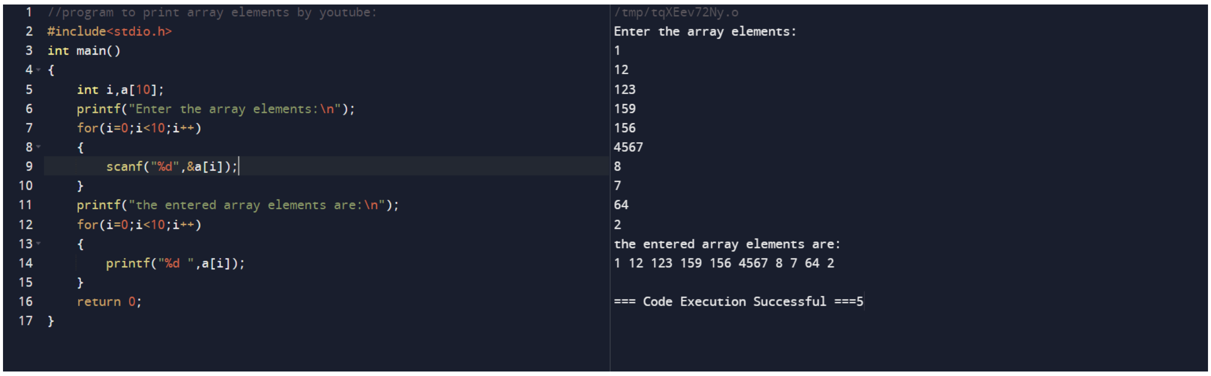
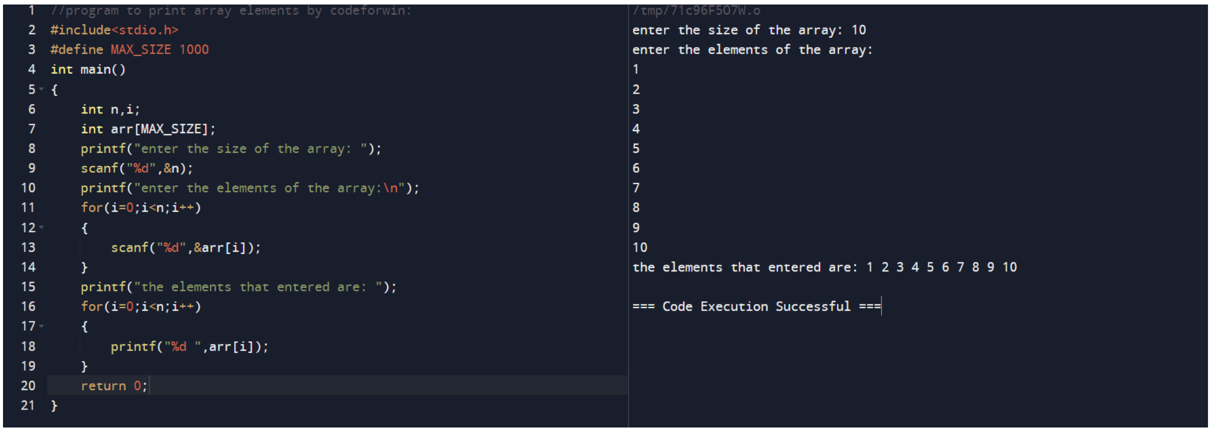
1. Write a C program to declare, initialize, input elements in array and print array.



```c
//program to print array elements by youtube:
#include<stdio.h>
int main()
{
    int i,a[10];
    printf("Enter the array elements:\n");
    for(i=0;i<10;i++)
    {
        scanf("%d",&a[i]);
    }
    printf("the entered array elements are:\n");
    for(i=0;i<10;i++)
    {
        printf("%d ",a[i]);
    }
    return 0;
}
```

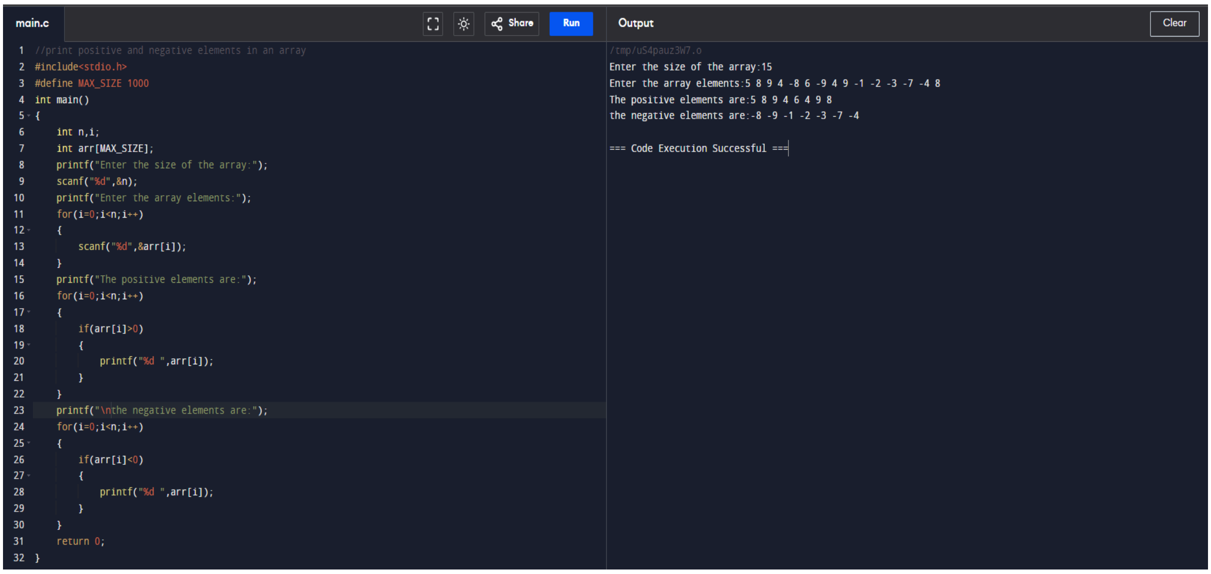
```
/tmp/tqXEev72Ny.o
Enter the array elements:
1
12
123
159
156
4567
8
7
64
2
the entered array elements are:
1 12 123 159 156 4567 8 7 64 2

=== Code Execution Successful ===5
```



```c
//program to print array elements by codeforwin:
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int n,i;
    int arr[MAX_SIZE];
    printf("enter the size of the array: ");
    scanf("%d",&n);
    printf("enter the elements of the array:\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("the elements that entered are: ");
    for(i=0;i<n;i++)
    {
        printf("%d ",arr[i]);
    }
    return 0;
}
```

```
/tmp/71c96F507W.o
enter the size of the array: 10
enter the elements of the array:
1
2
3
4
5
6
7
8
9
10
the elements that entered are: 1 2 3 4 5 6 7 8 9 10

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

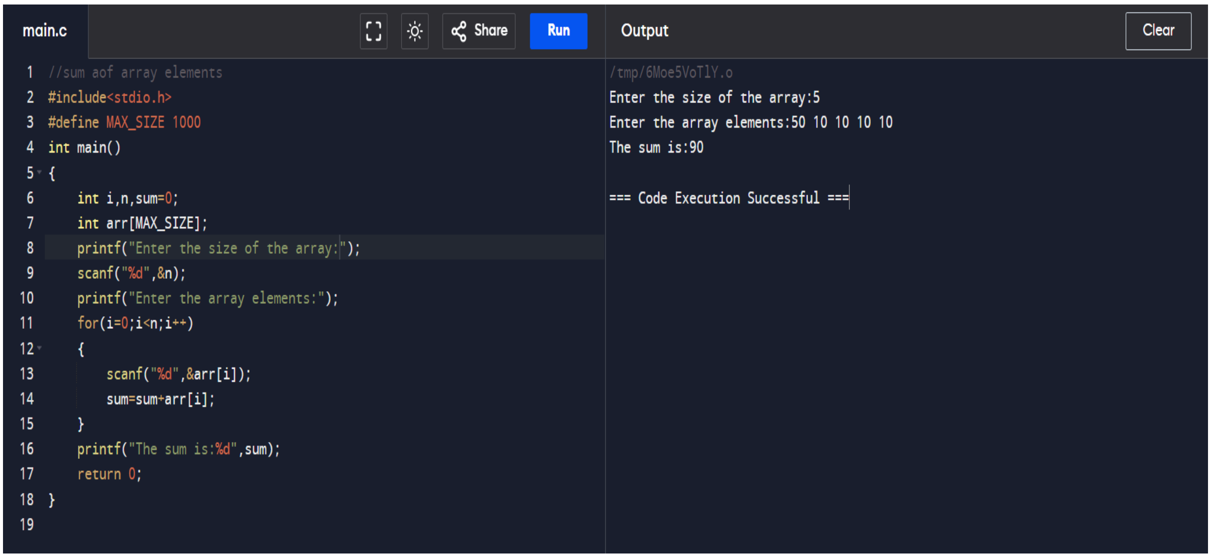
2.Write a C program to print all negative and positive elements in an array.



```c
//print positive and negative elements in an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int n,i;
    int arr[MAX_SIZE];
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the array elements:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("The positive elements are:");
    for(i=0;i<n;i++)
    {
        if(arr[i]>0)
        {
            printf("%d ",arr[i]);
        }
    }
    printf("\nthe negative elements are:");
    for(i=0;i<n;i++)
    {
        if(arr[i]<0)
        {
            printf("%d ",arr[i]);
        }
    }
    return 0;
}
```

```
/tmp/uS4pauz3W7.o
Enter the size of the array:15
Enter the array elements:5 8 9 4 -8 6 -9 4 9 -1 -2 -3 -7 -4 8
The positive elements are:5 8 9 4 6 4 9 8
the negative elements are:-8 -9 -1 -2 -3 -7 -4

