**1. Write a C Program to rotate a Matrix by 90 Degree in Clockwise or Anticlockwise Direction**

#include <stdio.h>

int main()

{

int c,l=1,n;

printf("Enter size of matrix (NxN): ");

scanf("%d",&n);

int arr[n][n];

printf("\nEnter matrix elements:\n");

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

{

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

{

scanf("%d",&arr[i][j]);

}

}

printf("\ngiven matrix elements:\n");

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

{

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

{

printf("%d ",arr[i][j]);

}

printf("\n");

}

while(l)

{

printf("MENU\n");

printf("1.clockwise\n");

printf("2.Anticlockwise\n");

printf("3.display\n");

printf("4.exit\n");

printf("enter choice\n");

scanf("%d",&c);

{

if(c==1){

for (int i=0;i<n/2;i++)

{

for (int j=i;j<n-i-1;j++)

{

int temp=arr[i][j];

arr[i][j]=arr[n-1-j][i];

arr[n-1-j][i]=arr[n-1-i][n-1-j];

arr[n-1-i][n-1-j]=arr[j][n-1-i];

arr[j][n-1-i]=temp;

}

}

}

else if(c==2){

for(int i=0;i<n/2;i++)

{

for(int j=i;j<n-i-1;j++)

{

int temp=arr[i][j];

arr[i][j]=arr[j][n-i-1];

arr[j][n-i-1]=arr[n-i-1][n-j-1];

arr[n-i-1][n-j-1]=arr[n-j-1][i];

arr[n-j-1][i]=temp;

}

}

}

else if(c==3)

{

printf("\nMatrix after rotating 90 degree:\n");

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

{

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

{

printf("%d ",arr[i][j]);

}

printf("\n");

}

}

else l=0;

}

}

}

**Output:**

 

