

```

Start here X 1.c X 2.c X 3.c X 4.c X 5.c X 6.c X *7.c X *8.c X 9.c X *15.c X *11.c X
1  #include<stdio.h>
2  int main()
3  {
4      int m1,n1,m2,n2,i,j;
5      printf("Enter row & column for a matrix = ");
6      scanf("%d %d",&m1,&n1);
7      printf("Enter row & column for b matrix = ");
8      scanf("%d %d",&m2,&n2);
9      int a[100][100],b[100][100],c[100][100];
10     while(m2!=m1&&n1!=n2)
11     {
12         printf(" error m2!=m1&&n1!=n1\n");
13         printf("Enter row & column for a matrix = ");
14         scanf("%d %d",&m1,&n1);
15         printf("Enter row & column for b matrix = ");
16         scanf("%d %d",&m2,&n2);
17     }
18     // input 1st matrix
19     printf("Enter 1st matrix :\n");
20     for(i=0;i<m1;i++)
21     {
22         for(j=0;j<n1;j++)
23         {
24             scanf("%d",&a[i][j]);
25         }
26     }
27     //input 2nd matrix
28     printf("Enter 2nd matrix :\n");
29     for(i=0;i<m2;i++)
30     {
31         for(j=0;j<n2;j++)
32         {
33             scanf("%d",&b[i][j]);
34         }
35     }
36     //print 1st matrix

```

```

33     scanf("%d",&b[i][j]);
34 }
35 }
36 //print 1st matrix
37 printf("\n\n1st matrix \n ");
38 for(i=0;i<m1;i++)
39 {
40     printf("\t");
41     for(j=0;j<n1;j++)
42     {
43         printf("%d ",a[i][j]);
44     }
45     printf("\n");
46 }
47 //print 2nd matrix
48 printf("\n\n2nd matrix \n ");
49 for(i=0;i<m2;i++)
50 {
51     printf("\t");
52     for(j=0;j<n2;j++)
53     {
54         printf("%d ",b[i][j]);
55     }
56     printf("\n");
57 }
58 //resultant matrix
59 printf("sum of a & b matrix \n");
60 for(i=0;i<m2;i++)
61 {
62     printf("\t");
63     for(j=0;j<n2;j++)
64     {
65         c[i][j]=a[i][j]+b[i][j];
66         printf("%d ",c[i][j]);
67     }
68     printf("\n");
69 }
70 }
71 return 0;
72 }
73 }
74 }

```

Enter row & column for a matrix = 3 3
Enter row & column for b matrix = 3 3
Enter 1st matrix :
1 2 3
4 5 6
7 8 9
Enter 2nd matrix :
11 22 33
44 55 66
77 88 99

1st matrix
1 2 3
4 5 6
7 8 9

2nd matrix
11 22 33
44 55 66
77 88 99
sum of a & b matrix
12 24 36
48 60 72
84 96 108

Process returned 0 (0x0) execution time : 30.027 s
Press any key to continue.

```

Start here X 1.c X 2.c X 3.c X 4.c X 5.c X 6.c X *7.c X *8.c X 9.c X *15.c X *11.c X
1  #include<stdio.h>
2  int main()
3  {
4      int m1,n1,m2,n2,i,j;
5      printf("Enter row & column for a matrix = ");
6      scanf("%d %d",&m1,&n1);
7      printf("Enter row & column for b matrix = ");
8      scanf("%d %d",&m2,&n2);
9      int a[100][100],b[100][100],c[100][100];
10     while(m2!=m1&&n1!=n2)
11     {
12         printf(" error m2!=m1&n1!=n1\n");
13         printf("Enter row & column for a matrix = ");
14         scanf("%d %d",&m1,&n1);
15         printf("Enter row & column for b matrix = ");
16         scanf("%d %d",&m2,&n2);
17     }
18     // input 1st matrix
19     printf("Enter 1st matrix :\n");
20     for(i=0;i<m1;i++)
21     {
22         for(j=0;j<n1;j++)
23         {
24             scanf("%d",&a[i][j]);
25         }
26     }
27     //input 2nd matrix
28     printf("Enter 2nd matrix :\n");
29     for(i=0;i<m2;i++)
30     {
31         for(j=0;j<n2;j++)
32         {
33             scanf("%d",&b[i][j]);
34         }
35     }
36     //print 1st matrix

