

TASK7

5.

```
1 #include <stdio.h>
2
3 int
4 main ()
5 {
6     int n, i, max1, max2;
7     printf ("Enter the number of the elements.\n");
8     scanf ("%d", &n);
9     int arr[n];
10    printf ("Enter the the elements.\n");
11    for (i = 0; i < n; i++)
12    {
13        scanf ("%d", &arr[i]);
14    }
15
16
17    max1 = arr[0];
18    max2 = arr[1];
19    if (max1 < max2)
20    {
21        max1 = arr[1];
22        max2 = arr[0];
23    }
24
25    for (i = 2; i < n; i++)
26    {
27        if (max1 < arr[i])
28        {
29            max2 = max1;
30            max1 = arr[i];
31        }
32    }
33    printf ("the second greater number is: %d", max2);
34
35    return 0;
36 }
```

Output

```
Enter the number of the elements.
4
Enter the the elements.
23 33 6 7
the second greater number is: 23

...Program finished with exit code 0
Press ENTER to exit console. □
```

8.

```
1  #include <stdio.h>
2
3  int main() {
4
5  {
6      int n, i;
7      printf ("Enter the number of the elements.\n");
8      scanf ("%d", &n);
9      int arr1[n];
10     int arr2[n];
11     printf ("Enter the the elements.\n");
12     for (i = 0; i < n; i++)
13     {
14         scanf ("%d", &arr1[i]);
15
16     }
17     for (i = 0; i < n; i++)
18     {
19         arr2[i]=arr1[i];
20
21     }
22     printf("the second array is: ");
23
24     for (i = 0; i < n; i++)
25     {
26         printf("%d ",arr2[i]);
27     }
28     return 0;
29 }
```

Output

```
Enter the number of the elements.
3
Enter the the elements.
1 2 3
the second array is: 1 2 3

...Program finished with exit code 0
Press ENTER to exit console. 
```

9.

```
1  #include <stdio.h>
2
3  int main ()
4  {
5      int n, i, new, value;
6      printf ("Enter the number of the elements.\n");
7      scanf ("%d", &n);
8      int arr[n];
9      printf ("Enter the the elements.\n");
10     for (i = 0; i < n; i++)
11     {
12         scanf ("%d", &arr[i]);
13     }
14     printf
15     ("Enter the location u want to add the element as u know the
16     location of first element is 0: ");
17     scanf ("%d", &new);
18     printf ("Enter the new element : ");
19     scanf ("%d", &value);
20     arr[new] = value;
21     printf ("The new array is: ");
22     for (i = 0; i < n; i++)
23     {
24         printf ("%d ", arr[i]);
25     }
26
27
28
29     return 0;
30 }
```

Output

```
Enter the number of the elements.
5
Enter the the elements.
4 5 6 7 8
Enter the location u want to add the element as u know the location of first element is 0: 4
Enter the new element : 99
The new array is: 4 5 6 7 99
```

13.

```
1  #include <stdio.h>
2  int main ()
3  {
4
5
6      int n, sum = 0, i, j;
7      printf ("Input the number of elements : ");
8      scanf ("%d", &n);
9      int arr[n];
10     printf ("Input %d elements in the array : ", n);
11     for (i = 0; i < n; i++)
12     {
13         scanf ("%d", &arr[i]);
14     }
15     for (i = 0; i < n; i++)
16     {
17
18         for (j = i + 1; j < n; j++)
19         {
20             if (arr[i] == arr[j])
21             {
22                 sum++;
23                 break;
24             }
25
26         }
27
28     }
29     printf ("Total number of duplicate elements is: %d\n", sum);
30
31     return 0;
32
33 }
```

Output

```
Input the number of elements : 5
Input 5 elements in the array : 1 2 3 1 2
Total number of duplicate elements found in the array: 2

...Program finished with exit code 0
Press ENTER to exit console.□
```

15.

```
1  #include <stdio.h>
2  #define n 100
3  int main()
4  {
5      int n1,n2,n3;
6      int a[n], b[n], c[n];
7      printf("Enter the size of first array: ");
8      scanf("%d",&n1);
9      printf("Enter the first array elements: ");
10     for(int i = 0; i < n1; i++)
11     {
12         scanf("%d", &a[i]);
13     }
14     printf("Enter the size of second array: ");
15     scanf("%d",&n2);
16     printf("Enter the array elements: ");
17     for(int i = 0; i < n2; i++)
18     {
19         scanf("%d", &b[i]);
20     }
21     n3 = n1 + n2;
22     for(int i = 0; i < n1; i++)
23     {
24         c[i] = a[i];
25     }
26     for(int i = 0; i < n2; i++)
27     {
28         c[i + n1] = b[i];
29     }
30     printf("The merged array: ");
31     for(int i = 0; i < n3; i++)
32     {
33         printf("%d ", c[i]);
34     }
35     return 0;
36
37 }
```

