

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;

}

}

}

```

The screenshot shows a web browser window with the URL `onlinegdb.com/online_c_compiler#`. The browser tabs include "jalvas-education-foundation/3rd", "New File", and "Online C Compiler - online editor". The compiler interface has a toolbar with buttons for Run, Debug, Stop, Share, Save, and Beautify. The language is set to C. The main editor area shows a C program for matrix rotation. The program prompts the user to enter the size of the matrix (3x3), then the matrix elements. It then prompts for a choice of rotation (1.clockwise, 2.Anticlockwise, 3.display, 4.exit). The program then displays the resulting matrix after a 90-degree clockwise rotation.

```

main.c
Enter size of matrix (NxN): 3
Enter matrix elements:
1 2 3 4 5 6 7 8 9
given matrix elements:
1 2 3
4 5 6
7 8 9
MENU
1.clockwise
2.Anticlockwise
3.display
4.exit
enter choice
1
MENU
1.clockwise
2.Anticlockwise
3.display
4.exit
enter choice
3
Matrix after rotating 90 degree:
7 4 1
8 5 2
9 6 3
MENU
1.clockwise
2.Anticlockwise
3.display

```

The right sidebar contains panels for Call Stack, Local Variables, Registers, Display Expressions, and Breakpoints and Watchpoints. The Windows taskbar at the bottom shows the time as 2:07 PM on 6/19/2020.

alvas-education-foundation/3rd x New File x Online C Compiler - online editor x +

onlinegdb.com/online_c_compiler#

Language C

Call Stack
FunctionFile.Lin

main.c

input

```
1.clockwise
2.Anticlockwise
3.display
4.exit
enter choice
2
MENU
1.clockwise
2.Anticlockwise
3.display
4.exit
enter choice
2
MENU
1.clockwise
2.Anticlockwise
3.display
4.exit
enter choice
3

Matrix after rotating 90 degree:
3 6 9
2 5 8
1 4 7
MENU
1.clockwise
2.Anticlockwise
3.display
4.exit
enter choice
4
```

Local Variables
Variable Value

Registers
Register Value

Display Expressions
ExpressValue
Enter express

Breakpoints and Watchpoints
Description

Type here to search

ENG IN 2:08 PM 6/19/2020