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PRN - B24CE1069

Subject - Object Oriented Programming

Assignment 3

PROGRAM

/*Design an educational Institution that maintains a database of all staff members where the database is segregated into a number of classes having hierarchical relationships. Define all classes with suitable data members and required member functions to build the database and fetch individual details .*/

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

//Base class
class Staff
{
protected:
string name,dept;
int staff_id;

public:
void accept(){
    cout<<"Enter name of the staff:";
    cin>>name;
    cout<<"Enter department:";
    cin>>dept;
    cout<<"Enter staff_id:";
    cin>>staff_id;
}
void display(){
    cout<<"\nName of the staff:"<<name;
    cout<<"\nDepartment:"<<dept;
    cout<<"\nStaff id:"<<staff_id;
}
};

class teacher:public Staff
{
    string subject;
    int experience;
```

```

        public:
            void accept1();
            void display1();
    };

class support_staff:public Staff {
    string role;
    int experience;

    public:
        void accept2();
        void display2();
};

class administrator:public Staff {
    string designation;
    int years_of_service;

    public:
        void accept3();
        void display3();

};

void administrator::accept3() {
    administrator::accept();
    cout<<"Enter designation:";
    cin>>designation;
    cout<<"Enter years of service:";
    cin>>years_of_service; }
void administrator::display3()
{
    administrator::display();
    cout<<"\nDesignation:"<<designation;
    cout<<"\nYears of service:"<<years_of_service; }

void support_staff::accept2()
{
    support_staff::accept();
    cout<<"Enter role:";
    cin>>role;
    cout<<"Enter experience:";
    cin>>experience;
}

```

```

void support_staff::display2()
{
    support_staff::display();
    cout<<"\nRole:"<<role;
    cout<<"\nExperience:"<<experience;
}

void teacher::accept1()
{
    Staff::accept();
    cout<<"Enter subject:";
    cin>>subject;
    cout<<"Enter experience:";
cin>>experience;
}

void teacher::display1()
{
    Staff::display();
    cout<<"\nSubject:"<<subject;
    cout<<"\nExperience:"<<experience;
}
int main()
{
    int n;
    cout<<"Enter number of teachers:";
    cin>>n;
    teacher t1[n];
    for(int i=0;i<n;i++){
        cout<<"\nEnter Details\n "<<i+1<<":";
        t1[i].accept1();
    }
    for(int i=0;i<n;i++){
        cout<<"\n---Teacher details---\n";
        t1[i].display1();
    }

    int m;
    cout<<"\n";
    cout<<"Enter number of supporting staff:";
    cin>>m;
    support_staff s1[m];

```

```

        for(int i=0;i<n;i++){
            cout<<"\nEnter Details"<<i+1<<".";
            s1[i].accept2();
        }
        for(int i=0;i<n;i++){
            cout<<"\n----Support staff details----\n";
            s1[i].display2();
        }

        int p;
        cout<<"\n";
        cout<<"Enter number of administrators:";
        cin>>p;
        administrator a1[p];
        for(int i=0;i<p;i++){
            cout<<"\nEnter Details"<<i+1<<".";
            a1[i].accept3();
        }
        for(int i=0;i<p;i++){
            cout<<"\n----Administrator details----\n";
            a1[i].display3();
        }

        return 0;
    }

```

OUTPUT

Enter number of teachers:1

Enter Details

1:Enter name of the staff:Srushti

Enter department:CE

Enter staff_id:123

Enter subject:OOP

Enter experience:8

---Teacher details---

Name of the staff:Srushti

Department:CE

Staff id:123

Subject:OOP

Experience:8

Enter number of supporting staff:1

Enter Details

1:Enter name of the staff:Anvi

Enter department:chemistryLab

Enter staff_id:345

Enter role:labAssistant

Enter experience:5

----Support staff details----

Name of the staff:Anvi

Department:chemistryLab

Staff id:345

Role:labAssistant

Experience:5

Enter number of administrators:1

Enter Details

1:Enter name of the staff:Suyash

Enter department:GeneralAdministration

Enter staff_id:8901

Enter designation:Principal

Enter years of service:9

----Administrator details----

Name of the staff:Suyash

Department:GeneralAdministration

Staff id:8901

Designation:Principal

Years of service:9