Output

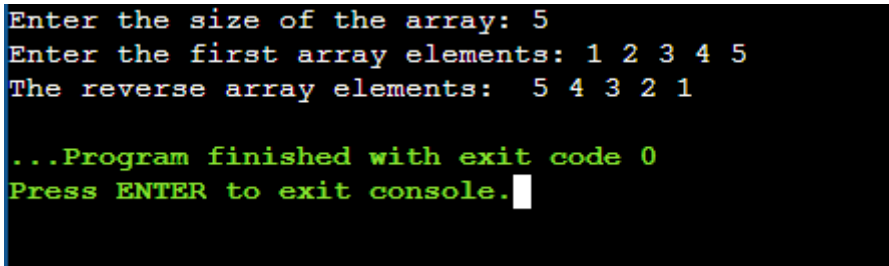
```
Enter the size of first array: 3
Enter the first array elements: 1 2 3
Enter the size of second array: 3
Enter the array elements: 4 5 6
The merged array: 1 2 3 4 5 6

...Program finished with exit code 0
Press ENTER to exit console. 
```

16.

```
1  #include <stdio.h>
2  #define n 100
3  int main()
4  {
5      int k,i;
6      int arr[n];
7      printf("Enter the size of the array: ");
8      scanf("%d",&k);
9      printf("Enter the first array elements: ");
10     for(i = 0; i < k; i++)
11     {
12         scanf("%d", &arr[i]);
13     }
14
15     printf("The reverse array elements: ");
16     for(i = k-1; i >=0; i--)
17     {
18         printf(" %d",arr[i]);
19     }
20
21     return 0;
22
23 }
```

Output



```
Enter the size of the array: 5
Enter the first array elements: 1 2 3 4 5
The reverse array elements:  5 4 3 2 1

...Program finished with exit code 0
Press ENTER to exit console.
```

19.

```
1 #include <stdio.h>
2 #define n 100
3
4 int main()
5 {
6     int arr[n];
7     int k;
8     int i, j, temp;
9
10    printf("Enter size of array: ");
11    scanf("%d", &k);
12
13    printf("Enter elements in array: ");
14    for(i=0; i<k; i++)
15    {
16        scanf("%d", &arr[i]);
17    }
18
19    for(i=0; i<k; i++)
20    {
21        for(j=i+1; j<k; j++)
22        {
23            if(arr[i] > arr[j])
24            {
25                temp = arr[i];
26                arr[i] = arr[j];
27                arr[j] = temp;
28            }
29        }
30    }
31    printf(" Elements of array in ascending order: ");
32    for(i=0; i<k; i++)
33    {
34        printf("%d ", arr[i]);
35    }
36
37    return 0;
38 }
```

Output

```
Enter size of array: 4
Enter elements in array: 34 44
4 43
Elements of array in ascending order: 4 34 43 44

...Program finished with exit code 0
Press ENTER to exit console.□
```

24.

```
1  #include <stdio.h>
2  #define n 3
3  int main()
4  {
5      int arr1[n][n];
6      int arr2[n][n];
7      int arr3[n][n];
8      int row, col;
9
10     printf("Enter elements in matrix 1 of size 3x3: \n");
11     for(row=0; row<n; row++)
12     {
13         for(col=0; col<n; col++)
14         {
15             scanf("%d", &arr1[row][col]);
16         }
17     }
18     printf("\nEnter elements in matrix 2 of size 3x3: \n");
19     for(row=0; row<n; row++)
20     {
21         for(col=0; col<n; col++)
22         {
23             scanf("%d", &arr2[row][col]);
24         }
25     }
26     for(row=0; row<n; row++)
27     {
28         for(col=0; col<n; col++)
29         {
30             arr3[row][col] = arr1[row][col] -
31 arr2[row][col];
32         }
33     }
34
35     printf(" The subtraction of two matrices = \n");
36     for(row=0; row<n; row++)
37     {
38         for(col=0; col<n; col++)
39         {
40             printf("%d ", arr3[row][col]);
41         }
42         printf("\n");
43     }
44     return 0;
45 }
```

Output

```
Enter elements in matrix 1 of size 3x3:
2 3 4 4 4 3 1 2 3

Enter elements in matrix 2 of size 3x3:
2 3 4 6 7 8 2 3 7

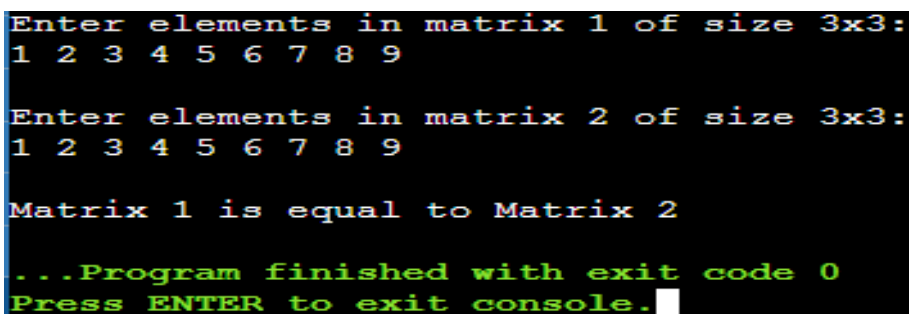
The subtraction of two matrices =
0 0 0
-2 -3 -5
-1 -1 -4

...Program finished with exit code 0
Press ENTER to exit console.[]
```