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

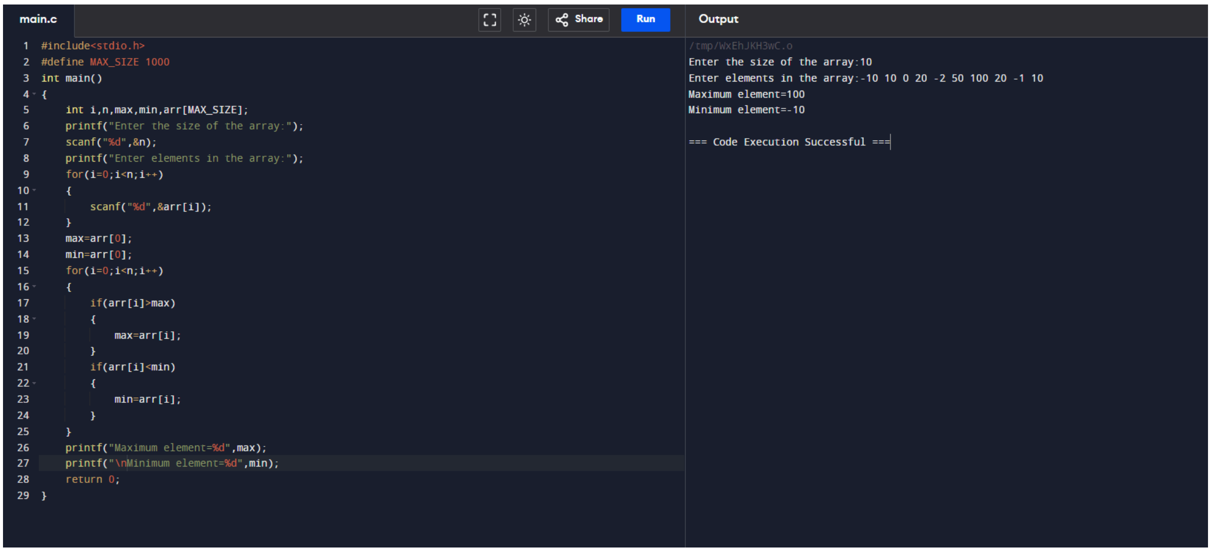
3.Write a C program to find the sum of all array elements.



```c
//sum aof array elements
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,sum=0;
    int arr[MAX_SIZE];
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the array elements:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
        sum=sum+arr[i];
    }
    printf("The sum is:%d",sum);
    return 0;
}
```

```
/tmp/6Moe5VoTlY.o
Enter the size of the array:5
Enter the array elements:50 10 10 10 10
The sum is:90

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

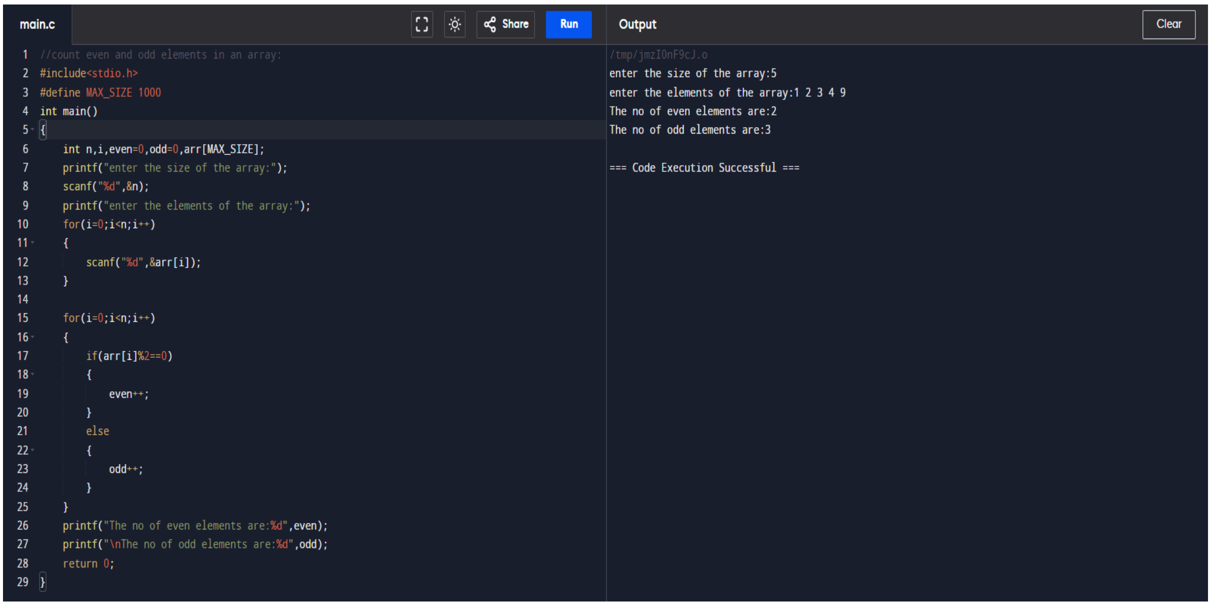
4.Program to find maximum and minimum element in array.



```c
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,max,min,arr[MAX_SIZE];
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter elements in the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    max=arr[0];
    min=arr[0];
    for(i=0;i<n;i++)
    {
        if(arr[i]>max)
        {
            max=arr[i];
        }
        if(arr[i]<min)
        {
            min=arr[i];
        }
    }
    printf("Maximum element=%d",max);
    printf("\nMinimum element=%d",min);
    return 0;
}
```

```
/tmp/WxEhJKH3wC.o
Enter the size of the array:10
Enter elements in the array:-10 10 0 20 -2 50 100 20 -1 10
Maximum element=100
Minimum element=-10

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

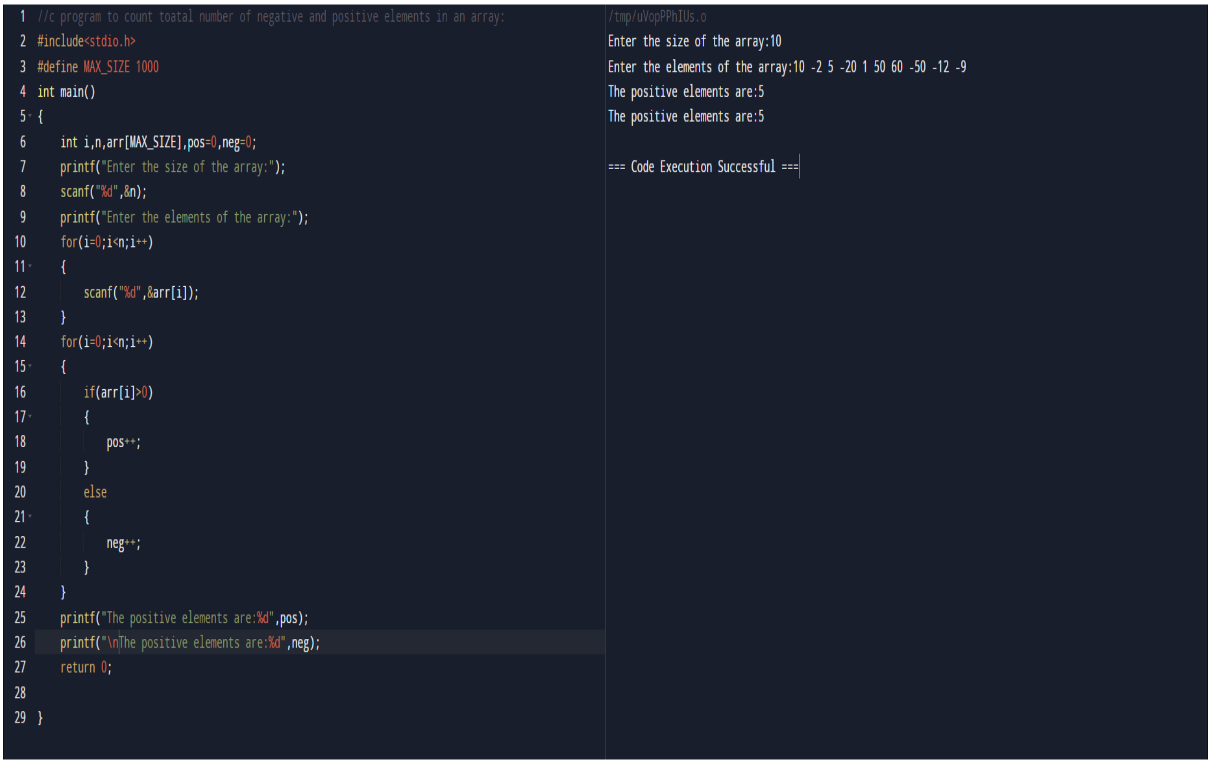
5.Program to count even and odd elements in an array.



```c
//count even and odd elements in an array:
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int n,i,even=0,odd=0,arr[MAX_SIZE];
    printf("enter the size of the array:");
    scanf("%d",&n);
    printf("enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }

    for(i=0;i<n;i++)
    {
        if(arr[i]%2==0)
        {
            even++;
        }
        else
        {
            odd++;
        }
    }
    printf("The no of even elements are:%d",even);
    printf("\nThe no of odd elements are:%d",odd);
    return 0;
}
```

```
/tmp/jmzIOnF9cJ.o
enter the size of the array:5
enter the elements of the array:1 2 3 4 9
The no of even elements are:2
The no of odd elements are:3

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

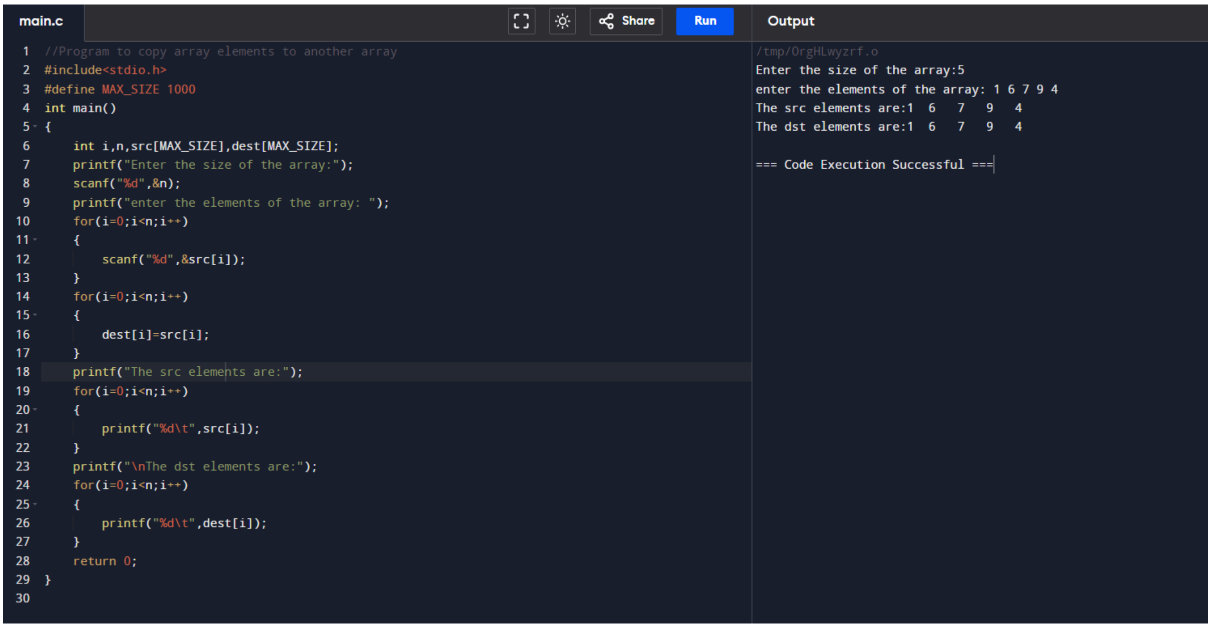
6.Write a C program to count the total number of negative and positive elements in an array.



```c
//c program to count toatal number of negative and positive elements in an array:
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],pos=0,neg=0;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        if(arr[i]>0)
        {
            pos++;
        }
        else
        {
            neg++;
        }
    }
    printf("The positive elements are:%d",pos);
    printf("\nThe positive elements are:%d",neg);
    return 0;

}
```

```
/tmp/uVopPPhIUs.o
Enter the size of the array:10
Enter the elements of the array:10 -2 5 -20 1 50 60 -50 -12 -9
The positive elements are:5
The positive elements are:5

