Q.1 Write a Program to find all the negative elements from a given 1D array.
For example,
Input:
Enter the array's size: 5

Enter array's elements:
a[0] = 2
a[1] = -4
a[2] = 1
a[3] = -3
a[4] = -5

Output:
Negative elements from an Array: -4, -3, -5

Ans:

```
// Online C compiler to run C program online
#include <stdio.h>

int main() {
   int size, i;

   printf("Enter the array's size: ");
   scanf("%d", &size);

   int arr[size];

    printf("Enter array's elements:\n");
   for (i = 0; i < size; i++) {
      printf("a[%d] = ", i);
      scanf("%d", &arr[i]);
   }

   printf("Negative elements from an Array: ");
   for (i = 0; i < size; i++) {
      if (arr[i] < 0) {
         printf("%d", arr[i]);
         if (i < size - 1) {
            printf(", ");
         }
      }
   }
   printf("\n");
```

```
    return 0;
}
```

o/p:

```
Enter the array's size: 5
Enter array's elements:
a[0] = 2
a[1] = -4
a[2] = 1
a[3] = -3
a[4] = -5
Negative elements from an Array: -4, -3, -5


=== Code Execution Successful ===
```

Q.2 Write a Program to find the largest element from a given 2D array.

For example,

Input:

```
Enter the array's row size: 3
Enter the array's column size: 3

Enter array's elements:
a[0][0] = 2
a[0][1] = 7
a[0][2] = 1
a[1][0] = 3
a[1][1] = 5
a[1][2] = 4
a[2][0] = 8
a[2][1] = 9
a[2][2] = 6
```

Output:

```
The largest element is: 9
```

Ans:

```
// Online C compiler to run C program online
#include <stdio.h>

int main() {
```

```
    int n, f, i, j, larg;
    printf("Enter the array's row size: ");
    scanf("%d", &n);
    printf("Enter the array's column size: ");
    scanf("%d", &f);
    int a[n][f];
    printf("Enter array's elements:\n");
    for(i = 0; i < n; i++) {
        for(j = 0; j < f; j++) {
            printf("a[%d][%d]=",i,j);
            scanf("%d", &a[i][j]);
        }
    }
    larg = a[0][0];
    for(i = 0; i < n; i++) {
        for(j = 0; j < f; j++) {
            if(a[i][j] > larg) {
                larg = a[i][j];
            }
        }
    }
    printf("The largest element is: %d\n", larg);


    return 0;
}
```

o/p:

```
Enter the array's row size: 3
Enter the array's column size: 3
Enter array's elements:
a[0][0]=2
a[0][1]=7
a[0][2]=1
a[1][0]=3
a[1][1]=5
a[1][2]=4
a[2][0]=8
a[2][1]=9
a[2][2]=6
The largest element is: 9
```

=== Code Execution Successful ===

Q.3 Write a Program to find the transpose matrix of a given 2D array.
For example,
Input:
Enter the array's row & column size: 3

Enter array's elements:
a[0][0] = 2
a[0][1] = 4
a[0][2] = 1
a[1][0] = 3
a[1][1] = 5
a[1][2] = 4
a[2][0] = 8
a[2][1] = 2
a[2][2] = 6

Output:
The transpose matrix of an array:
2 3 8
4 5 2
1 4 6

Ans:

```
// Online C compiler to run C program online
#include <stdio.h>
int main() {
   int n, f;
   printf("Enter the array's row & column size: ");
   scanf("%d", &n);

   int a[n][n];
   printf("Enter array's elements:\n");
   for (int i = 0; i <n; i++) {
      for (int j = 0; j < n; j++) {
         printf("a[%d][%d] = ", i, j);
         scanf("%d", &a[i][j]);
      }
   }
   printf("The transpose matrix of an array:\n");
   for (int i = 0; i < n; i++) {
```

```
        for (int j = 0; j < n; j++) {
            printf("%d ", a[j][i]);
        }
        printf("\n");
    }

 return 0;
}
```

o/p:

```
Enter the array's row & column size: 3
Enter array's elements:
a[0][0] = 2
a[0][1] = 4
a[0][2] = 1
a[1][0] = 3
a[1][1] = 5
a[1][2] = 4
a[2][0] = 8
a[2][1] = 2
a[2][2] = 6
The transpose matrix of an array:
2 3 8
4 5 2
1 4 6


=== Code Execution Successful ===
```

Q.4 Write a Program to print and find the sum of all elements of a given row & column from a 2D array.

For example,

Input:

```
Enter the array's row size: 3
Enter the array's column size: 3

Enter array's elements:
a[0][0] = 2
a[0][1] = 7
a[0][2] = 1
a[1][0] = 3
a[1][1] = 5
```

a[1][2] = 4
a[2][0] = 8
a[2][1] = 9
a[2][2] = 6

Output:
Enter row number: 0
Elements of row 0: 2, 7, 1
The sum of a row 0: 10

Enter column number: 2
Elements of column 2: 1, 4, 6
The sum of column 2: 11

Ans:

```
// Online C compiler to run C program online
#include <stdio.h>
int main() {
   int n,f;
   printf("Enter the array's row size: ");
   scanf("%d", &n);
   printf("Enter the array's column size: ");
   scanf("%d", &f);

int a[n][f];

printf("Enter array's elements:\n");
   for (int i = 0; i <n; i++) {
      for (int j = 0; j < f; j++) {
         printf("a[%d][%d] = ", i, j);
         scanf("%d", &a[i][j]);
      }
   }
   int Num1, Num2;
    int Sumrow = 0, Sumcol = 0;
   printf("Enter row number: ");
   scanf("%d", &Num1);
     printf("Elements of row %d: ", Num1);
   for (int j = 0; j < f; j++) {
      printf("%d, ", a[Num1][j]);
      Sumrow =Sumrow + a[Num1][j];
   }
   printf("\nThe sum of a row %d: %d\n", Num1, Sumrow);
```

```
    printf("Enter column number: ");
    scanf("%d", &Num2);
    printf("Elements of column %d: ", Num2);
    for (int i = 0; i < n; i++) {
        printf("%d, ", a[i][Num2]);
        Sumcol =Sumcol +a[i][Num2];
    }
    printf("\nThe sum of column %d: %d\n", Num1, Sumcol);
 return 0;
}
```

o/p:

```
Enter the array's row size: 3
Enter the array's column size: 3
Enter array's elements:
a[0][0] = 2
a[0][1] = 7
a[0][2] = 1
a[1][0] = 3
a[1][1] = 5
a[1][2] = 4
a[2][0] = 8
a[2][1] = 9
a[2][2] = 6
Enter row number: 0
Elements of row 0: 2, 7, 1,
The sum of a row 0: 10
Enter column number: 2
Elements of column 2: 1, 4, 6,
The sum of column 0: 11


=== Code Execution Successful ===
```