

1. Write a program to calculate the bouns of the employee . The class master derive the information from both admin and account of the class ,which derive information from person class. Create a base and all derived class with necessary functions?

PROGRAM:

```

1 using namespace std;
2 #include <iostream>
3 class master
4 {
5     int emp_id;
6     char emp_name;
7 public:
8     void getdata()
9     {
10         cout<<"enter the emp_id and emp_name"<<"\n";
11         cin>>emp_id>>emp_name;
12     }
13 };
14 class admin:public master
15 {
16     int bp;
17 public:
18     void getdata1()
19     {
20         cin>>bp;
21     }
22 };
23 class account:public master
24 {
25 public:
26     int hra,ta,da,bp,hme,pf;
27     void getdata2()
28     {
29         hra=bp*15/100;
30         ta=bp*20/100;

```

Compilation results...

```

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\master_salary.exe
- Output Size: 2.98992530452140 MiB
- Compilation Time: 1.59s

```

Process exited after 22.53 seconds with return value 0
Press any key to continue . . .

2. Develop the c++ program to find the sum and product of two numbers using single inheritance?

PROGRAM:

```

1 using namespace std;
2 #include <iostream>
3 class sum
4 {
5     int x,y,z;
6 public:
7     void add()
8     {
9         cout<<"enter two numbers: ";
10         cin>>x>>y;
11         z=x+y;
12         cout<<z;
13     }
14 };
15 class product:public sum
16 {
17     int a,b,c;
18 public:
19     void display()
20     {
21         cout<<"enter the number: ";
22         cin>>a>>b;
23         c=a*b;
24         cout<<c;
25     }
26 };
27 int main()
28 {
29     product p;
30     p.display();

```

Compilation results...

```

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\sum_inheritance.exe
- Output Size: 2.98997143554608 MiB
- Compilation Time: 1.64s

```

Process exited after 3.654 seconds with return value 0
Press any key to continue . . .

3. Make a class name fruit with the data members to calculate the number of fruits. Create other two classes namely apple and mango, to calculate the number of apples and mangoes in the basket. Print the number of fruits in each type and total number fruits in the basket?

PROGRAM:

```

1 using namespace std;
2 #include <iostream>
3 class fruit
4 {
5 public:
6     int z;
7     void a()
8     {
9         cout<<"total fruits: ";
10        cin>>z;
11    }
12 };
13 class apple:public fruit
14 {
15 public:
16     int x;
17     void b()
18     {
19         cout<<"enter number of apples: ";
20     }
21 };
22 class mango:public fruit
23 {
24 public:
25     int y;
26     void display()
27     {
28         cout<<"\nenter number of mango: ";
29     }
30 };
31 int main()
32 {
33     fruit f;
34     apple a;
35     mango m;
36     f.a();
37     a.b();
38     m.display();
39     return 0;
40 }

```

Compilation results...

```

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\fruits inheritance.exe
- Output Size: 2.9896821975708 MiB
- Compilation Time: 1.58s

```

enter number of apples:
enter number of mango: 5
5
total fruits: z=10
Process exited after 2.172 seconds with return value 0
Press any key to continue . . .

4. Write a c++program to derive a class from base class?

PROGRAM:

```

1 using namespace std;
2 #include <iostream>
3 class base
4 {
5 public:
6     void a()
7     {
8         cout<<"\na";
9     }
10 };
11 class derived:public base
12 {
13 public:
14     void b()
15     {
16         cout<<"\nb";
17     }
18 };
19 int main()
20 {
21     derived obj;
22     obj.b();
23     obj.a();
24     return 0;
25 }

```

Compilation results...

```

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\base class.exe
- Output Size: 2.98993737792969 MiB
- Compilation Time: 1.61s

```

Process exited after 0.09648 seconds with return value 0
Press any key to continue . . .

5. Assume that the test results of batch of the students stored in three classes, class student stores the rollno, class test stores the marks; class result contains total marks of the tests. The result inherit the details of the marks obtained in the test and rollno of the students through the derived class?

PROGRAM:

The screenshot shows an IDE with the following components:

- Editor:** Displays `sum_inheritance.cpp` with the following code:

```
1 using namespace std;
2 #include <iostream>
3 class student
4 {
5     int rollno;
6     public:
7     void a()
8     {
9         cout<<"enter roll_no: ";
10        cin>>rollno;
11    }
12 };
13 class test:public student
14 {
15     public:
16     int m1,m2,m3;
17     void display()
18     {
19         cout<<"enter marks: ";
20         cin>>m1>>m2>>m3;
21     }
22 };
23 class result:public test
24 {
25     public:
26     int tot,m1,m2,m3;
27     void b()
28     {
29         tot=m1+m2+m3;
30         cout<<"total marks"<<tot;
```
- Output Window:** Shows the execution of `marks_inheritance.exe`. The output is:

```
enter roll_no: 45
enter marks: 4
6
total marks16
Process exited after 7.147 seconds with return value 0
Press any key to continue . . .
```
- Compiler Output:** Shows the compilation results:

```
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Del1\Documents\marks_inheritance.exe
- Output Size: 2.98966598510742 MiB
- Compilation Time: 1.70s
```