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

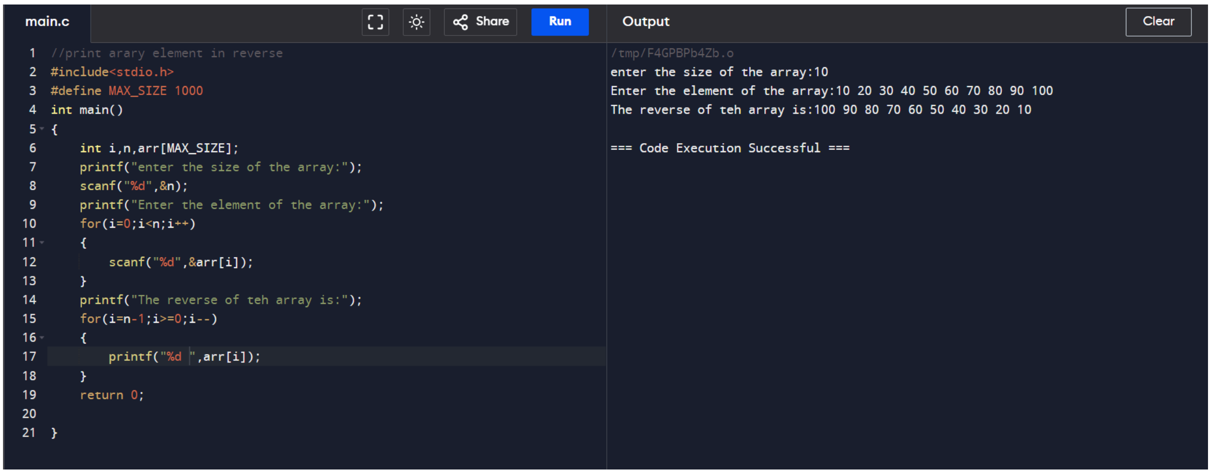
7.Program to copy array elements to another array:



```c
//Program to copy array elements to another array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,src[MAX_SIZE],dest[MAX_SIZE];
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("enter the elements of the array: ");
    for(i=0;i<n;i++)
    {
        scanf("%d",&src[i]);
    }
    for(i=0;i<n;i++)
    {
        dest[i]=src[i];
    }
    printf("The src elements are:");
    for(i=0;i<n;i++)
    {
        printf("%d\t",src[i]);
    }
    printf("\nThe dst elements are:");
    for(i=0;i<n;i++)
    {
        printf("%d\t",dest[i]);
    }
    return 0;
}
```

```
/tmp/OrgHLwyzrf.o
Enter the size of the array:5
enter the elements of the array: 1 6 7 9 4
The src elements are:1   6   7   9   4
The dst elements are:1   6   7   9   4

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

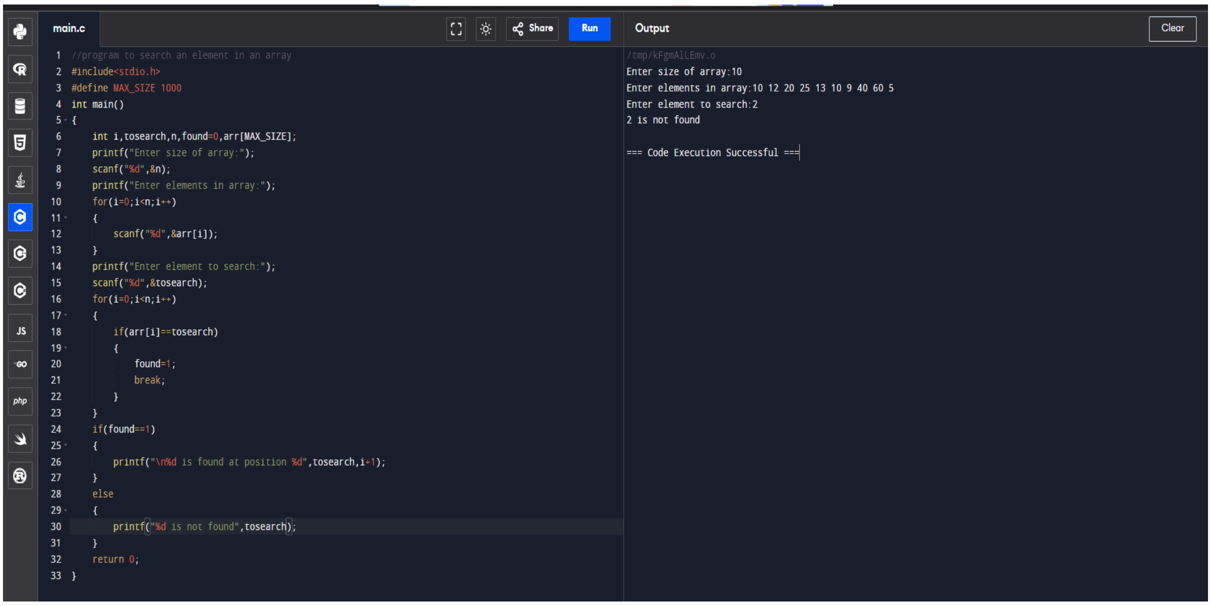
8.Program to print array in reverse:



```c
//print arary element in reverse
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE];
    printf("enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the element of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("The reverse of teh array is:");
    for(i=n-1;i>=0;i--)
    {
        printf("%d ",arr[i]);
    }
    return 0;

}
```

```
/tmp/F4GPBPb4Zb.o
enter the size of the array:10
Enter the element of the array:10 20 30 40 50 60 70 80 90 100
The reverse of teh array is:100 90 80 70 60 50 40 30 20 10

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

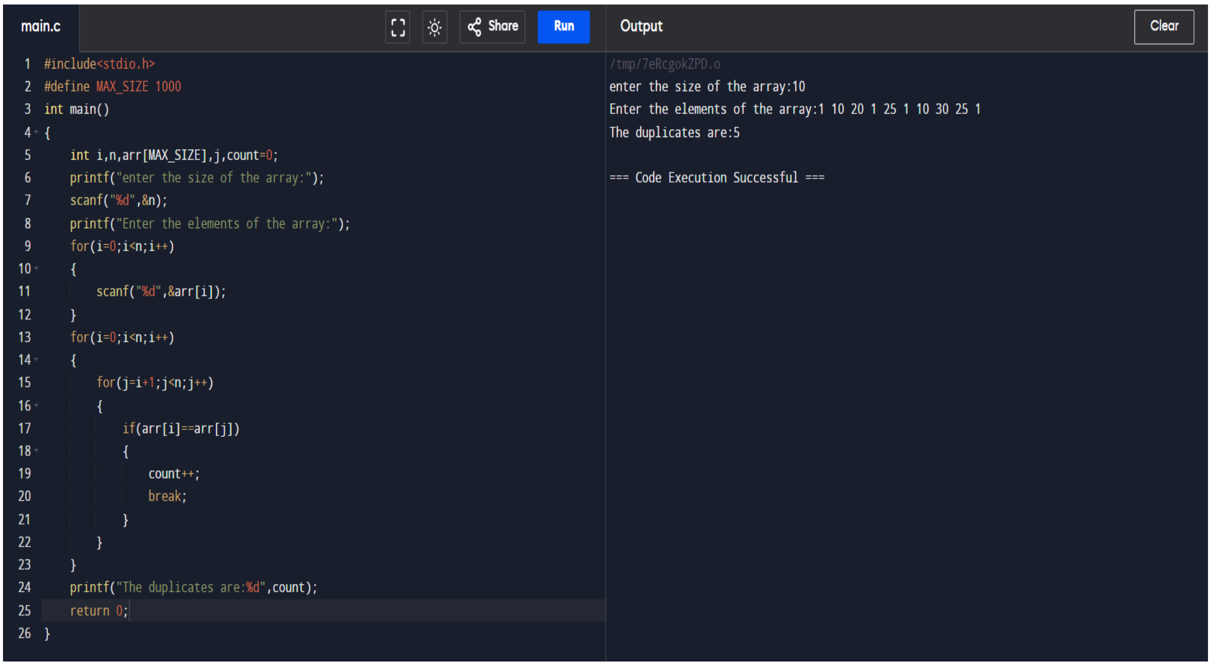
9.Program to search element in array



```c
//program to search an element in an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,tosearch,n,found=0,arr[MAX_SIZE];
    printf("Enter size of array:");
    scanf("%d",&n);
    printf("Enter elements in array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("Enter element to search:");
    scanf("%d",&tosearch);
    for(i=0;i<n;i++)
    {
        if(arr[i]==tosearch)
        {
            found=1;
            break;
        }
    }
    if(found==1)
    {
        printf("\n%d is found at position %d",tosearch,i+1);
    }
    else
    {
        printf("%d is not found",tosearch);
    }
    return 0;
}
```

```
/tmp/kFgmAlLEmv.o
Enter size of array:10
Enter elements in array:10 12 20 25 13 10 9 40 60 5
Enter element to search:2
2 is not found

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

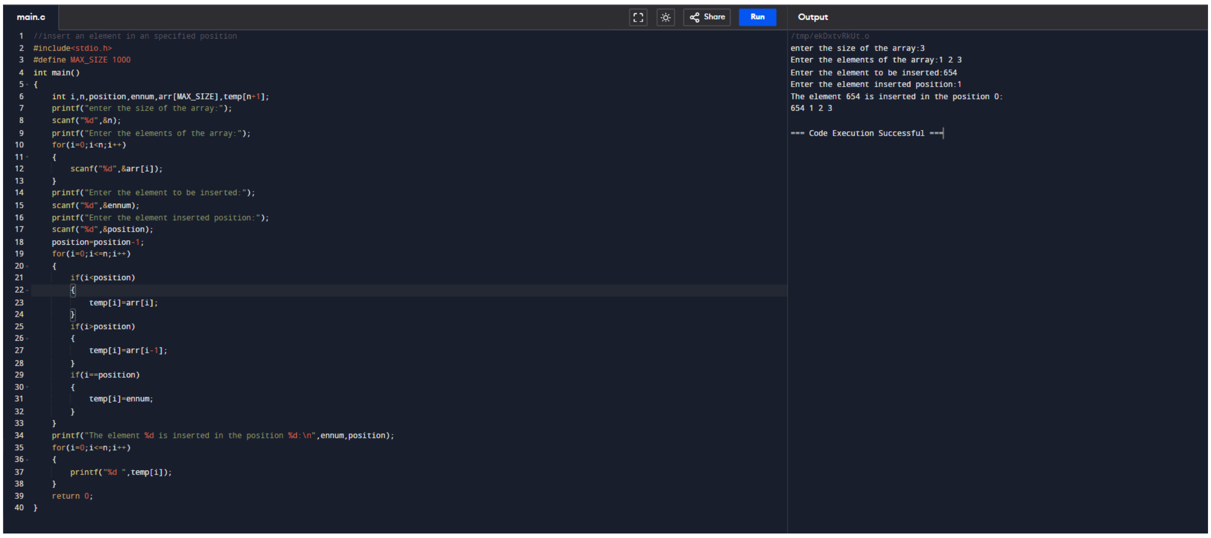
10.Program to count duplicate elements in array



```c
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],j,count=0;
    printf("enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    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])
            {
                count++;
                break;
            }
        }
    }
    printf("The duplicates are:%d",count);
    return 0;
}
```

```
/tmp/7eRcgokZPD.o
enter the size of the array:10
Enter the elements of the array:1 10 20 1 25 1 10 30 25 1
The duplicates are:5

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

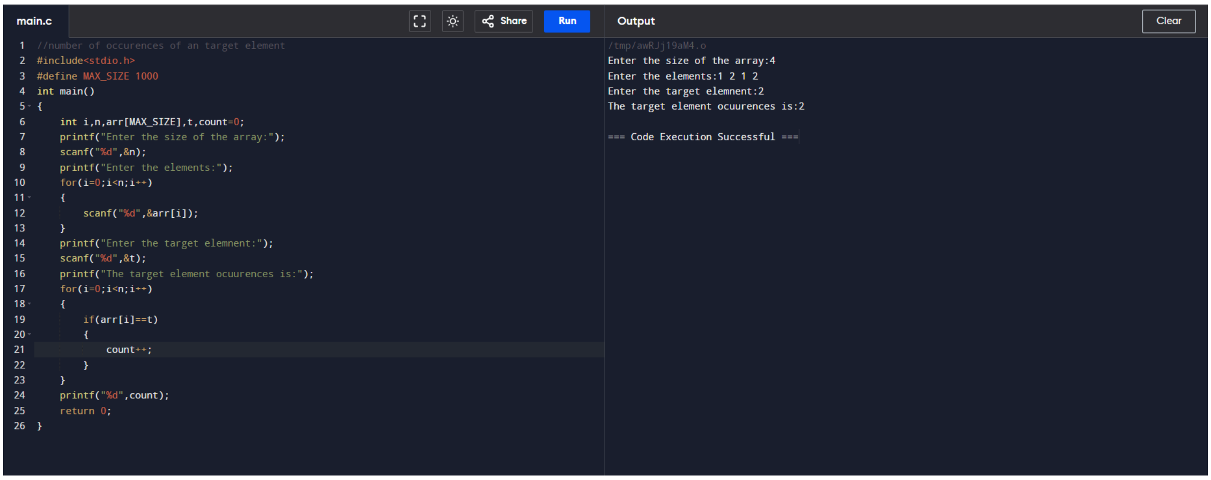
11.Insert an element into an array at a specified position



```c
//insert an element in an specified position
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,position,ennum,arr[MAX_SIZE],temp[n+1];
    printf("enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("Enter the element to be inserted:");
    scanf("%d",&ennum);
    printf("Enter the element inserted position:");
    scanf("%d",&position);
    position=position-1;
    for(i=0;i<=n;i++)
    {
        if(i<position)
        {
            temp[i]=arr[i];
        }
        if(i>position)
        {
            temp[i]=arr[i-1];
        }
        if(i==position)
        {
            temp[i]=ennum;
        }
    }
    printf("The element %d is inserted in the position %d:\n",ennum,position);
    for(i=0;i<=n;i++)
    {
        printf("%d ",temp[i]);
    }
    return 0;
}
```

```
/tmp/ekDxtvRkUt.o
enter the size of the array:3
Enter the elements of the array:1 2 3
Enter the element to be inserted:654
Enter the element inserted position:1
The element 654 is inserted in the position 0:
654 1 2 3

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

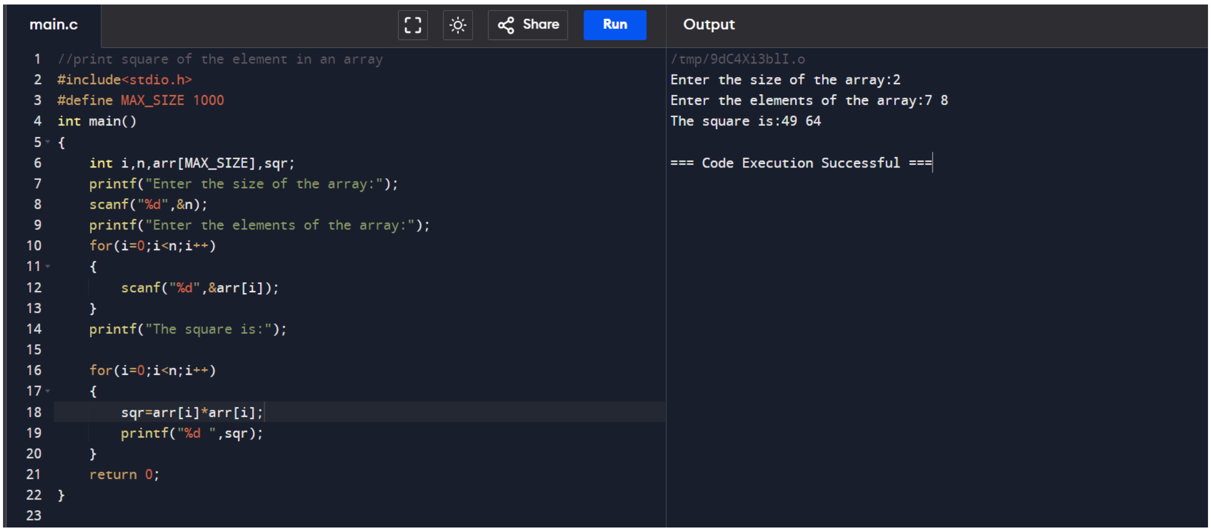
12.Number of occurrences of an number



