

```

#ifndef PERSON_H
#define PERSON_H
class Person{
protected:
    char *Name;
    char *Date;

    int Credits;

    int SSN;
    static int count;

public:
    Person(char []=" ",char []=" ",int=0,int=0) ;    // constructor

    void setName(char *name);
    void setDate(char *date);
    void setCredits(int c);
    void setSSN(int ssn);

    int getSSN();
    char *getName();
    char *getDate();
    int getCredits();

    ~Person();
    static int getcount();
    virtual void print();
};
#endif          // end class Person
#include <iostream.h>
#include <string.h>

#include "Person.h"
int Person::count=0;
int Person::getcount()
{
    return count;
}
Person::~~Person()
{
    delete [] Name;
    delete [] Date;
    --count;
}
Person::Person(char *name,char *date,int c,int ssn)
{
    setSSN(ssn);

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        setName(name);
        setCredits(c);
        setDate(date);
        ++count;
    }
void Person::setCredits(int c)
{
    Credits=c;
}
    // end function
void Person::setDate(char *date)
{
    Date=new char[strlen(date)+1];
    strcpy(Date,date);
}
    // end function
void Person::setName(char *name)
{
    Name=new char[strlen(name)+1];
    strcpy(Name,name);
}
    // end function
void Person::setSSN(int ssn)
{
    SSN = (ssn == 10)? ssn : 10;
}
    // end function
int Person::getSSN()
{
    return SSN;
}
    // end function

void Person::print()
{
    cout<<Name<<" "<<SSN<<" "<<Date<<endl;
}
    // end function
#ifndef CHECK_H
#define CHECK_H
#include "Person.h"
class Check:public Person{
public:
    Check(int = 0);

    void setSSN(int ssn);

    int getSSN()const;

};
#endif
#include "Check.h"

Check::Check(int ssn)

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{
    SSN=ssn;
}
void Check::setSSN(int ssn)
{
    SSN = (ssn == 10)? ssn : 10;
}
    // end function
int Check::getSSN()const
{
    return SSN;
}
    // end function
#endif FACULTY_H
#define FACULTY_H
#include "Person.h"

class Faculty:public Person{
    Faculty(char *,char *,int,int);    // constructor

    void setCredits(int c);

    int getCredits();

    virtual void print();

};
// end class Faculty
#include <iostream.h>
#include "Faculty.h"

Faculty::Faculty(char *name,char *date,int c,int ssn):Person(name,date,c,ssn)
{
}
void Faculty::setCredits(int c)
{
    Credits =(c>15)? c:15;
}
    // end function
int Faculty::getCredits()
{
    return Credits;
}
    // end function
void Faculty::print()
{
    Person::print();
    cout<<"Faculty Teaching:"<<Credits<<"Credits"<<endl;
}
    // end function
#endif UNDERGRADUATE_H
#define UNDERGRADUATE_H

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#include "Person.h"

class Undergraduate:public Person{
    Undergraduate(char *,char *,int ,int);           // constructor
    void setCredits(int c);

    int getCredits();

    virtual void print();

};
#endif           // end class Undergraduate
#include <iostream.h>
#include "Undergraduate.h"

Undergraduate::Undergraduate(char *name,char *date,int c,int ssn):Person(name,date,c,ssn)
{
}
void Undergraduate::setCredits(int c)
{
    Credits =(c>15)? c:15;
}           // end function
int Undergraduate::getCredits()
{
    return Credits;
}           // end function
void Undergraduate::print()
{
    Person::print();
    cout<<"Undergraduate Student taking:"<<getCredits()<<"Credits"<<endl;
}           // end function
#ifndef GRADUATE_H
#define GRADUATE_H
#include "Person.h"

class Graduate:public Person{
public:
    Graduate(char *,char *,int ,int);           // constructor
    void setCredits(int c);

    int getCredits();

    virtual void print();

};
#endif           // end class Graduate

#include <iostream.h>

```

```

#include "Graduate.h"

Graduate::Graduate(char *name,char *date,int c,int ssn):Person(name,date,c,ssn)
{
}
void Graduate::setCredits(int c)
{
    Credits =(c>15)? c:15;
}
    // end function
int Graduate::getCredits()
{
    return Credits;
}
    // end function
void Graduate::print()
{
    Person::print();
    cout<<"Graduate Student taking:"<<Credits<<"Credits"<<endl;
}
    // end function
#include <iostream>
#include "Person.h"           // class definition
#include "Check.h"           // class definition
#include "Faculty.h"         // class definition
#include "Undergraduate.h"   // class definition
#include "Graduate.h"        // class definition
#include "Student.h"         // class definition
using namespace std;

int main()
{
    char name[40],date[40];
    int ssn,c;

    cout<<"How many Persons you want to creat :? ";
    int H;
    cin>>H;

    Person *P =new Person[H];
for(int i=0;i<H;i++)
{
    Person *P =new Person[H];

    cout<<"Enter the Type of Person you want [1.Faculty ,2.Undergraduate ,3.Graduate] .:";
    int type;
    cin>>type;

    switch (type)
    {
        case 1:

```

```
cout<<"Enter you values Name ,Date , Credits ,Social Security Number \n";
cin>>name>>date>>c>>ssn;
```

```
P[i].setName(name);
P[i].setDate(date);
P[i].setCredits(c);
P[i].setSSN(ssn);
```

```
cout<<name<<" "<<date<<" "<<ssn<<endl;
```

```
if(c>15)
{
    c=15;
} // end if
cout<<"Is Taking"<<c<<" ,Credits"<<endl;
break;
```

case 2:

```
cout<<"Enter you values Name ,Date , Credits ,Social Security Number \n";
cin>>name>>date>>c>>ssn;
```

```
P[i].setName(name);
P[i].setDate(date);
P[i].setCredits(c);
P[i].setSSN(ssn);
```

```
cout<<name<<" "<<date<<" "<<ssn<<endl;
```

```
if(c>16)
{
    c=16;
} // end if
cout<<"Is Taking"<<" ,Credits"<<endl;
```

```
break;
```

case 3:

```
cout<<"Enter you values Name ,Date , Credits ,Social Security Number \n";
cin>>name>>date>>c>>ssn;
```

```
P[i].setName(name);
P[i].setDate(date);
P[i].setCredits(c);
P[i].setSSN(ssn);
```

```
cout<<name<<" "<<date<<" "<<ssn<<endl;
```

```
if(c>9)
{
    c=9;
} // end if
```

```
        cout<<"Is Taking"<<"Credits"<<endl;

        break;
    } // endSwitch
} // endFor

cout<<"Number of Objects Created : "<<Person::getcount()<<endl;
return 0;
}
```