27.

```
1  #include <stdio.h>
2  #define n 3
3  int main()
4  {
5      int arr1[n][n];
6      int arr2[n][n];
7      int row, col;
8      int k=1;
9
10     printf("Enter elements in matrix 1 of size 3x3: \n");
11     for(row=0; row<n; row++)
12     {
13         for(col=0; col<n; col++)
14         {
15             scanf("%d", &arr1[row][col]);
16         }
17     }
18     printf("\nEnter elements in matrix 2 of size 3x3: \n");
19     for(row=0; row<n; row++)
20     {
21         for(col=0; col<n; col++)
22         {
23             scanf("%d", &arr2[row][col]);
24         }
25     }
26
27     for(row=0; row<n; row++)
28     {
29         for(col=0; col<n; col++)
30         {
31             if(arr1[row][col] != arr2[row][col])
32             {
33                 k = 0;
34                 break;
35             }
36         }
37     }
38     if(k == 1)
39     {
40         printf("\nMatrix 1 is equal to Matrix 2");
41     }
42     else
43     {
44         printf("\nMatrix 1 is not equal to Matrix 2");
45     }
46
47     return 0;
48 }
```

Output



```
Enter elements in matrix 1 of size 3x3:
1 2 3 4 5 6 7 8 9

Enter elements in matrix 2 of size 3x3:
1 2 3 4 5 6 7 8 9

Matrix 1 is equal to Matrix 2

...Program finished with exit code 0
Press ENTER to exit console.
```

30.

```
1  #include <stdio.h>
2  #define n 3
3  int main()
4  {
5      int arr[n][n];
6      int row, col;
7      int sum=0;
8
9      printf("Enter elements in matrix of size 3x3: \n");
10     for(row=0; row<n; row++)
11     {
12         for(col=0; col<n; col++)
13         {
14             scanf("%d", &arr[row][col]);
15         }
16     }
17
18     for (row = 0; row < n; row++)
19     {
20         for (col = 0; col < n; col++)
21         {
22             sum = sum + arr[row][col] ;
23         }
24
25         printf("Sum of the %d row is = %d\n", row, sum);
26         sum = 0;
27     }
28     sum = 0;
29     for (col = 0; col < n; col++)
30     {
31         for (row = 0; row < n; row++)
32         {
33             sum = sum + arr[row][col];
34         }
35
36         printf("Sum of the %d column is = %d\n", col,
37 sum);
38         sum = 0;
39     }
40     return 0;
41 }
```

Output

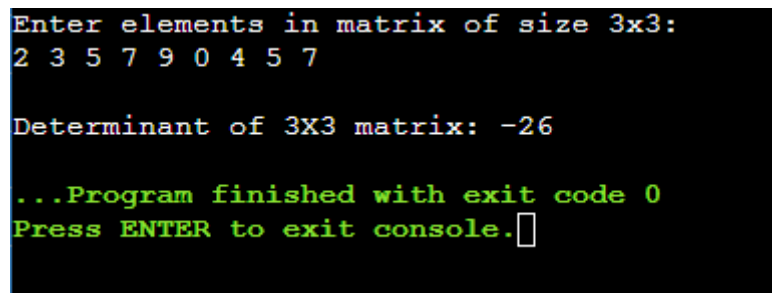
```
Enter elements in matrix of size 3x3:
1 2 3 4 5 6 7 8 9
Sum of the 0 row is = 6
Sum of the 1 row is = 15
Sum of the 2 row is = 24
Sum of the 0 column is = 12
Sum of the 1 column is = 15
Sum of the 2 column is = 18

...Program finished with exit code 0
Press ENTER to exit console. □
```

37.

```
#include <stdio.h>
1 #define n 3
2 int main()
3 {
4     int arr[n][n];
5     int row, col;
6     int determinant=0;
7
8     printf("Enter elements in matrix of size 3x3: \n");
9     for(row=0; row<n; row++)
10    {
11        for(col=0; col<n; col++)
12        {
13            scanf("%d", &arr[row][col]);
14        }
15    }
16
17    determinant = arr[0][0] * ((arr[1][1]*arr[2][2]) -
18 (arr[2][1]*arr[1][2])) -arr[0][1] * (arr[1][0]
19 * arr[2][2] - arr[2][0] * arr[1][2]) + arr[0][2] *
20 (arr[1][0] * arr[2][1] - arr[2][0] * arr[1][1]);
21
22    printf("\nDeterminant of 3X3 matrix: %d", determinant);
23
24    return 0;
25 }
```

Output



```
Enter elements in matrix of size 3x3:
2 3 5 7 9 0 4 5 7

Determinant of 3X3 matrix: -26

...Program finished with exit code 0
Press ENTER to exit console.
```