```c
//number of occurences of an target element
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],t,count=0;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("Enter the target elemnent:");
    scanf("%d",&t);
    printf("The target element ocuurences is:");
    for(i=0;i<n;i++)
    {
        if(arr[i]==t)
        {
            count++;
        }
    }
    printf("%d",count);
    return 0;
}
```

```
/tmp/awRJj19aM4.o
Enter the size of the array:4
Enter the elements:1 2 1 2
Enter the target elemnent:2
The target element ocuurences is:2

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

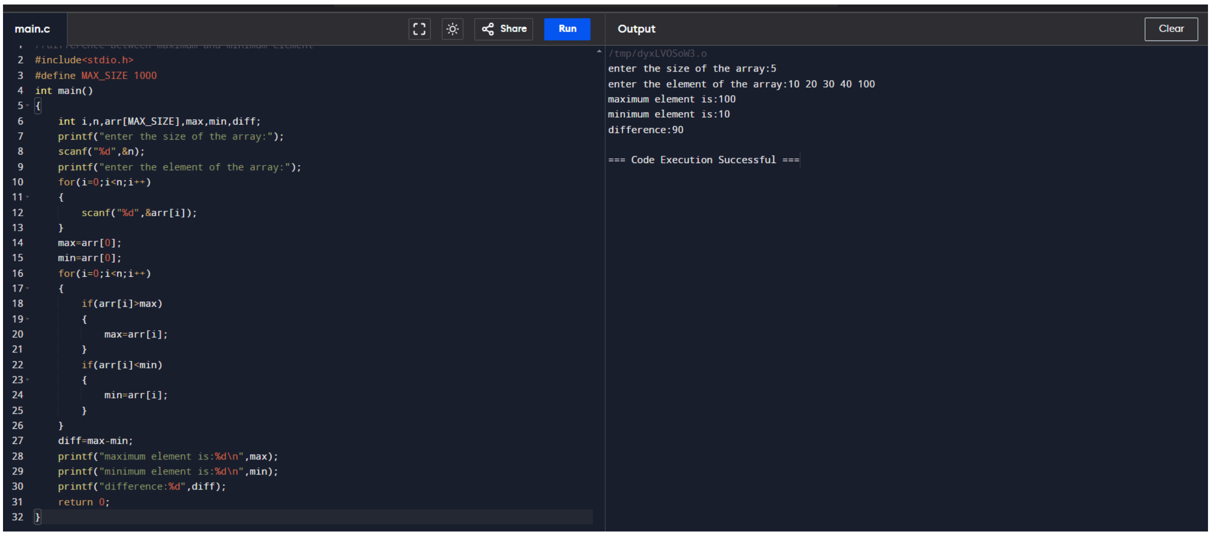
13.Print square of the elements in an array



```c
//print square of the element in an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],sqr;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("The square is:");

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

```

```
/tmp/9dC4Xi3blI.o
Enter the size of the array:2
Enter the elements of the array:7 8
The square is:49 64

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

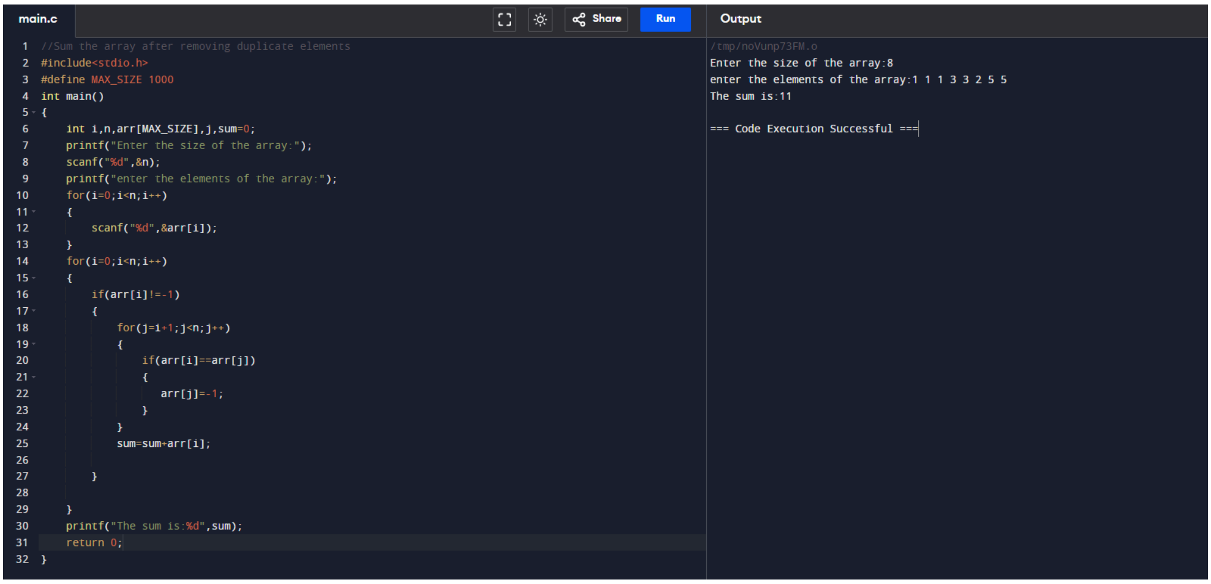
14.Difference between maximum and minimum element of an array



```c
//difference between maximum and minimum element
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],max,min,diff;
    printf("enter the size of the array:");
    scanf("%d",&n);
    printf("enter the element of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    max=arr[0];
    min=arr[0];
    for(i=0;i<n;i++)
    {
        if(arr[i]>max)
        {
            max=arr[i];
        }
        if(arr[i]<min)
        {
            min=arr[i];
        }
    }
    diff=max-min;
    printf("maximum element is:%d\n",max);
    printf("minimum element is:%d\n",min);
    printf("difference:%d",diff);
    return 0;
}
```

```
/tmp/dyxLVOSoW3.o
enter the size of the array:5
enter the element of the array:10 20 30 40 100
maximum element is:100
minimum element is:10
difference:90

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

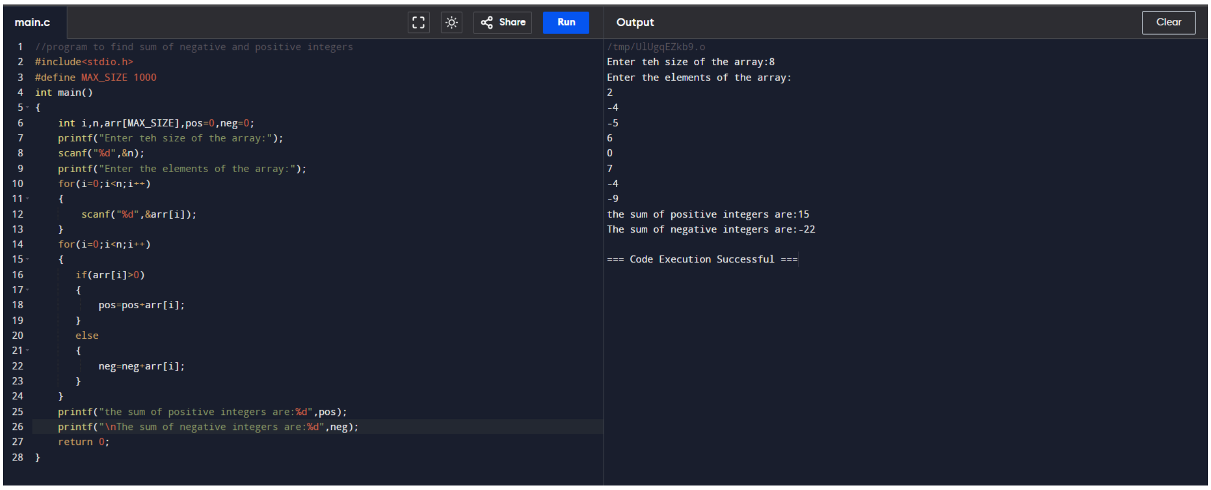
15.Sum the array after removing duplicate elements



```c
//Sum the array after removing duplicate elements
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],j,sum=0;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        if(arr[i]!=-1)
        {
            for(j=i+1;j<n;j++)
            {
                if(arr[i]==arr[j])
                {
                   arr[j]=-1;
                }
            }
            sum=sum+arr[i];

        }

    }
    printf("The sum is:%d",sum);
    return 0;
}
```

```
/tmp/noVunp73FM.o
Enter the size of the array:8
enter the elements of the array:1 1 1 3 3 2 5 5
The sum is:11

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

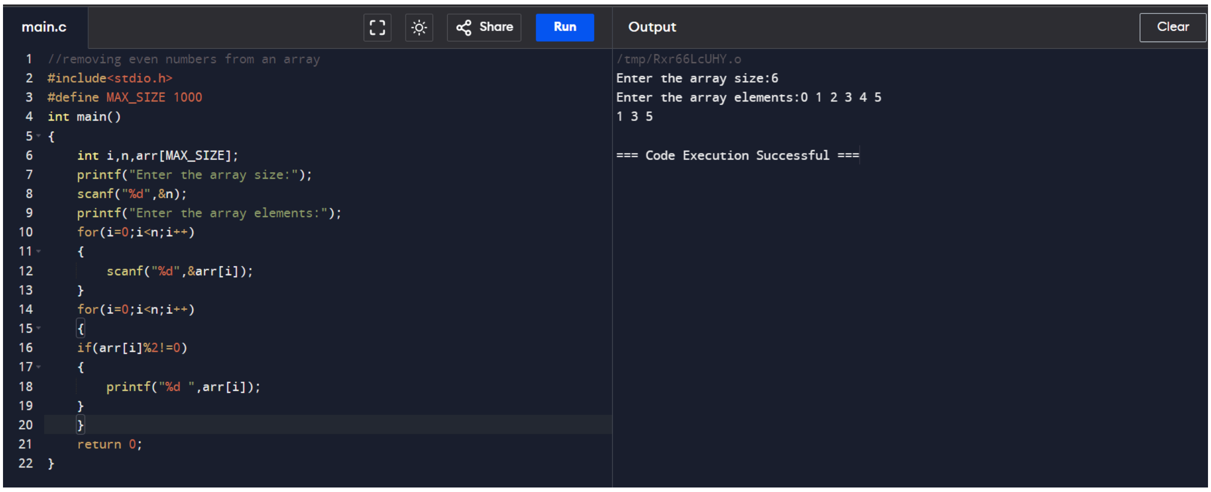
16.program to find sum of negative and positive integers



