

PROGRAM 1: Develop a program to perform addition of two Matrices.

Input:

```
#include <stdio.h>

#include <conio.h>

int main()
{
    int m, n, c, d, first[10][10], second[10][10], sum[10][10];

    clrscr();

    printf("enter the number of rows and columns of matrix\n");
    scanf("%d %d", &m, &n);

    printf("enter the elements of first matrix\n");

    for(c=0; c<m; c++)
        for(d=0; d<n; d++)
            scanf("%d", &first[c][d]);

    printf("enter the elements of second matrix\n");

    for(c=0; c<m; c++)
        for(d=0; d<n; d++)
            scanf("%d", &second[c][d]);

    printf("sum of the matrices:\n");

    for(c=0; c<m; c++)
    {
        for(d=0; d<n; d++)
        {
            sum[c][d]=first[c][d]+second[c][d];

            printf("%d\t", sum[c][d]);
        }

        printf("\n");
    }

    getch();
}
```

```
return (0);  
}
```

Output:

```
enter the number of rows and columns of matrix  
2 2  
enter the elements of first matrix  
2 4  
6 8  
enter the elements of second matrix  
2 4  
6 8  
sum of the matrices:  
4      8  
12     16  
-
```

PROGRAM 2: Demonstrate reading a two-dimensional array of marks which stores marks of 4 students in 3 subjects and display the highest marks in each subject.

Input:

```
#include <stdio.h>  
  
#include <conio.h>  
  
int main()  
{  
  
int marks[4][3], i, j, max_marks;  
  
clrscr();  
  
for(i=0; i<4;i++)  
{  
  
printf("\nenter the marks obtained by student %d", i);  
  
for(j=0; j<3; j++)  
{  
  
printf("\nmarks[%d][%d]= ", i, j);  
  
scanf("%d", &marks[i][j]);  
  
}  
  
}  
}
```

```

for(j=0;j<3;j++)
{
    max_marks=marks[0][j];
    for(i=1; i<4; i++)
    {
        if(marks[i][j]>max_marks)
            max_marks=marks[i][j];
    }
    printf("\nthe highest marks obtained in the subject %d = %d", j, max_marks);
}
getch();
return(0);
}

```

Output:

```

enter the marks obtained by student 0
marks[0][0]= 2

marks[0][1]= 4

marks[0][2]= 6

enter the marks obtained by student 1
marks[1][0]= 8

marks[1][1]= 10

marks[1][2]= 12

enter the marks obtained by student 2
marks[2][0]= 14

marks[2][1]= 16

marks[2][2]= 18

```

```

enter the marks obtained by student 3
marks[3][0]= 3

marks[3][1]= 5

marks[3][2]= 7

the highest marks obtained in the subject 0 = 14
the highest marks obtained in the subject 1 = 16
the highest marks obtained in the subject 2 = 18

```

