : EC

Bonus : 5000

Department : CS

Bonus : 3000

No. of supervisors : 100

Name : sanjay

Department : EC

No. of employees : 100

Bonus : 5000

No. of salesmen : 50

Name : Navya

Department : CS

No. of employees : 50

Bonus : 3000

Process returned 0 (0x0) execution time : 34.968 s