```c
//program to find sum of negative and positive integers
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],pos=0,neg=0;
    printf("Enter teh size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
       if(arr[i]>0)
       {
           pos=pos+arr[i];
       }
       else
       {
           neg=neg+arr[i];
       }
    }
    printf("the sum of positive integers are:%d",pos);
    printf("\nThe sum of negative integers are:%d",neg);
    return 0;
}
```

```
/tmp/UlUgqEZkb9.o
Enter teh size of the array:8
Enter the elements of the array:
2
-4
-5
6
0
7
-4
-9
the sum of positive integers are:15
The sum of negative integers are:-22

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

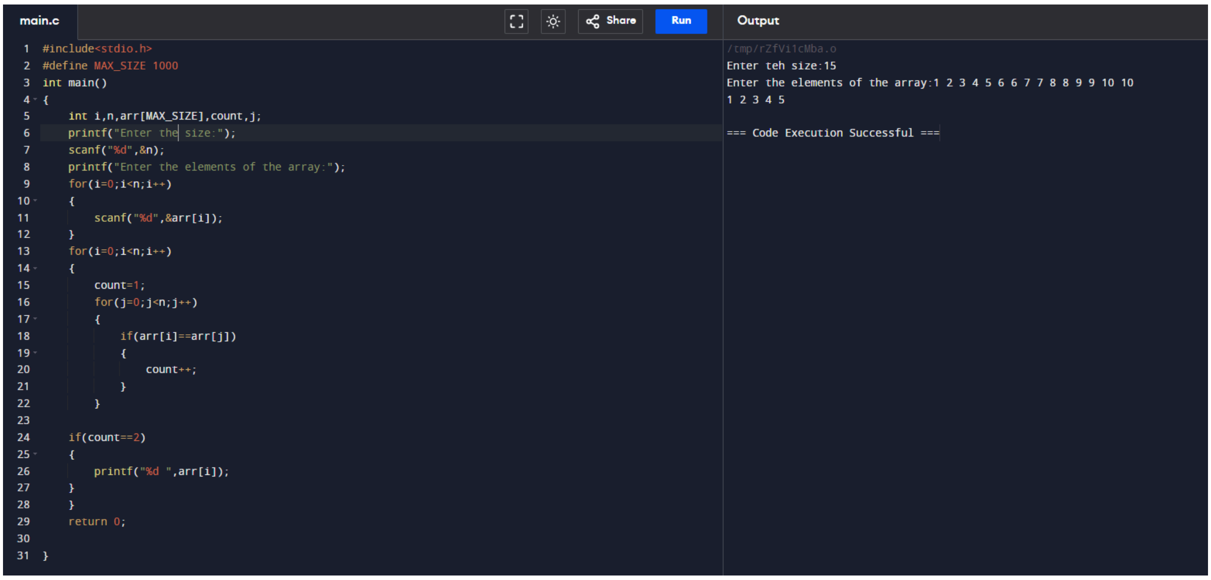
17.Removing even number from an array



```c
//removing even numbers from an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE];
    printf("Enter the array size:");
    scanf("%d",&n);
    printf("Enter the array elements:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
    if(arr[i]%2!=0)
    {
        printf("%d ",arr[i]);
    }
    }
    return 0;
}
```

```
/tmp/Rxr66LcUHY.o
Enter the array size:6
Enter the array elements:0 1 2 3 4 5
1 3 5

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

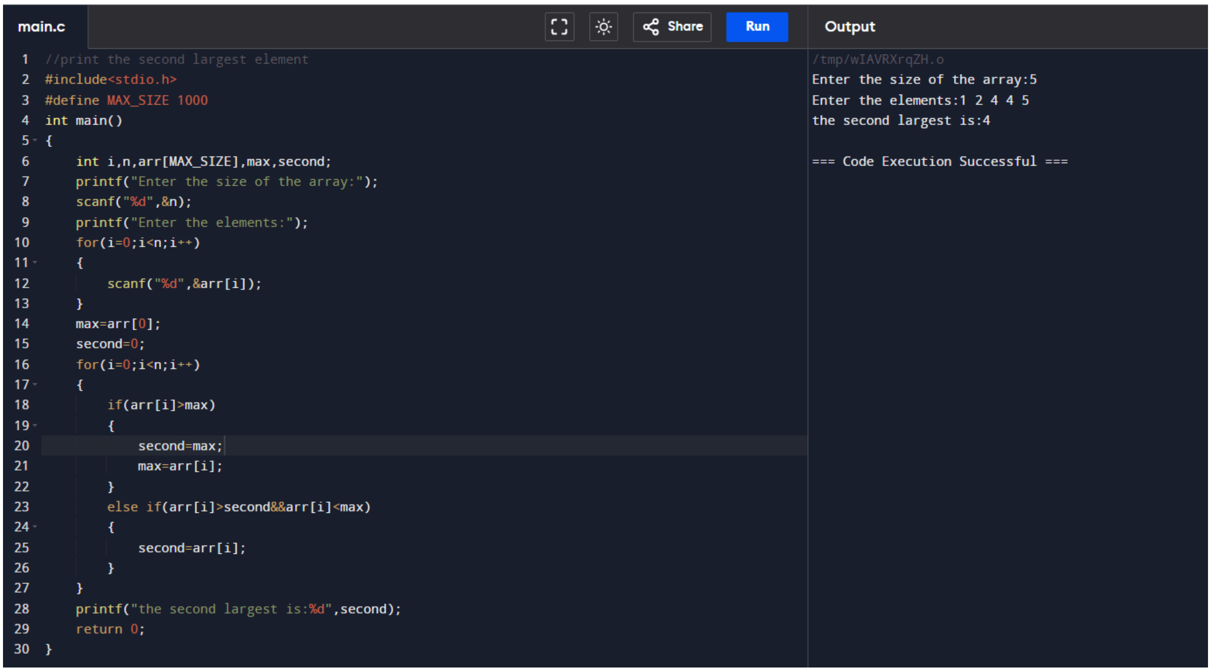
18.print the unique elements in an array



```c
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],count,j;
    printf("Enter the size:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        count=1;
        for(j=0;j<n;j++)
        {
            if(arr[i]==arr[j])
            {
                count++;
            }
        }

    if(count==2)
    {
        printf("%d ",arr[i]);
    }
    }
    return 0;

}
```

```
/tmp/rZfVi1cMba.o
Enter teh size:15
Enter the elements of the array:1 2 3 4 5 6 6 7 7 8 8 9 9 10 10
1 2 3 4 5

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

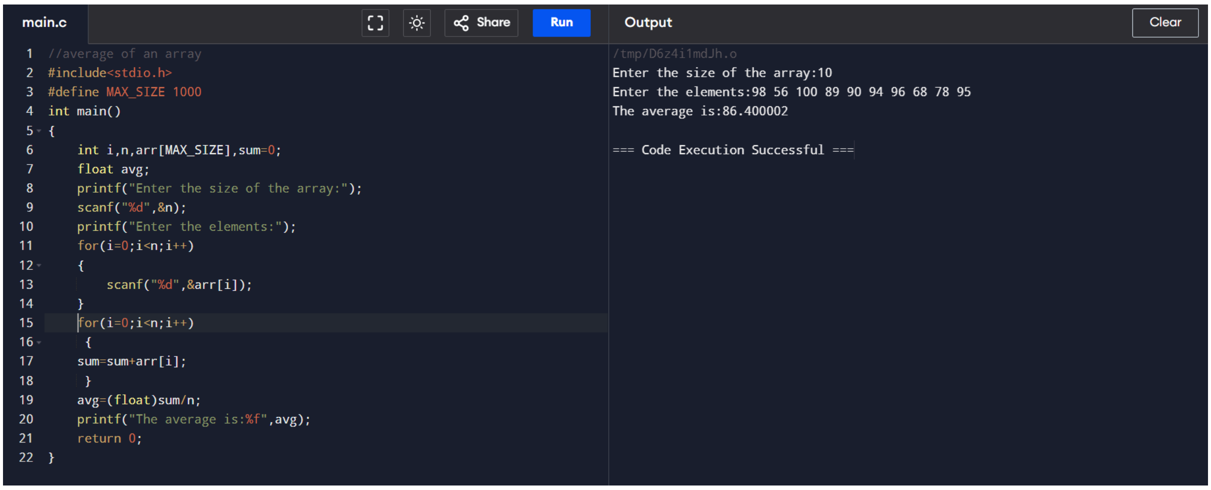
19.print the second largest number in an array:



```c
//print the second largest element
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],max,second;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    max=arr[0];
    second=0;
    for(i=0;i<n;i++)
    {
        if(arr[i]>max)
        {
            second=max;
            max=arr[i];
        }
        else if(arr[i]>second&&arr[i]<max)
        {
            second=arr[i];
        }
    }
    printf("the second largest is:%d",second);
    return 0;
}
```

```
/tmp/wIAVRXrqZH.o
Enter the size of the array:5
Enter the elements:1 2 4 4 5
the second largest is:4

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

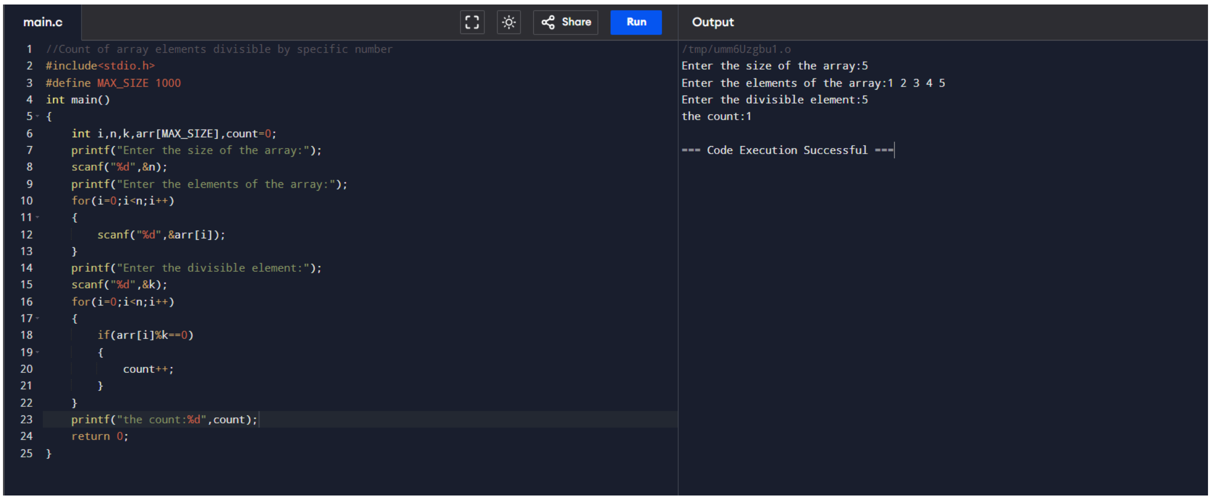
20.Print the average of the array



```c
//average of an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],sum=0;
    float avg;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
     {
    sum=sum+arr[i];
     }
    avg=(float)sum/n;
    printf("The average is:%f",avg);
    return 0;
}
```