```

```

33     scanf("%d",&b[i][j]);
34 }
35 }
36 //print 1st matrix
37 printf("\n\n1st matrix \n ");
38 for(i=0;i<m1;i++)
39 {
40     printf("\t");
41     for(j=0;j<n1;j++)
42     {
43         printf("%d ",a[i][j]);
44     }
45     printf("\n");
46 }
47 //printf 2nd matrix
48 printf("\n\n2nd matrix \n ");
49 for(i=0;i<m2;i++)
50 {
51     printf("\t");
52     for(j=0;j<n2;j++)
53     {
54         printf("%d ",b[i][j]);
55     }
56     printf("\n");
57 }
58 //resultant matrix
59 printf("\n\nsubstract of a & b matrix \n");
60 for(i=0;i<m2;i++)
61 {
62     printf("\t");
63     for(j=0;j<n2;j++)
64     {
65         c[i][j]=a[i][j]-b[i][j];
66         printf("%d ",c[i][j]);
67     }
68     printf("\n");
69 }
70
71 return 0;
72

```

```

Enter row & column for a matrix = 2 2
Enter row & column for b matrix = 2 2
Enter 1st matrix :
1 2
0 6
Enter 2nd matrix :
4 6
3 0

```

```

1st matrix
    1 2
    0 6

```

```

2nd matrix
    4 6
    3 0

```

```

substract of a & b matrix
   -3 -4
   -3  6

```

```

Process returned 0 (0x0)   execution time : 16.140 s
Press any key to continue.
|

```

```

Start here X 1.c X 2.c X 3.c X 4.c X 5.c X 6.c X *7.c X *8.c X 9.c X
1  | #include<stdio.h>
2  | int main()
3  | {
4  |     int m1,n1,m2,n2,i,j,sum=0;
5  |     printf("Enter row & column for a matrix = ");
6  |     scanf("%d %d",&m1,&n1);
7  |     printf("Enter row & column for b matrix = ");
8  |     scanf("%d %d",&m2,&n2);
9  |     int a[100][100],b[100][100],c[100][100];
10 |     while(m2!=n1)
11 |     {
12 |         printf(" error (m2!=n!)\n");
13 |         printf("Enter row & column for a matrix = ");
14 |         scanf("%d %d",&m1,&n1);
15 |         printf("Enter row & column for b matrix = ");
16 |         scanf("%d %d",&m2,&n2);
17 |     }
18 |     // input 1st matrix
19 |     printf("Enter 1st matrix :\n");
20 |     for(i=0;i<m1;i++)
21 |     {
22 |         for(j=0;j<n1;j++)
23 |         {
24 |             scanf("%d",&a[i][j]);
25 |         }
26 |     }
27 |     //input 2nd matrix
28 |     printf("Enter 2nd matrix :\n");
29 |     for(i=0;i<m2;i++)
30 |     {
31 |         for(j=0;j<n2;j++)
32 |         {
33 |             scanf("%d",&b[i][j]);
34 |         }
35 |     }
36 |     //print 1st matrix
37 |     printf("\n\n1st matrix \n ");
38 |     for(i=0;i<m1;i++)
39 |     {
40 |         printf("\t");
41 |         for(j=0;j<n1;j++)
42 |         {

