# Task # 3

```cpp
#include<iostream>
using namespace std;
void cyclicRotate(int[], int, int);
int main()
{
    int num;
    int k=4;
    cout<<" How many elements you enter ";
    cin>>num;
    const int SIZE = num;
    int array[SIZE];
    for(int i =0;i<SIZE;i++)
    {
        cout<<" Enter the array "<<(i+1)<<" \t ";
        cin>>array[i];
    }
    cout<<endl;
    cout<<" you entered array is { ";
    for(int i = 0;i<SIZE;i++)
    {
        cout<<array[i]<<"\t";
    }
    cout<<" } ";
    cout<<endl;
    cyclicRotate(array,SIZE,k);
    return 0;
```

```cpp
}
void cyclicRotate(int array[], int n, int k)
{
    int start=0;
    int end = n - 1;


        for (int i = 0;i < k;i++)
        {
            int a = array[start];
            array[start] = array[end];
            for (int j=1;j <n;j++)
            {
              int b = array[j];
                array[j] = a;
                a = b;
            }


        }
        cout<<" Your Cyclic Array is { ";
    for (int m = 0; m<n;m++)
    {
        cout << array[m]<<"\t";
    }
    cout<<" } ";



}
```

**Task # 4**

```cpp
#include<iostream>

#include<fstream>

#include<iomanip>

void func1(int &,int &);

void func2(short arr[][50],int);

void func3(short arr[][50], int,int ,int,int);

void func4(short[][50],int);

using namespace std;

int main()

{

    short arr[50][50];

    int n1, n2, noOfPersons, noOfFriendships;

    char value;

    ifstream inFile;

    inFile.open("friends.txt");

    if (inFile.fail())

    {

        cout << "Address not found!!!";

    }

    else

    {

        inFile >> noOfPersons;

        inFile >> noOfFriendships;

        func2( arr,noOfPersons);

        int p1,p2;

        for (int i = 0; i < noOfFriendships; i++)

        {
```

```cpp
        inFile >> p1;

        inFile.ignore();

        inFile >> p2;

        arr[p1][p2] = 1;

        arr[p2][p1] = 1;

}

func4(arr,noOfPersons);

do

{

        cout<<endl;

        cout <<"Enter  two  integers ";

        cin >> n1;

        cout << "  ";

        cin >> n2;

func1(n1,n2);

while(n1<0||n1>noOfPersons||n2<0||n2>noOfPersons)

{

        cout<<"Error!!!Enter again ";

        cin >> n1;

        cout << "  ";

        cin >> n2;

}

        cout <<"Person # " << n1 << " and Person # " << n2 << " have common Friends are : ";


        int count = 0;


        func3( arr , count ,noOfPersons , n1 ,n2);

        cout<<endl;

        cout <<"Do you want to Continue(y/n) ";
```

```cpp
            cin >> value;

        } while (value == 'y' || value == 'Y');


    }


}
void func1(int &n1,int &n2)

{


    while(n1==n2)

    {

        cout<<"Error!!!Enter again ";

        cin >> n1;

        cout << " ";

        cin >> n2;

    }
}
void func2(short arr[][50],int noOfPersons)

{

        for (int i = 0; i < noOfPersons; i++)

        {

            for (int j = 0; j < noOfPersons; j++)

            {

                arr[i][j] = 0;

            }

        }

}
void func3( short arr[][50] ,int count , int noOfPersons , int n1 ,int n2 )

{
```

```cpp
        while (count < noOfPersons)
                {
                        if (arr[n1][count] == 1 )
                        {
                          if (arr[n2][count] == 1)
                             {
                                        cout << count << setw(2);
                             }
                        }
                        count++;
                }
}
void func4(short arr[][50],int noOfPersons)
{
        cout<<endl;
        cout<<"  ";
        for(int k=0;k<noOfPersons;k++)
        {
                cout<<setw(2)<<k;
        }
        cout<<endl;
        cout<<"  _____";
        cout<<endl;
        for(int i=0;i<noOfPersons;i++)
        {
                cout<<i<<"|";
                for(int j=0;j<noOfPersons;j++)
                {
                        cout<<setw(2)<<arr[i][j];
```

```
        }
        cout<<endl;
    }
}
```