TASK7

5.

```c
#include <stdio.h>

int
main ()
{
  int n, i, max1, max2;
  printf ("Enter the number of the elements.\n");
  scanf ("%d", &n);
  int arr[n];
  printf ("Enter the the elements.\n");
  for (i = 0; i < n; i++)
    {
      scanf ("%d", &arr[i]);

    }

  max1 = arr[0];
  max2 = arr[1];
  if (max1 < max2)
    {
      max1 = arr[1];
      max2 = arr[0];
    }

  for (i = 2; i < n; i++)
    {
      if (max1 < arr[i])
        {
          max2 = max1;
          max1 = arr[i];
        }
    }
  printf ("the second greater number is: %d", max2);

  return 0;
}
```

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.

```c
#include <stdio.h>

int main() {

{
    int n, i;
  printf ("Enter the number of the elements.\n");
  scanf ("%d", &n);
  int arr1[n];
  int arr2[n];
  printf ("Enter the the elements.\n");
  for (i = 0; i < n; i++)
    {
      scanf ("%d", &arr1[i]);

    }
    for (i = 0; i < n; i++)
    {
     arr2[i]=arr1[i];

    }
          printf("the second arry is: ");

    for (i = 0; i < n; i++)
    {
      printf("%d ",arr2[i]);
    }
     return 0;
}
```

Output

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

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

9.

```c
#include <stdio.h>

int main ()
{

  int n, i, new, value;
  printf ("Enter the number of the elements.\n");
  scanf ("%d", &n);
  int arr[n];
  printf ("Enter the the elements.\n");
  for (i = 0; i < n; i++)
    {
      scanf ("%d", &arr[i]);

    }
  printf
    ("Enter the location u want to add the element as u know the
location of first element is 0: ");
  scanf ("%d", &new);
  printf ("Enter the  new element : ");
  scanf ("%d", &value);
  arr[new] = value;
  printf ("The new array is: ");
  for (i = 0; i < n; i++)
    {
      printf ("%d ", arr[i]);

    }

  return 0;
}
```

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.

```c
#include <stdio.h>
int main ()
{


  int n, sum = 0, i, j;
  printf ("Input the number of elements : ");
  scanf ("%d", &n);
  int arr[n];
  printf ("Input %d elements in the array : ", n);
  for (i = 0; i < n; i++)
    {
      scanf ("%d", &arr[i]);
    }
  for (i = 0; i < n; i++)
    {

      for (j = i + 1; j < n; j++)
            {
         if (arr[i] == arr[j])
              {
            sum++;
                break;
          }

        }

    }
  printf ("Total number of duplicate elements is: %d\n", sum);

return 0;

}
```

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.

```c
#include <stdio.h>
#define n 100
int main()
{
    int n1,n2,n3;
    int a[n], b[n], c[n];
    printf("Enter the size of first array: ");
    scanf("%d",&n1);
    printf("Enter the first array elements: ");
    for(int i = 0; i < n1; i++)
     {
       scanf("%d", &a[i]);
     }
    printf("Enter the size of second array: ");
    scanf("%d",&n2);
    printf("Enter the array elements: ");
    for(int i = 0; i < n2; i++)
    {
       scanf("%d", &b[i]);
    }
    n3 = n1 + n2;
    for(int i = 0; i < n1; i++)
     {
       c[i] = a[i];
     }
    for(int i = 0; i < n2; i++)
     {
        c[i + n1] = b[i];
     }
    printf("The merged array: ");
    for(int i = 0; i < n3; i++)
    {
        printf("%d ", c[i]);
    }
return 0;

}
```

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.

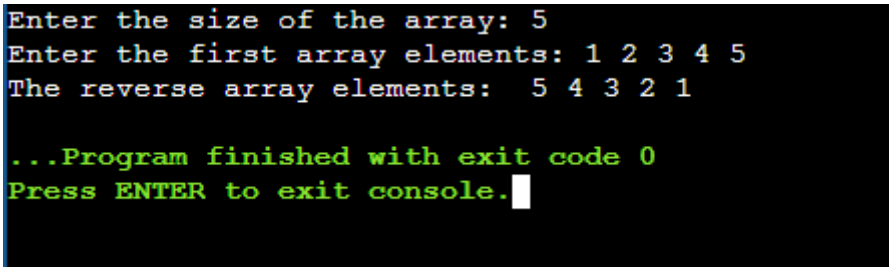
```c
#include <stdio.h>
#define n 100
int main()
{
    int k,i;
    int arr[n];
    printf("Enter the size of the array: ");
    scanf("%d",&k);
    printf("Enter the first array elements: ");
    for(i = 0; i < k; i++)
     {
       scanf("%d", &arr[i]);
     }

    printf("The reverse array elements: ");
    for(i = k-1; i >=0; i--)
    {
       printf(" %d",arr[i]);
    }

return 0;

}
```