```
/tmp/D6z4i1mdJh.o
Enter the size of the array:10
Enter the elements:98 56 100 89 90 94 96 68 78 95
The average is:86.400002

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

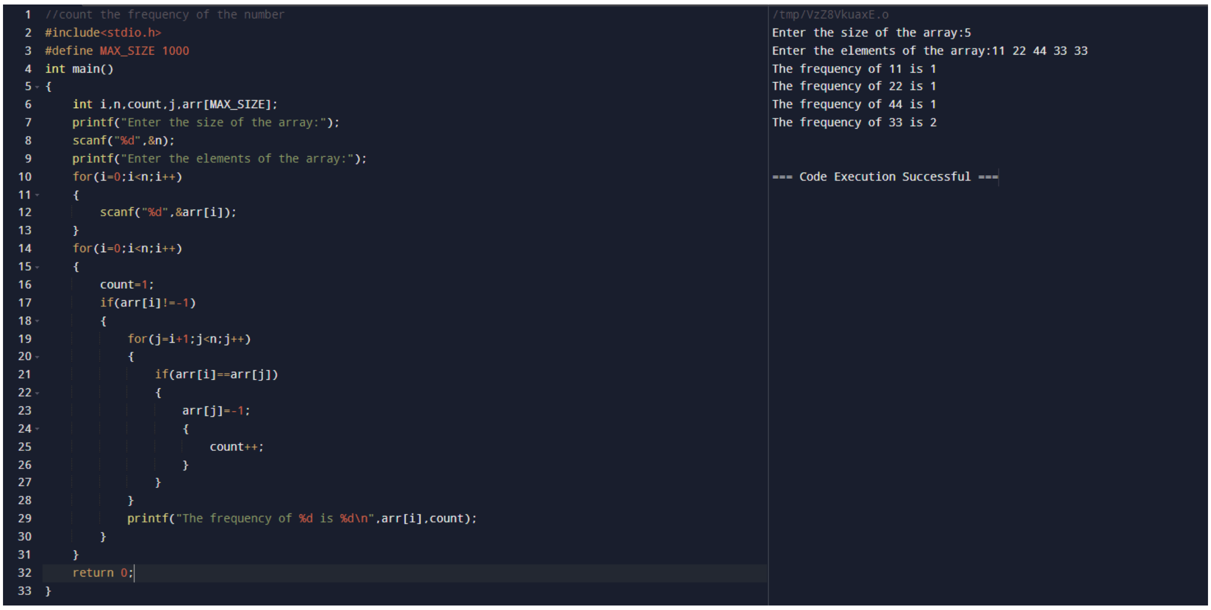
21.Count of array elements divisible by specific number



```c
//Count of array elements divisible by specific number
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,k,arr[MAX_SIZE],count=0;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("Enter the divisible element:");
    scanf("%d",&k);
    for(i=0;i<n;i++)
    {
        if(arr[i]%k==0)
        {
            count++;
        }
    }
    printf("the count:%d",count);
    return 0;
}
```

```
/tmp/umm6Uzgbu1.o
Enter the size of the array:5
Enter the elements of the array:1 2 3 4 5
Enter the divisible element:5
the count:1

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

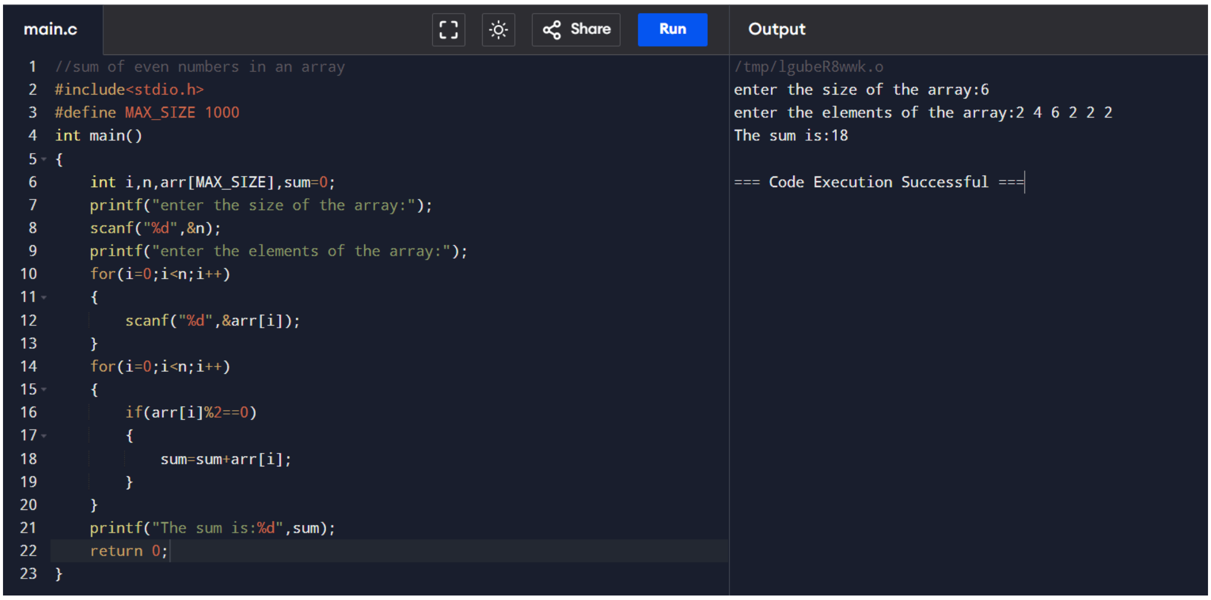
22.Frequency of a number



```c
//count the frequency of the number
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,count,j,arr[MAX_SIZE];
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        count=1;
        if(arr[i]!=-1)
        {
            for(j=i+1;j<n;j++)
            {
                if(arr[i]==arr[j])
                {
                    arr[j]=-1;
                    {
                        count++;
                    }
                }
            }
            printf("The frequency of %d is %d\n",arr[i],count);
        }
    }
    return 0;
}
```

```
/tmp/VzZ8VkuaxE.o
Enter the size of the array:5
Enter the elements of the array:11 22 44 33 33
The frequency of 11 is 1
The frequency of 22 is 1
The frequency of 44 is 1
The frequency of 33 is 2


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

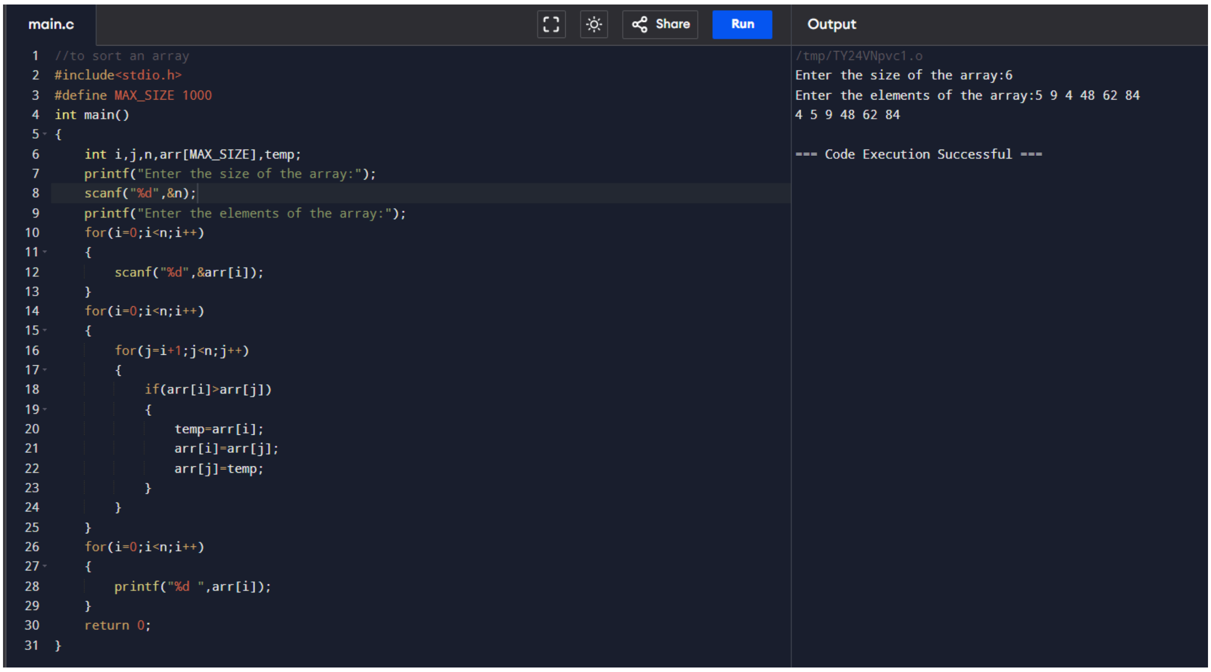
23.Sum of even numbers in an array



```c
//sum of even numbers in an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],sum=0;
    printf("enter the size of the array:");
    scanf("%d",&n);
    printf("enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        if(arr[i]%2==0)
        {
            sum=sum+arr[i];
        }
    }
    printf("The sum is:%d",sum);
    return 0;
}
```

```
/tmp/lgubeR8wwk.o
enter the size of the array:6
enter the elements of the array:2 4 6 2 2 2
The sum is:18

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

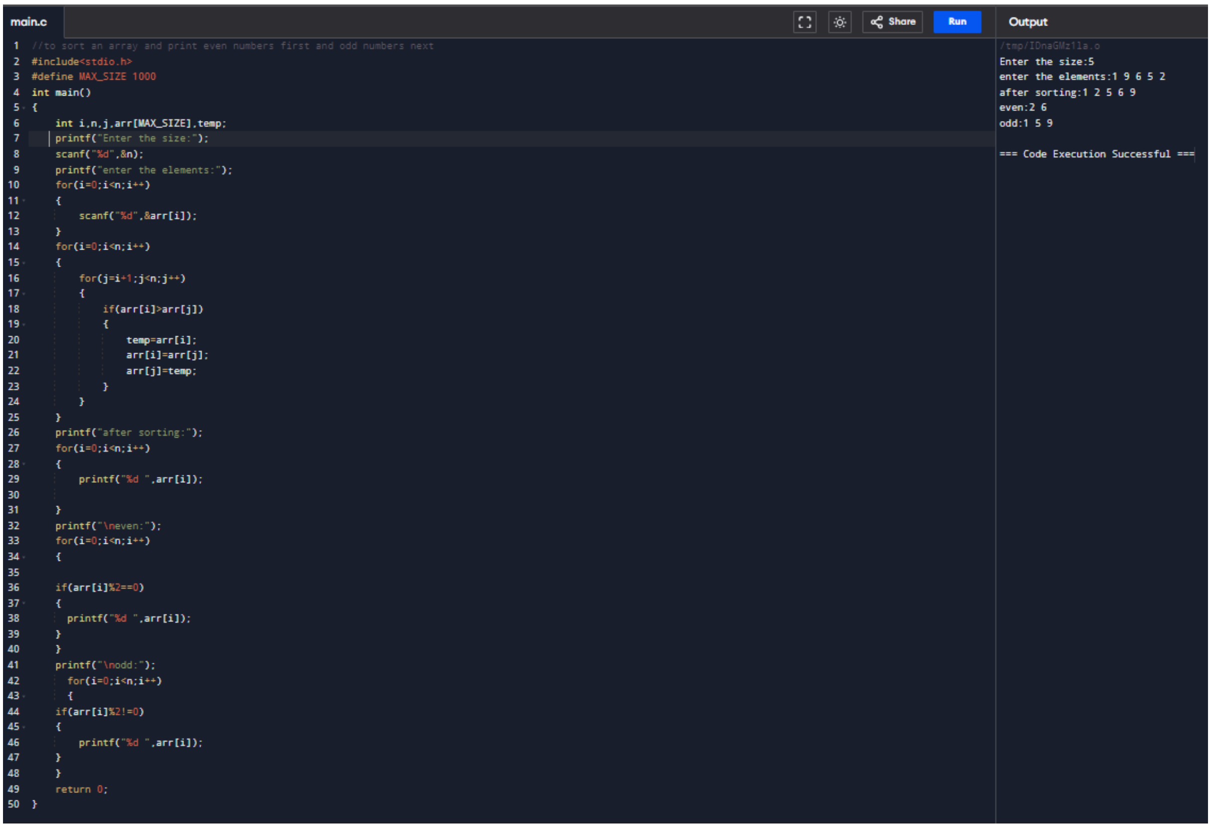
24.To sort an array



