
1- Write a program to count the number of negative numbers in an array.

أكتب برنامج لحساب عدد الأعداد السالبة في array

Output

```
Number of negative numbers in the array: 4
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int numbers[] = {5, -2, 8, -1, -7, 3, -4};
    int count = 0;

    for (int i = 0; i < sizeof(numbers) / sizeof(numbers[0]); i++) {
        if (numbers[i] < 0) {
            count++;
        }
    }

    printf("Number of negative numbers in the array: %d\n", count);
    return 0;
}
```

2- Write a program to take user-defined numbers and count the negative ones.

اكتب برنامجًا لأخذ الأرقام التي يحددها المستخدم وحساب الأرقام السالبة.

Input

```
Enter the number of elements: 4
Enter the elements:
-2 -3 -6 1
```

Output

```
Number of negative numbers entered: 3
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int n, count = 0;

    printf("Enter the number of elements: ");
    scanf("%d", &n);

    int numbers[n];

    printf("Enter the elements:\n");
    for (int i = 0; i < n; i++) {
        scanf("%d", &numbers[i]);
        if (numbers[i] < 0) {
            count++;
        }
    }

    printf("Number of negative numbers entered: %d\n", count);
    return 0;
}
```

3- Write a program to count the number of negative numbers in a user-defined range.

اكتب برنامجًا لحساب عدد الأرقام السالبة في نطاق محدد من قبل المستخدم.

Input

```
Enter the start and end of the range (space-separate
d): -2 3
```

Output

```
Number of negative numbers in the range: 2
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int start, end, count = 0;

    printf("Enter the start and end of the range (space-separated): ");
    scanf("%d %d", &start, &end);

    for (int i = start; i <= end; i++) {
        if (i < 0) {
            count++;
        }
    }

    printf("Number of negative numbers in the range: %d\n", count);
    return 0;
}
```

4- Write a program to count the number of negative numbers in an array using a function.

اكتب برنامجًا لحساب عدد الأعداد السالبة في مصفوفة باستخدام function.

Output

```
Number of negative numbers in the array: 4
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int countNegatives(int arr[], int size) {
    int count = 0;
    for (int i = 0; i < size; i++) {
        if (arr[i] < 0) {
            count++;
        }
    }
    return count;
}

int main() {
    int numbers[] = {5, -2, 8, -1, -7, 3, -4};
    int size = sizeof(numbers) / sizeof(numbers[0]);

    int negCount = countNegatives(numbers, size);

    printf("Number of negative numbers in the array: %d\n", negCount);
    return 0;
}
```

5- Write a program to count the number of negative numbers and calculate their sum in an array.

اكتب برنامجًا لحساب عدد الأعداد السالبة و حساب مجموعها في array.

Output

```
Number of negative numbers: 4
Sum of negative numbers: -14
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int numbers[] = {5, -2, 8, -1, -7, 3, -4};
    int count = 0, sum = 0;

    for (int i = 0; i < sizeof(numbers) / sizeof(numbers[0]); i++) {
        if (numbers[i] < 0) {
            count++;
            sum += numbers[i];
        }
    }

    printf("Number of negative numbers: %d\n", count);
    printf("Sum of negative numbers: %d\n", sum);
    return 0;
}
```

6- Write a program to count the number of negative numbers in an array using a while loop.

اكتب برنامجًا لحساب عدد الأعداد السالبة في مصفوفة باستخدام حلقة while.

Output

```
Number of negative numbers in the array: 4
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int numbers[] = {5, -2, 8, -1, -7, 3, -4};
    int count = 0, i = 0;

    while (i < sizeof(numbers) / sizeof(numbers[0])) {
        if (numbers[i] < 0) {
            count++;
        }
        i++;
    }

    printf("Number of negative numbers in the array: %d\n", count);
    return 0;
}
```

7- Write a program to count the number of negative numbers in an array using a do-while loop.

اكتب برنامجًا لحساب عدد الأعداد السالبة في array باستخدام حلقة do-while.

Output

```
Number of negative numbers in the array: 4
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int numbers[] = {5, -2, 8, -1, -7, 3, -4};
    int count = 0, i = 0;

    do {
        if (numbers[i] < 0) {
            count++;
        }
        i++;
    } while (i < sizeof(numbers) / sizeof(numbers[0]));

    printf("Number of negative numbers in the array: %d\n", count);
    return 0;
}
```

8- Write a program to count the number of negative numbers in a 2D matrix.

اكتب برنامجًا لحساب عدد الأعداد السالبة في 2D matrix.

Output

```
Number of negative numbers in the matrix: 4
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int matrix[3][3] = {{1, -2, 3},
                        {-4, 5, -6},
                        {7, 8, -9}};
    int count = 0;

    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 3; j++) {
            if (matrix[i][j] < 0) {
                count++;
            }
        }
    }

    printf("Number of negative numbers in the matrix: %d\n", count);
    return 0;
}
```

9- Write a program to count the number of negative numbers in an array using pointers.

اكتب برنامجًا لحساب عدد الأعداد السالبة في array باستخدام pointers.

Output

```
Number of negative numbers in the array: 4
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int numbers[] = {5, -2, 8, -1, -7, 3, -4};
    int count = 0;
    int *ptr = numbers;

    for (int i = 0; i < sizeof(numbers) / sizeof(numbers[0]); i++) {
        if (*ptr < 0) {
            count++;
        }
        ptr++;
    }

    printf("Number of negative numbers in the array: %d\n", count);
    return 0;
}
```

10- Write a program to count the number of negative numbers in an array and print their positions.

اكتب برنامجًا لحساب عدد الأرقام السالبة في array وطباعة مواقعها.

Output

```
Negative numbers and their positions:
Number: -2, Position: 2
Number: -1, Position: 4
Number: -7, Position: 5
Number: -4, Position: 7
Total negative numbers: 4
```

Solution

```c
// www.gammal.tech

#include <stdio.h>

int main() {
    int numbers[] = {5, -2, 8, -1, -7, 3, -4};
    int count = 0;

    printf("Negative numbers and their positions:\n");

    for (int i = 0; i < sizeof(numbers) / sizeof(numbers[0]); i++) {
        if (numbers[i] < 0) {
            printf("Number: %d, Position: %d\n", numbers[i], i + 1);
            count++;
        }
    }

    printf("Total negative numbers: %d\n", count);
    return 0;
}
```