Output



19.

```c
#include <stdio.h>
#define n 100

int main()
{
    int arr[n];
    int k;
    int i, j, temp;

    printf("Enter size of array: ");
    scanf("%d", &k);

    printf("Enter elements in array: ");
    for(i=0; i<k; i++)
    {
        scanf("%d", &arr[i]);
    }

    for(i=0; i<k; i++)
    {
        for(j=i+1; j<k; j++)
        {
            if(arr[i] > arr[j])
            {
                temp = arr[i];
                arr[i] = arr[j];
                arr[j] = temp;
            }
        }
    }
    printf(" Elements of array in ascending order: ");
    for(i=0; i<k; i++)
    {
        printf("%d ", arr[i]);
    }

    return 0;
}
```

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.

```c
#include <stdio.h>
#define n 3
int main()
{
    int arr1[n][n];
    int arr2[n][n];
    int arr3[n][n];
    int row, col;

    printf("Enter elements in matrix 1 of size 3x3: \n");
    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            scanf("%d", &arr1[row][col]);
        }
    }
    printf("\nEnter elements in matrix 2 of size 3x3: \n");
    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            scanf("%d", &arr2[row][col]);
        }
    }

    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            arr3[row][col] = arr1[row][col] -
arr2[row][col];
        }
    }

    printf(" The subtraction of two matrices = \n");
    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            printf("%d ", arr3[row][col]);
        }
        printf("\n");
    }
    return 0;
}
```

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.

```c
#include <stdio.h>
#define n 3
int main()
{
    int arr1[n][n];
    int arr2[n][n];
    int row, col;
    int k=1;

    printf("Enter elements in matrix 1 of size 3x3: \n");
    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            scanf("%d", &arr1[row][col]);
        }
    }
    printf("\nEnter elements in matrix 2 of size 3x3: \n");
    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            scanf("%d", &arr2[row][col]);
        }
    }

    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            if(arr1[row][col] != arr2[row][col])
            {
                k = 0;
                break;
            }
        }
    }
    if(k == 1)
    {
        printf("\nMatrix 1 is equal to Matrix 2");
    }
    else
    {
        printf("\nMatrix 1 is not equal to Matrix 2");
    }

    return 0;
}
```

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.

```c
#include <stdio.h>
#define n 3
int main()
{
    int arr[n][n];
    int row, col;
    int sum=0;

    printf("Enter elements in matrix of size 3x3: \n");
    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            scanf("%d", &arr[row][col]);
        }
    }

        for (row = 0; row < n; row++)
        {
            for (col = 0; col < n; col++)
            {
                sum = sum + arr[row][col] ;
            }

            printf("Sum of the %d row is = %d\n", row, sum);
            sum = 0;

        }
        sum = 0;
        for (col = 0; col < n; col++)
        {
            for (row = 0; row < n; row++)
            {
                sum = sum + arr[row][col];
            }

            printf("Sum of the %d column is = %d\n", col,
sum);
            sum = 0;
        }
    return 0;
}
```

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.

```c
#include <stdio.h>
#define n 3
int main()
{
    int arr[n][n];
    int row, col;
    int determinant=0;

    printf("Enter elements in matrix of size 3x3: \n");
    for(row=0; row<n; row++)
    {
        for(col=0; col<n; col++)
        {
            scanf("%d", &arr[row][col]);
        }
    }

        determinant = arr[0][0] * ((arr[1][1]*arr[2][2]) -
(arr[2][1]*arr[1][2])) -arr[0][1] * (arr[1][0]
   * arr[2][2] - arr[2][0] * arr[1][2]) + arr[0][2] *
(arr[1][0] * arr[2][1] - arr[2][0] * arr[1][1]);

  printf("\nDeterminant of 3X3 matrix: %d", determinant);

    return 0;
}
```

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.
```