OOP LAB
ASSIGNMENT 6
T. DAMAN
2005839

Q1.
```
//T.DAMAN
//ROLL 2005839
//Q1.
#include <iostream>
using namespace std;
class student
{
    int roll;

public:
    char name[10];
    void setdata()
    {
        cout << "enter the name and roll" << endl;
        cin >> name >> roll;
    }
    void getdata()
    {
        cout << "the name is :" << name << "\nroll is:" << roll << endl;
    }
};
class exam : public student
{
public:
    int marks[5];
```

```
    void setmarks()
    {
        student s;
        s.setdata();
        s.getdata();
        for (int i = 0; i < 5; i++)
        {
            cout << "enter the marks of subject " << i + 1 << endl;
            cin >> marks[i];
        }
    }
    void getmarks()
    {
        cout << " marks is :" << endl;
        for (int i = 0; i < 5; i++)
            cout << "the marks of subject " << i + 1 << " is : " << marks[i] << endl;
    }
};
class result : public exam
{
    int sum;
```

```
public:
    void totalmarks()
    {
        exam e;
        e.setmarks();
        e.getmarks();
        sum = 0;
        for (int i = 0; i < 5; i++)
        {
            sum += e.marks[i];
        }
        cout << sum;
    }
};
int main()
```

```
{
    result r;
    r.totalmarks();
    return 0;
}
```

Output:-

enter the name and roll
daman
2005839
the name is :daman
roll is:2005839
enter the marks of subject 1
100
enter the marks of subject 2
99
enter the marks of subject 3
98
enter the marks of subject 4
97
enter the marks of subject 5
96
marks is :
the marks of subject 1 is : 100
the marks of subject 2 is : 99
the marks of subject 3 is : 98
the marks of subject 4 is : 97
the marks of subject 5 is : 96
490

Q2.

```
//T.DAMAN
//2005839
//q2.
#include <iostream>
using namespace std;
class solid
{
public:
    float height;
    int radius;
    void set()
    {
        cout << "enter the height and radius of solid: " << endl;
        cin >> height >> radius;
    }
    void get()
    {
        cout << "the height " << height << " and radius is " << radius << endl;
    }
};
class cylinder : public solid
{
public:
    void volume1()
    {
        solid s;
        s.set();
        s.get();
        float v = 1 * 3.14 * (s.radius) * (s.radius) * (s.height);
        cout << "the volume of cylinder is :" << v << endl;
    }
};
class cone : public solid
{
public:
    float volume2()
```

```
    {
        solid s;
        s.set();
        s.get();
        float v = 1 * 3.14 * (s.radius) * (s.radius) * (s.height) / 3;
        cout << "the volume of cone is :" << v << endl;
    }
};
int main()
{
    cylinder c1;
    c1.volume1();
    cone c2;
    c2.volume2();
    return 0;
}
```

Output:-

enter the height and radius of solid:

5

6

the height 5 and radius is 6

the volume of cylinder is :565.2

enter the height and radius of solid:

3 4

the height 3 and radius is 4

the volume of cone is :50.24

Q3.

```
//T..DAMAN
//2005839
//Q3
#include<iostream>
using namespace std;
class person
{
    private:
        char name[10];
    protected:
        char add[20];
    public:
        int adhar;

};
class emloyee:private person
{
    private:
        char name[10];
    protected:
        char ad[20];
    public:
       int salary;
       void input()
       {
        cout<<"enter name adress and salary of employee:\n";
            cin>>name;
            cin>>ad;
            cin>>salary;
            cout<<"---for privately inherted class person---\n";
            cout<<"enter name\n";
            cout<<"you can't access name for class emloyee as private member of class not inherit\n";
            cout<<"enter adress: ";
            cin>>add;
            cout<<"enter adhar no.: ";
```

```
            cin>>adhar;

       }
}e;
class teacher:public emloyee
{
    private:
        char name[10];
    protected:
        char adress[20];
    public:
        char school[10];
        void input()
        {
            cout<<"enter name adress and school name:\n";
            cin>>name;
            cin>>adress;
            cin>>school;
            cout<<"---for inherted class employeee---\n";
            cout<<"enter name\n";
            cout<<"you can't access name for class emloyee as private member of class not inherit\n";
            cout<<"enter adress: ";
            cin>>ad;
            cout<<"enter salary: ";
            cin>>salary;
        }
}t;
int main()
{
    t.input();
    cout<<"---for main class empolyee---\n";
    e.input();
    cout<<"---now diffrence in main function---\n";
    cout<<"enter name of teacher:";
    cout<<"can't acess private member direcly\n";
    cout<<"enter adress of teacher:";
    cout<<"cant acess protected data directly though it can be inherited\n";
    cout<<"enter school of teacher:\n";
    cin>>t.school;
    cout<<"we can acess public data members direcly through main using object\n";

}
```

Output:-

enter name adress and school name:
daman
WB
K.V
---for inherted class employeee---
enter name
you can't access name for class emloyee as private member of class not inherit
enter adress: PURULIA
enter salary: 12345678
---for main class empolyee---
enter name adress and salary of employee:
DAMAN
WB
12345578
---for privately inherted class person---

enter name
you can't access name for class emloyee as private member of class not inherit
enter adress: PURULIA
enter adhar no.: 23415
---now diffrence in main function---
enter name of teacher:can't acess private member direcly
enter adress of teacher:cant acess protected data directly though it can be inherited
enter school of teacher:
K V
we can acess public data members direcly through main using object

Q4.

```
//T.DAMAN
//2005839

//q4
#include<iostream>
using namespace std;
class student
{
    public:
        char name[20];
        int age;
        void disp()
        {
            cout<<"\nEnter name:";
            cin.ignore();
            cin.getline(name, 20);
            cout<<"Enter age:";
            cin>>age;
        }
};
class batch:public student
{
    public:
        char course[10];
        int std;
        void det_disp()
        {
            cout<<"Enter standard:";
            cin>>std;
            cout<<"Enter course:";
            cin.ignore();
            cin.getline(course, 10);
        }
};
class perf
{
    public:
        int roll, rank;
        void get_data()
        {
            cout<<"Enter roll no. : ";
            cin>>roll;
            cout<<"Enter rank:";
            cin>>rank;
        }
};
class personal: public batch, public perf
```

```
{
    public:
        char add[10];
        int phn;
        void pinfo()
        {
            disp();
            det_disp();
            get_data();
            cout<<"Enter city:";
            cin>>add;
            cout<<"Enter contact no.: ";
            cin>>phn;
        }
};
int main()
{
    personal s1;
    s1.pinfo();
    return 0;
}
```

OUTPUT:-

Enter name:daman
Enter age:19
Enter standard:2
Enter course:cse
Enter roll no. : 2005839
Enter rank:1
Enter city:wb
Enter contact no.: 122344232