```

```

Start here X 1.c X 2.c X *3.c X 4.c X 5.c X 6.c X *7.c X *8.c X
35 }
36 //print 1st matrix
37 printf("\n\n1st matrix \n ");
38 for(i=0;i<m1;i++)
39 {
40     printf("\t");
41     for(j=0;j<n1;j++)
42     {
43         printf("%d ",a[i][j]);
44     }
45     printf("\n");
46 }
47 //printf 2nd matrix
48 printf("\n\n2nd matrix \n ");
49 for(i=0;i<m2;i++)
50 {
51     printf("\t");
52     for(j=0;j<n2;j++)
53     {printf("%d ",b[i][j]);
54     }printf("\n");
55 }
56 //multiplying
57 for(i=0;i<m1;i++)
58 {
59     printf("\t");
60     for(j=0;j<n2;j++)
61     {
62         for(int k=0;k<n1;k++)
63             {sum=sum+a[i][k]*b[k][j];} c[i][j]=sum;
64         sum=0;
65     } printf("\n");
66 //resultant matrix
67 printf(" Result matrix : \n");
68 for(i=0;i<m1;i++){
69     printf("\t");
70     for(j=0;j<n2;j++)
71     {
72         printf("%d ",c[i][j]);
73     }
74     printf("\n"); }return 0;
75 }
76

```

"C:\Users\ASUS\OneDrive\De X + v

Enter row & column for b matrix = 3 2

Enter 1st matrix :

```

1 2 3
4 5 6

```

Enter 2nd matrix :

```

1 2
1 2
4 5

```

1st matrix

```

1 2 3
4 5 6

```

2nd matrix

```

1 2
1 2
4 5

```

Result matrix :

```

15 21
33 48

```

Process returned 0 (0x0) execution time : 19.386 s
Press any key to continue.


```
Start here X 1.c X 2.c X *3.c X 4.c X 5.c X 6.c X *7.c X *8.c X 9
1 #include<stdio.h>
2 int main()
3 {
4     int m,i,j,s=0;
5     scanf("%d",&m);
6     int a[100][100];
7     for(i=0;i<m;i++)
8     {
9         for(j=0;j<m;j++){
10             scanf("%d",&a[i][j]);
11         }
12     }
13     for(i=0;i<m;i++)
14     {
15         for(j=0;j<m;j++)
16         {
17             if(i==j)
18             {
19                 s=s+a[i][j];
20             }
21         }
22     }
23     printf("%d",s);
24     return 0;
25 }
26
```

```
3
1 2 3
4 5 6
8 9 0
6
Process returned 0 (0x0)   execution time : 7.198 s
Press any key to continue.
```

```
Start here X 1.c X 2.c X *3.c X 4.c X 5.c X 6.c X *7.c X *8.c X 9.c X *15.c X *11.c X
```

```
1  #include<stdio.h>
2  int main()
3  {
4      int m,n,i,j;
5      scanf("%d %d",&m,&n);
6      int a[100][100],b[100][100];
7      for(i=0;i<m;i++)
8      {
9          for(j=0;j<n;j++){
10             scanf("%d",&a[i][j]);
11         }
12     }
13     for(i=0;i<m;i++)
14     {
15         for(j=0;j<n;j++){
16             b[i][j]=a[j][i];
17         }
18     }
19     printf("%d ",b[i][j]);
20     }
21     printf("\n");
22 }
23
24
25
26
```

```
"C:\Users\ASUS\OneDrive\De X + v
```

```
2 2
3 4
8 9
3 8
4 9

Process returned 0 (0x0)  execution time : 7.229 s
Press any key to continue.
```

```
Start here X 1.c X 2.c X *3.c X 4.c X 5.c X 6.c X *7.c X *8.c X 9.c X
1  #include<stdio.h>
2  int main()
3  {
4      int m,n,i,j;
5      scanf("%d %d",&m,&n);
6      int a[100][100];
7      for(i=0;i<m;i++)
8      {
9          for(j=0;j<n;j++){
10             scanf("%d",&a[i][j]);
11         }
12     }
13     for(i=0;i<m;i++)
14     {
15         for(j=0;j<n;j++){
16             if(j<=i){
17                 printf("%d ",a[i][j]);
18             }
19             else
20             {
21                 printf("0 ");
22             }
23         }
24         //printf("%d ",a[i][j]);
25     }
26     printf("\n");
27 }
28 }
29 }
30 }
31 }
```

```
"C:\Users\ASUS\OneDrive\De X + v - □
3 3
4 5 6
7 8 9
1 2 3
4 0 0
7 8 0
1 2 3

Process returned 0 (0x0)   execution time : 19.964 s
Press any key to continue.
```



```
Start here X 1.c X 2.c X *3.c X 4.c X 5.c X 6.c X 7.c X *8.c X 9.c X *15.c X *11.c X
1  #include<stdio.h>
2  int main()
3  {
4      int m,n,i,j;
5      scanf("%d %d",&m,&n);
6      int a[100][100];
7      for(i=0; i<m; i++)
8      {
9          for(j=0; j<n; j++)
10         {
11             scanf("%d",&a[i][j]);
12         }
13     }
14     for(i=0; i<m; i++)
15     {
16         for(j=0; j<n; j++)
17         {
18             if(j>=i)
19             {
20                 printf("%d\t",a[i][j]);
21             }
22             else
23             {
24                 printf("0\t");
25             }
26         }
27         printf("\n");
28     }
29     printf("\n");
30 }
31
32
33
34
```

```
"C:\Users\ASUS\OneDrive\De X + v
3 3
1 2 3
7 8 9
44 55 66
1      2      3
0      8      9
0      0      66

Process returned 0 (0x0)   execution time : 13.314 s
Press any key to continue.
|
```

```

1  #include<stdio.h>
2  int main()
3  {
4      int r,c;
5      printf("Enter the number of row and col = ");
6      scanf("%d%d",&r,&c);
7      int mat1[r][c];
8      printf("Enter matrices = \n");
9      if(r==2&&c==2){
10         for(int i=0; i<r; i++)
11         {
12             for(int j=0; j<c; j++)
13             {
14                 scanf("%d",&mat1[i][j]);
15             }
16         }
17         int det;
18         det=(mat1[0][0]*mat1[1][1])-(mat1[0][1]*mat1[1][0]);
19         printf("%d",det);
20     }
21     else if(r==3&&c==3)
22     {
23         for(int i=0; i<r; i++)
24         {
25             for(int j=0; j<c; j++)
26             {
27                 scanf("%d",&mat1[i][j]);
28             }
29         }
30         int det;
31         det=((mat1[0][0]*(mat1[1][1]*mat1[2][2]-mat1[2][1]*mat1[1][2]))+(mat1[0][1]*(mat1[1][0]*mat1[2][2]-mat1[2][0]*mat1[1][2]))+mat1[0][2]*(mat1[1][0]*mat1[2][1]-mat1[2][0]*mat1[1][2]));
32         printf("Determinant of 3*3 matrix = %d",det);
33     }
34 }

