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Course Name: O Level (2nd Sem B2 and B3 Batch)   **Subject:** C Language
Topic: 2D Array in C (Contined..)   **Date:** 15-May-2020

Example 1 : **Write a program to print the anti diagonal of square matrix.**

The antidiagonal (sometimes counter diagonal, secondary diagonal, trailing diagonal, minor diagonal, or bad diagonal) of a square matrix, is the opposite side of a main diagonal of square matrix. That is, it runs from the top right corner to the bottom left corner:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[3][3],i,j;
clrscr();
printf("enter the element in array ");
for(i=0;i<3;i++)
for(j=0;j<3;j++)
scanf("%d",&a[i][j]);
for(i=0;i<3;i++)
for(j=0;j<3;j++)
if(i+j==2)
printf("\t%d",a[i][j]);
getch();
}
```


Another method without using if condition

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[3][3],i,j;
clrscr();
printf("enter the element in array ");
for(i=0;i<3;i++)
for(j=0;j<3;j++)
scanf("%d",&a[i][j]);
for(i=0;i<3;i++)
for(j=2-i;j<3-i;j++)
printf("\t%d",a[i][j]);
getch();
}
```

Input

1	2	3
4	5	6
7	8	9

Output

3	5	7

Example 2: **Write a program to print or display the lower triangular of square matrix 3 x 3.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
int x[3][3],i,j;
clrscr();
printf("Enter the element of array \n");
for(i=0;i<3;i++)
for(j=0;j<3;j++)
```

```
scanf("%d",&x[i][j]);
for(i=1;i<3;i++)
for(j=0;j<i;j++)
printf("\t%d",x[i][j]);
getch();
}
```


Example 2:   **Write a program to print or display the upper triangular of square matrix 3 x 3.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
int x[3][3],i,j;
clrscr();
printf("Enter the element of array \n");
for(i=0;i<3;i++)
for(j=0;j<3;j++)
scanf("%d",&x[i][j]);
for(i=0;i<2;i++)
for(j=i+1;j<3;j++)
printf("\t%d",x[i][j]);
getch();
}
```


Try Yourself:

1. Write a program to print the sum of main and anti-diagonal of a square matrix [3 x 3].

2. Write a program to print the following triangular of square matrix [3 x 3].