```c
//to sort an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,j,n,arr[MAX_SIZE],temp;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    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])
            {
                temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
    }
    for(i=0;i<n;i++)
    {
        printf("%d ",arr[i]);
    }
    return 0;
}
```

```
/tmp/TY24VNpvc1.o
Enter the size of the array:6
Enter the elements of the array:5 9 4 48 62 84
4 5 9 48 62 84

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

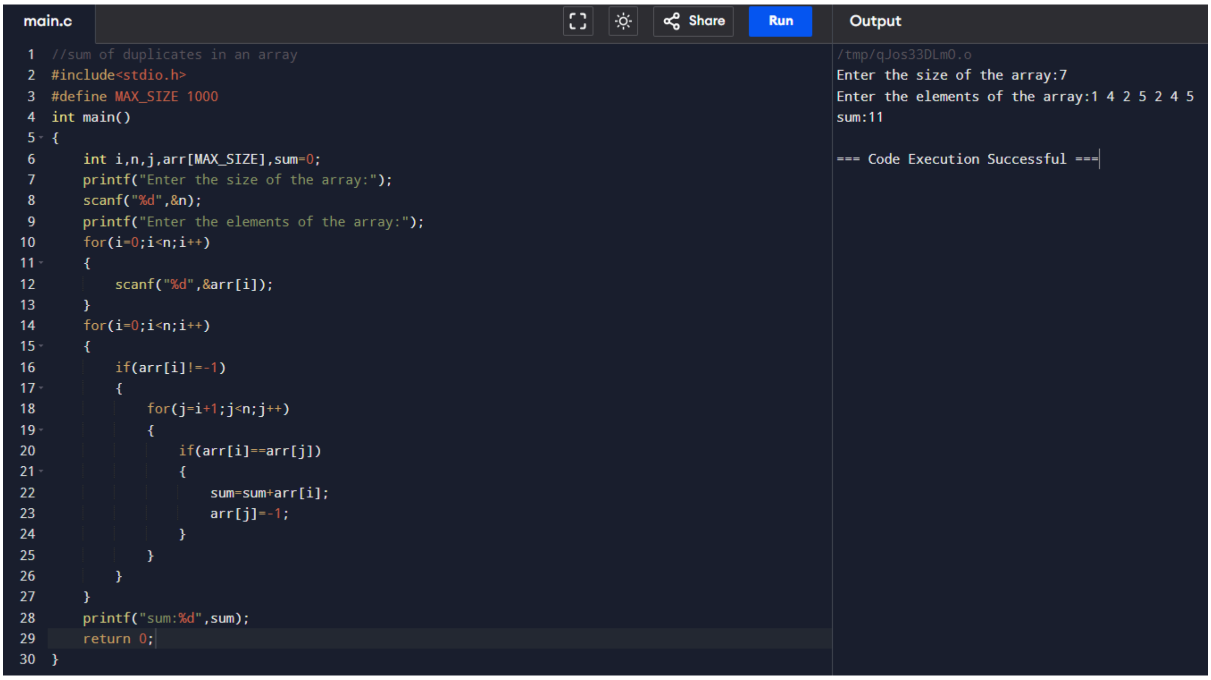
25.Sort the array in ascending order and print even numbers first and odd numbers next



```c
//to sort an array and print even numbers first and odd numbers next
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,j,arr[MAX_SIZE],temp;
    printf("Enter the size:");
    scanf("%d",&n);
    printf("enter the elements:");
    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])
            {
                temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
    }
    printf("after sorting:");
    for(i=0;i<n;i++)
    {
        printf("%d ",arr[i]);

    }
    printf("\neven:");
    for(i=0;i<n;i++)
    {

    if(arr[i]%2==0)
    {
      printf("%d ",arr[i]);
    }
    }
    printf("\nodd:");
      for(i=0;i<n;i++)
      {
    if(arr[i]%2!=0)
    {
        printf("%d ",arr[i]);
    }
    }
    return 0;
}
```

```
/tmp/IDnaGMz1la.o
Enter the size:5
enter the elements:1 9 6 5 2
after sorting:1 2 5 6 9
even:2 6
odd:1 5 9

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

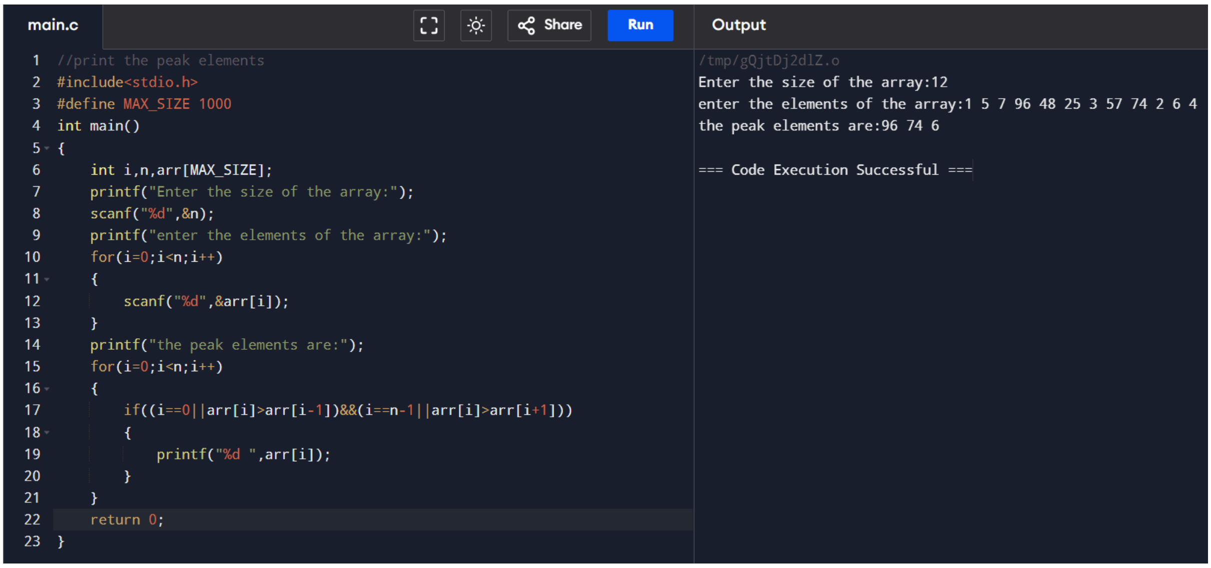
26.Sum of duplicates in an array



```c
//sum of duplicates in an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,j,arr[MAX_SIZE],sum=0;
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("Enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        if(arr[i]!=-1)
        {
            for(j=i+1;j<n;j++)
            {
                if(arr[i]==arr[j])
                {
                    sum=sum+arr[i];
                    arr[j]=-1;
                }
            }
        }
    }
    printf("sum:%d",sum);
    return 0;
}
```

```
/tmp/qJos33DLm0.o
Enter the size of the array:7
Enter the elements of the array:1 4 2 5 2 4 5
sum:11

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

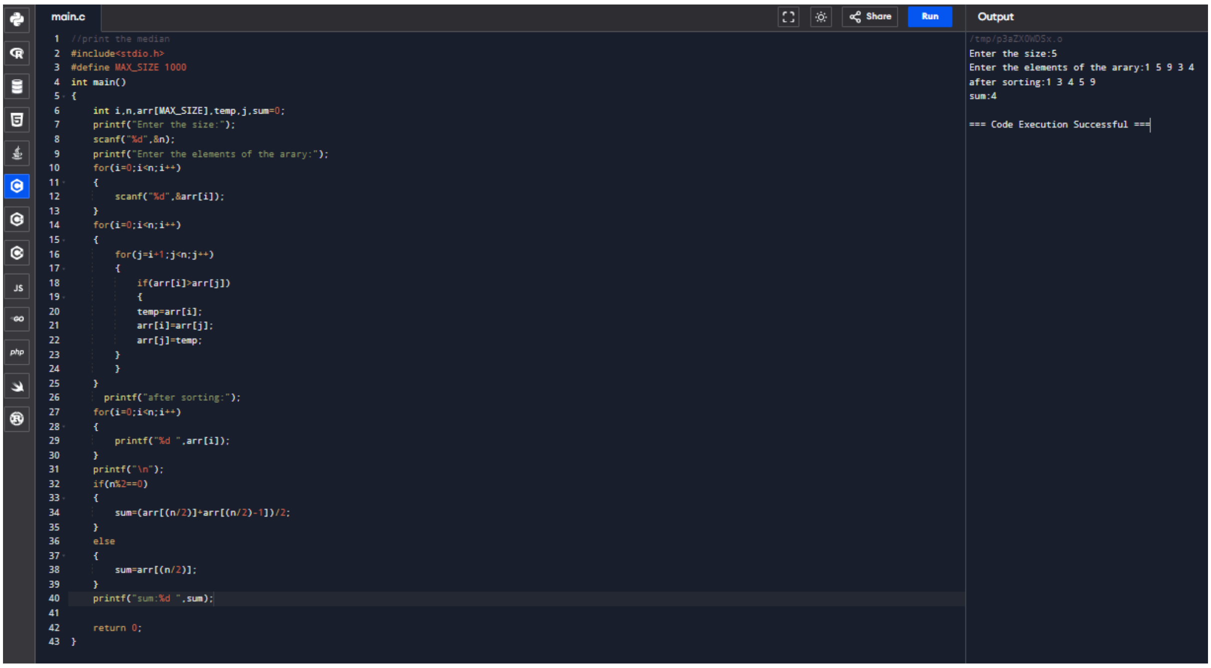
27.print the peak elements



```c
//print the peak elements
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE];
    printf("Enter the size of the array:");
    scanf("%d",&n);
    printf("enter the elements of the array:");
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("the peak elements are:");
    for(i=0;i<n;i++)
    {
        if((i==0||arr[i]>arr[i-1])&&(i==n-1||arr[i]>arr[i+1]))
        {
            printf("%d ",arr[i]);
        }
    }
    return 0;
}
```

```
/tmp/gQjtDj2dlZ.o
Enter the size of the array:12
enter the elements of the array:1 5 7 96 48 25 3 57 74 2 6 4
the peak elements are:96 74 6

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

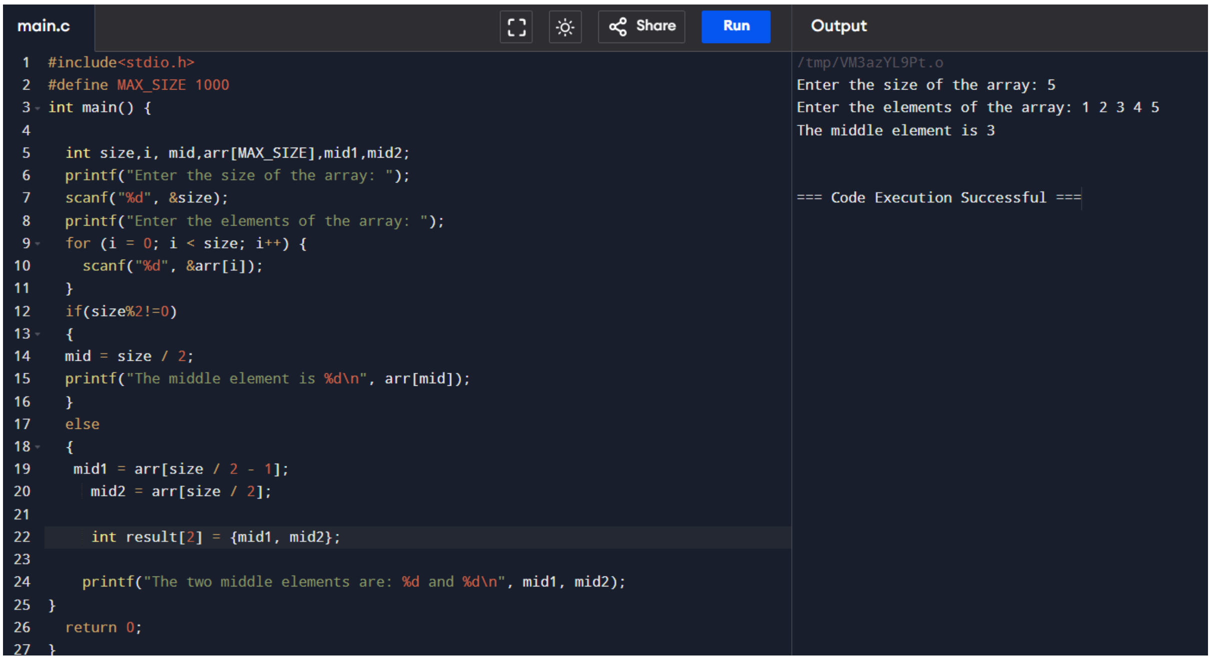
28.Print the median of an array after sorting



