PROGRAM- AN EDUCATIONAL INSTITUTION WISHES TO MAINTAIN A DATABSE – CREATE CLASS STAFF(CODE, NAME), TEACHER(PUBLICATION, SUBJECT) , TYPIST(SPEED) – REGULAR AND CASUAL(WAGES AND WORKING HOURS) , OFFICER(GRADE) WITH INHERITANCE RELATIONSHIP . STAFF BASE CLASS FOR TEACHER, TYPIST, OFFICER; TYPIST BASE CLASS FOR REGULAR AND CASUAL. CREATE FUNCTIONS TO GET DATA AND RETRIEVE DATA.

//BHAVNA VERMA-171210019-19/02/2019

//INHERITANCE

```cpp
#include<iostream>

using namespace std;

class staff //BASE CLASS

{
        int code;

        char name[20];

        public:

        void getdata1()

        {
                cout<<"\nENTER THE CODE OF STAFF -";

                cin>>code;

                cout<<"\nENTER THE NAME -";

                cin>>name;

        }
        void putdata1()

        {
                cout<<"\nTHE CODE OF STAFF -"<<code;

                cout<<"\nTHE NAME -"<<name;

        }
};
//DERIVED CLASSES
```

```cpp
//ACCESS SPECIFIER IS CHOSEN AS PER REQUIREMENT -
PUBLIC/PROTECTED/PRIVATE

class teacher : public staff

{

        char publication[20];

        char subject[20];

        public:

        void getdata()

        {

                cout<<"\nENTER THE PUBLICATION  -";

                cin>>publication;

                cout<<"\nENTER THE SUBJECT -";

                cin>>subject;

        }

        void putdata()

        {

                cout<<"\nTHE PUBLICATION -"<<publication;

                cout<<"\nTHE SUBJECT -"<<subject;

        }


};

class typist : public staff //BASE CLASS FOR CLASS REGULAR AND CASUAL

{

        int speed;

        public:

        void getdata()

        {
```

```cpp
                cout<<"\nENTER THE SPEED  -";

                cin>>speed;

        }

        void putdata()

        {

                cout<<"\nTHE SPEED-"<<speed;

        }


};

class regular : public typist

{

        int income;

        int workhours;

        public:

        void getdata()

        {

                cout<<"\nENTER THE INCOME  -";

                cin>>income;

                cout<<"\nENTER THE WORK HOURS PER DAY -";

                cin>>workhours;

        }

        void putdata()

        {

                cout<<"\nTHE ANNUAL INCOME -"<<income;

                cout<<"\nTHE WORK HOURS PER DAY -"<<workhours;

        }

};
```

```cpp
class casual : public typist
{
        int income;
        int workhours;
        public:
        void getdata()
        {
                cout<<"\nENTER THE INCOME  -";
                cin>>income;
                cout<<"\nENTER THE WORK HOURS PER DAY -";
                cin>>workhours;
        }
        void putdata()
        {
                cout<<"\nTHE ANNUAL INCOME -"<<income;
                cout<<"\nTHE WORK HOURS PER DAY -"<<workhours;
        }
};
class officer : public staff
{
        char grade;
        public:
        void getdata()
        {
                cout<<"\nENTER THE GRADE- ";
                cin>>grade;
        }
```

```cpp
        void putdata()

        {

                cout<<"\nTHE GRADE- "<<grade;

        }

};


int main()

{

        cout<<"\n----------------EMPLOYEE DATABASE--------------------\n";

        teacher T;

        typist t;

        regular r;

        casual c;

        officer o;

        cout<<"ENTER INFO OF TEACHER \n";

        T.getdata1();

        T.getdata();

        cout<<"ENTER INFO OF TYPIST \n";

        t.getdata1();

        t.getdata();

        cout<<"ENTER INFO OF REGULAR TYPIST \n";

        r.getdata1();

        r.getdata();

        cout<<"ENTER INFO OF CASUAL TYPIST \n";

        c.getdata1();

        c.getdata();

        cout<<"ENTER INFO OF OFFICER \n";
```

```cpp
        o.getdata1();

        o.getdata();

        //THIS WILL SHOW THAT THE MEMBER FUNCTIONS OF BASE CLASS
STAFF ARE USED IN THE DERIVED CLASSES

        // AND ALSO IN THE CLASSES FURTHER DERIVED FROM THEM LIKE
CLASS REGULAR & CLASS CASUAL

        //THIS IS HOW CONCEPT OF INHERITANCE IS IMPLEMENTED

        cout<<"-----------PRINTING DATABASE ---------------\n";

        cout<<"\n\n-------INFO OF TEACHER---------------- \n";

        T.putdata1();

        T.putdata();

        cout<<"\n\n-------INFO OF TYPIST-----------------\n";

        t.putdata1();

        t.putdata();

        cout<<"\n\n-------INFO OF REGULAR TYPIST--------- \n";

        r.putdata1();

        r.putdata();

        cout<<"\n\n-------INFO OF CASUAL TYPIST---------- \n";

        c.putdata1();

        c.putdata();

        cout<<"\n\n-------INFO OF OFFICER ---------------\n";

        o.putdata1();

        o.putdata();

        return 0;

};
```

OUTPUT

C:\Users\VERMA\Downloads\q2.exe

```
-----------------EMPLOYEE DATABASE--------------------
ENTER INFO OF TEACHER

ENTER THE CODE OF STAFF -1

ENTER THE NAME -MS.SMITA

ENTER THE PUBLICATION  -LET_US_C

ENTER THE SUBJECT -C++
ENTER INFO OF TYPIST

ENTER THE CODE OF STAFF -2

ENTER THE NAME -RITA

ENTER THE SPEED  -40
ENTER INFO OF REGULAR TYPIST

ENTER THE CODE OF STAFF -3

ENTER THE NAME -SAM

ENTER THE INCOME  -8000

ENTER THE WORK HOURS PER DAY -8
ENTER INFO OF CASUAL TYPIST

ENTER THE CODE OF STAFF -4

ENTER THE NAME -DANIEL

ENTER THE INCOME  -6000

ENTER THE WORK HOURS PER DAY -6
ENTER INFO OF OFFICER

ENTER THE CODE OF STAFF -5

ENTER THE NAME -MR.ANIL
ENTER THE GRADE- A
-----------PRINTING DATABASE ---------------
```

```
-------INFO OF TEACHER----------------

THE PUBLICATION -LET_US_C
THE SUBJECT -C++
THE CODE OF STAFF -1
THE NAME -MS.SMITA

-------INFO OF TYPIST-----------------

THE SPEED-40
THE CODE OF STAFF -2
THE NAME -RITA

-------INFO OF REGULAR TYPIST---------

THE ANNUAL INCOME -8000
THE WORK HOURS PER DAY -8
THE CODE OF STAFF -3
THE NAME -SAM

-------INFO OF CASUAL TYPIST----------

THE ANNUAL INCOME -6000
THE WORK HOURS PER DAY -6
THE CODE OF STAFF -4
THE NAME -DANIEL

-------INFO OF OFFICER --------------
ENTER THE GRADE- A
THE CODE OF STAFF -5
THE NAME -MR.ANIL
--------------------------------
Process exited after 118.9 seconds with return value 0
Press any key to continue . . .
```