```

Enter the number of row and col = 3 3

Enter matrices =

1 2 3

6 7 8

9 8 7

Determinant of 3*3 matrix = -147

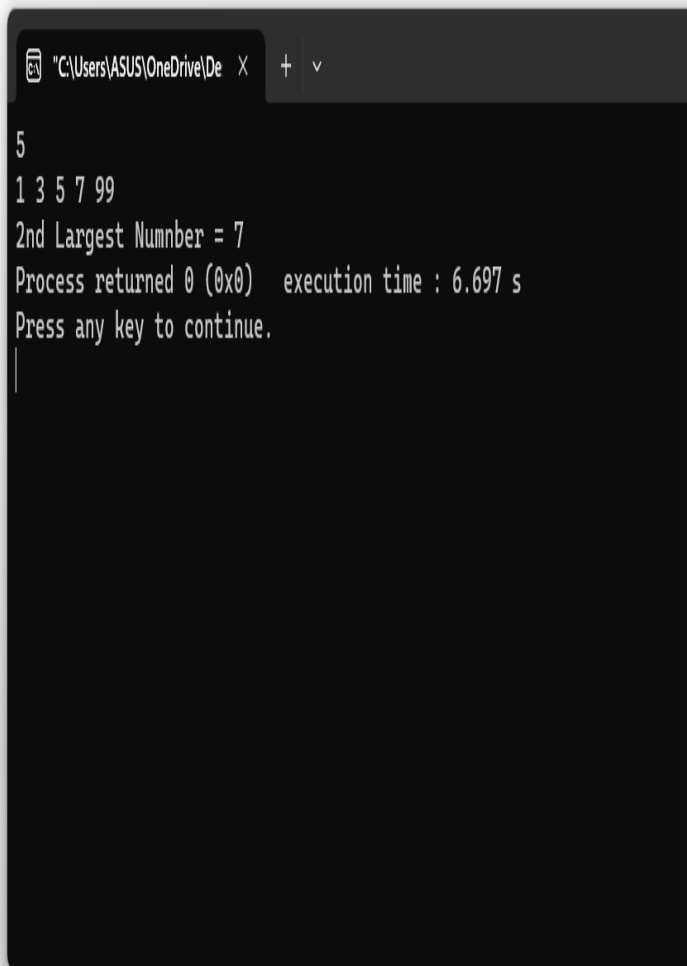
Process returned 0 (0x0) execution time : 21.944 s

Press any key to continue.

```
1  #include<stdio.h>
2  int main()
3  {
4      int n,b;
5      scanf("%d",&n);
6      int arr[n];
7      for(int i=0;i<n;i++)
8      {
9          scanf("%d",&arr[i]);
10     }
11     for(int i=0;i<n;i++)
12     {
13         for(int j=0;j<n;j++)
14         {
15             if(arr[i]<arr[j]){
16                 b=arr[i];
17                 arr[i]=arr[j];
18                 arr[j]=b;
19             }
20         }
21     }
22     printf("Largest Numnber = %d",arr[n-1]);
23 }
24
```

```
"C:\Users\ASUS\OneDrive\De  X  +  v
6
5 6 8 9 2 0
Largest Numnber = 9
Process returned 0 (0x0)   execution time : 18.650 s
Press any key to continue.
```

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,c;
5     scanf("%d",&n);
6     int arr[n];
7     for(int i=0;i<n;i++)
8     {
9         scanf("%d",&arr[i]);
10    }
11    for(int i=0;i<n;i++)
12    {
13        for(int j=0;j<n;j++)
14        {
15            if(arr[i]<arr[j]){
16                c=arr[i];
17                arr[i]=arr[j];
18                arr[j]=c;
19            }
20        }
21    }
22    printf("2nd Largest Numnber = %d",arr[n-2]);
23 }
24
```



```
"C:\Users\ASUS\OneDrive\De" X + v
5
1 3 5 7 99
2nd Largest Numnber = 7
Process returned 0 (0x0) execution time : 6.697 s
Press any key to continue.
```

Start here X 1.c X 2.c X *3.c X 4.c X 5.c X 6.c X 7.c X 8.c X 9.c X *15.c X 11.c X 10.c X

```
1  #include<stdio.h>
2  int main()
3  {
4      int n,c;
5      scanf("%d",&n);
6      int arr[n];
7      for(int i=0;i<n;i++)
8      {
9          scanf("%d",&arr[i]);
10     }
11     for(int i=0;i<n;i++)
12     {
13         for(int j=0;j<n;j++)
14         {
15             if(arr[i]<arr[j]){
16                 c=arr[i];
17                 arr[i]=arr[j];
18                 arr[j]=c;
19             }
20         }
21     }
22     printf("2nd smallest Numnber = %d",arr[1]);
23 }
24
```

"C:\Users\ASUS\OneDrive\De X + v

```
6
4 3 2 7 9 0
2nd smallest Numnber = 2
Process returned 0 (0x0)   execution time : 10.527 s
Press any key to continue.
|
```

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,c;
5     scanf("%d",&n);
6     int arr[n];
7     for(int i=0;i<n;i++)
8     {
9         scanf("%d",&arr[i]);
10    }
11    for(int i=0;i<n;i++)
12    {
13        for(int j=i+1;j<n;)
14        {
15            if(arr[i]==arr[j]){
16                for(int k=j;k<n-i;k++){
17                    arr[k]=arr[k+1];
18                }
19                n--;
20            }
21            else j++;
22        }
23    }
24    for(int i=0;i<n;i++)
25    {
26        printf("%d ",arr[i]);
27    }
28 }
29
```

6
66 66 7 8 9 8
66 7 8 9
Process returned 0 (0x0) execution time : 12.946 s
Press any key to continue.


```

3  {
4      int size, position;
5      printf("Enter the size of the array: ");
6      scanf("%d", &size);
7      int array[size];
8      printf("Enter the elements of the array:\n");
9      for (int i = 0; i < size; i++)
10     {
11         scanf("%d", &array[i]);
12     }
13     printf("Enter the position of the element to be deleted (0 to %d): ", size - 1);
14     scanf("%d", &position);
15     if (position < 0 || position >= size)
16     {
17         printf("Invalid position!\n");
18         return 1;
19     }
20     for (int i = position; i < size - 1; i++)
21     {
22         array[i] = array[i + 1];
23     }
24     size--;
25     printf("Array after deleting element at position %d:\n", position);
26     for (int i = 0; i < size; i++)
27     {
28         printf("%d ", array[i]);
29     }
30     printf("\n");
31     return 0;
32 }
33

```

Enter the size of the array: 3

Enter the elements of the array:

3

5

6

Enter the position of the element to be deleted (0 to 2): 2

Array after deleting element at position 2:

3 5

Process returned 0 (0x0) execution time : 17.116 s

Press any key to continue.

Start here X 1.c X 2.c X 3.c X 4.c X 5.c X 6.c X 7.c X 8.c X 9.c X 15.c X 11.c X 10.c X 12.c X 13.c X 14.c X

```

1  #include <stdio.h>
2  int main()
3  {
4      int size, position, newValue;
5      printf("Enter the size of the array: ");
6      scanf("%d", &size);
7      int array[size + 1];
8      printf("Enter the elements of the array:\n");
9      for (int i = 0; i < size; i++)
10     {
11         scanf("%d", &array[i]);
12     }
13     printf("Enter the position to insert (0 to %d): ", size);
14     scanf("%d", &position);
15     printf("Enter the new value to insert: ");
16     scanf("%d", &newValue);
17     if (position < 0 || position > size)
18     {
19         printf("Invalid position!\n");
20         return 1;
21     }
22     for (int i = size; i > position; i--)
23     {
24         array[i] = array[i - 1];
25     }
26     array[position] = newValue;
27     size++;
28     printf("Array after inserting %d at position %d:\n", newValue,
29           position);
30     for (int i = 0; i < size; i++)
31     {
32         printf("%d ", array[i]);
33     }
34     printf("\n");
35     return 0;
36 }

```

"C:\Users\ASUS\OneDrive\De X + v

```

Enter the size of the array: 5
Enter the elements of the array:
3 5 6 7 8
Enter the position to insert (0 to 5): 2
Enter the new value to insert: 1
Array after inserting 1 at position 2:
3 5 1 6 7 8

Process returned 0 (0x0)   execution time : 27.069 s
Press any key to continue.
|

```

```
Start here X 1.c X 2.c X *3.c X 4.c X 5.c X 6.c X 7.c X 8.c X 9.c X 15.c X 11.c X 10.c X 12.c X 13.c X 14.c X
```

```
1  #include<stdio.h>
2  int main()
3  {
4      int n,c;
5      scanf("%d",&n);
6      int arr[n];
7      for(int i=0;i<n;i++)
8      {
9          scanf("%d",&arr[i]);
10     }
11     for(int i=0;i<n;i++)
12     {
13         for(int j=0;j<n;j++)
14         {
15             if(arr[i]<arr[j]){
16                 c=arr[i];
17                 arr[i]=arr[j];
18                 arr[j]=c;
19             }
20         }
21     }
22     printf("Smallest Numnber = %d\nLargest Number = %d",arr[0],arr[n-1]);
23 }
24
25
```

```
"C:\Users\ASUS\OneDrive\De X + v
```

```
5
66 88 00 33 22 55
Smallest Numnber = 0
Largest Number = 88
Process returned 0 (0x0)   execution time : 13.300 s
Press any key to continue.
|
```