```c
//print the median
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],temp,j,sum=0;
    printf("Enter the size:");
    scanf("%d",&n);
    printf("Enter the elements of the arary:");
    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])
            {
            temp=arr[i];
            arr[i]=arr[j];
            arr[j]=temp;
        }
        }
    }
      printf("after sorting:");
    for(i=0;i<n;i++)
    {
        printf("%d ",arr[i]);
    }
    printf("\n");
    if(n%2==0)
    {
        sum=(arr[(n/2)]+arr[(n/2)-1])/2;
    }
    else
    {
        sum=arr[(n/2)];
    }
    printf("sum:%d ",sum);

    return 0;
}
```

```
/tmp/p3aZXOWDSx.o
Enter the size:5
Enter the elements of the arary:1 5 9 3 4
after sorting:1 3 4 5 9
sum:4

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

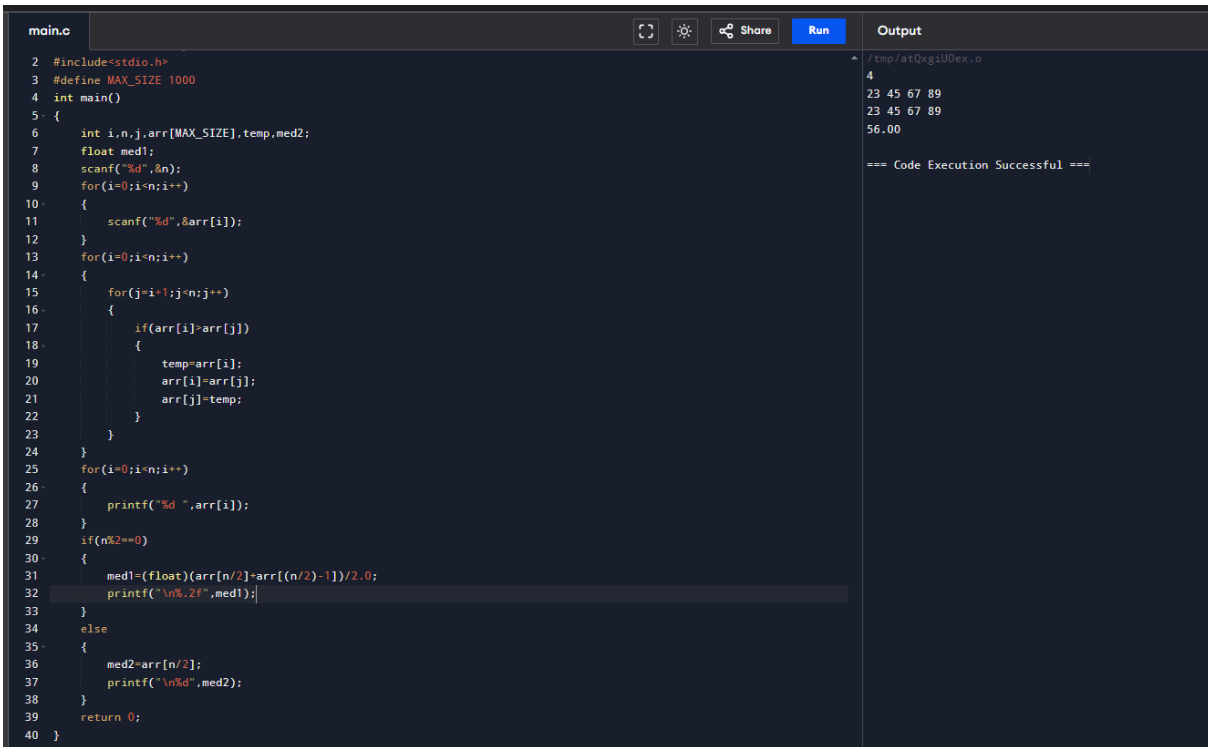
29.print middle elements in an array.



```c
#include<stdio.h>
#define MAX_SIZE 1000
int main() {

  int size,i, mid,arr[MAX_SIZE],mid1,mid2;
  printf("Enter the size of the array: ");
  scanf("%d", &size);
  printf("Enter the elements of the array: ");
  for (i = 0; i < size; i++) {
    scanf("%d", &arr[i]);
  }
  if(size%2!=0)
  {
  mid = size / 2;
  printf("The middle element is %d\n", arr[mid]);
  }
  else
  {
   mid1 = arr[size / 2 - 1];
     mid2 = arr[size / 2];

     int result[2] = {mid1, mid2};

    printf("The two middle elements are: %d and %d\n", mid1, mid2);
}
  return 0;
}
```

```
/tmp/VM3azYL9Pt.o
Enter the size of the array: 5
Enter the elements of the array: 1 2 3 4 5
The middle element is 3


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

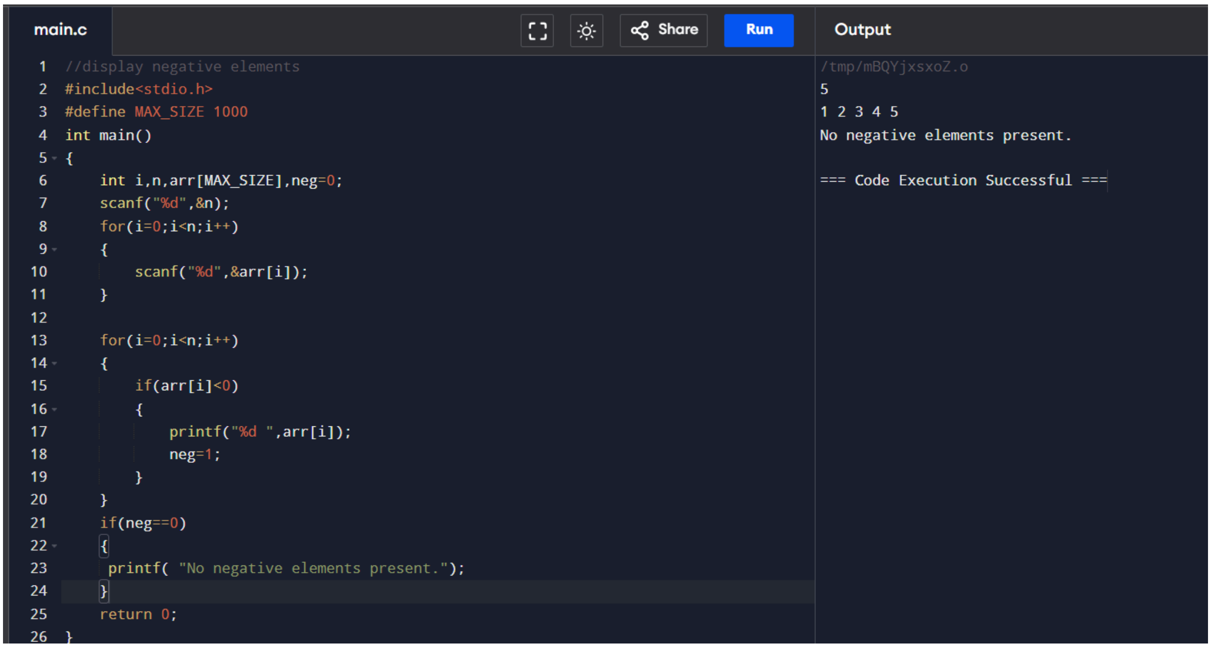
30.Median of an array with float and accurate median answer:



```c
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,j,arr[MAX_SIZE],temp,med2;
    float med1;
    scanf("%d",&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])
            {
                temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
    }
    for(i=0;i<n;i++)
    {
        printf("%d ",arr[i]);
    }
    if(n%2==0)
    {
        med1=(float)(arr[n/2]+arr[(n/2)-1])/2.0;
        printf("\n%.2f",med1);
    }
    else
    {
        med2=arr[n/2];
        printf("\n%d",med2);
    }
    return 0;
}
```

```
/tmp/atQxgiUOex.o
4
23 45 67 89
23 45 67 89
56.00

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

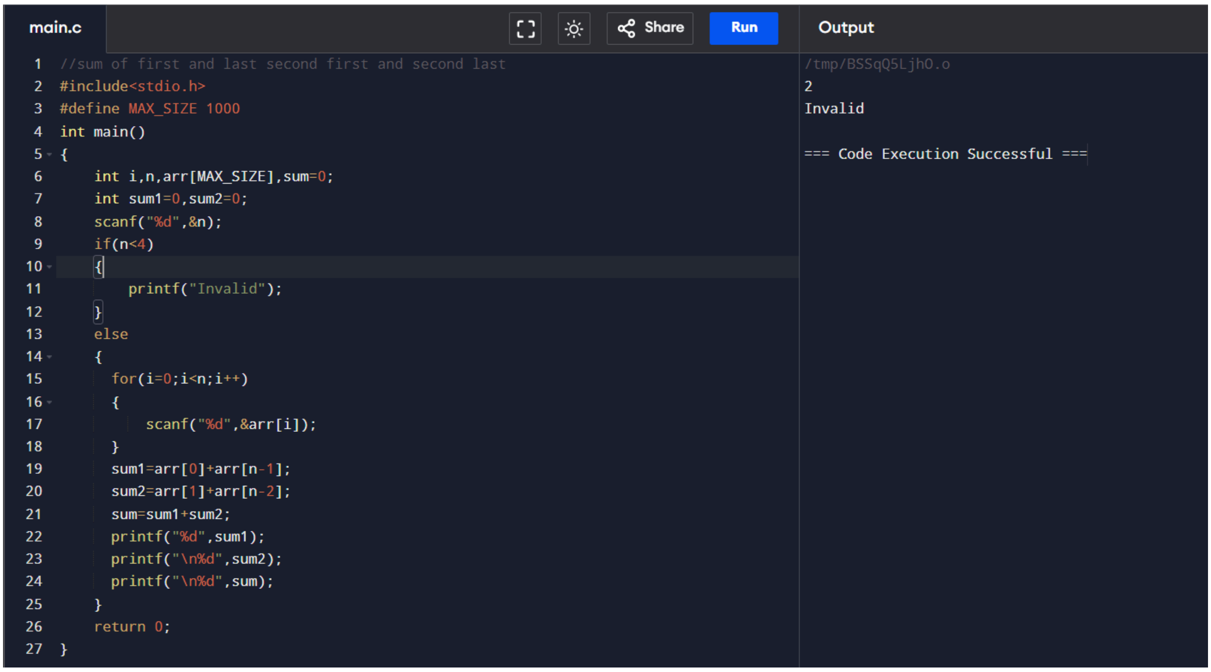
31.removes all positive elements .If no negative elements are present, it prints "No negative elements present."



```c
//display negative elements
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],neg=0;
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }

    for(i=0;i<n;i++)
    {
        if(arr[i]<0)
        {
            printf("%d ",arr[i]);
            neg=1;
        }
    }
    if(neg==0)
    {
     printf( "No negative elements present.");
    }
    return 0;
}
```

```
/tmp/mBQYjxsxoZ.o
5
1 2 3 4 5
No negative elements present.

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

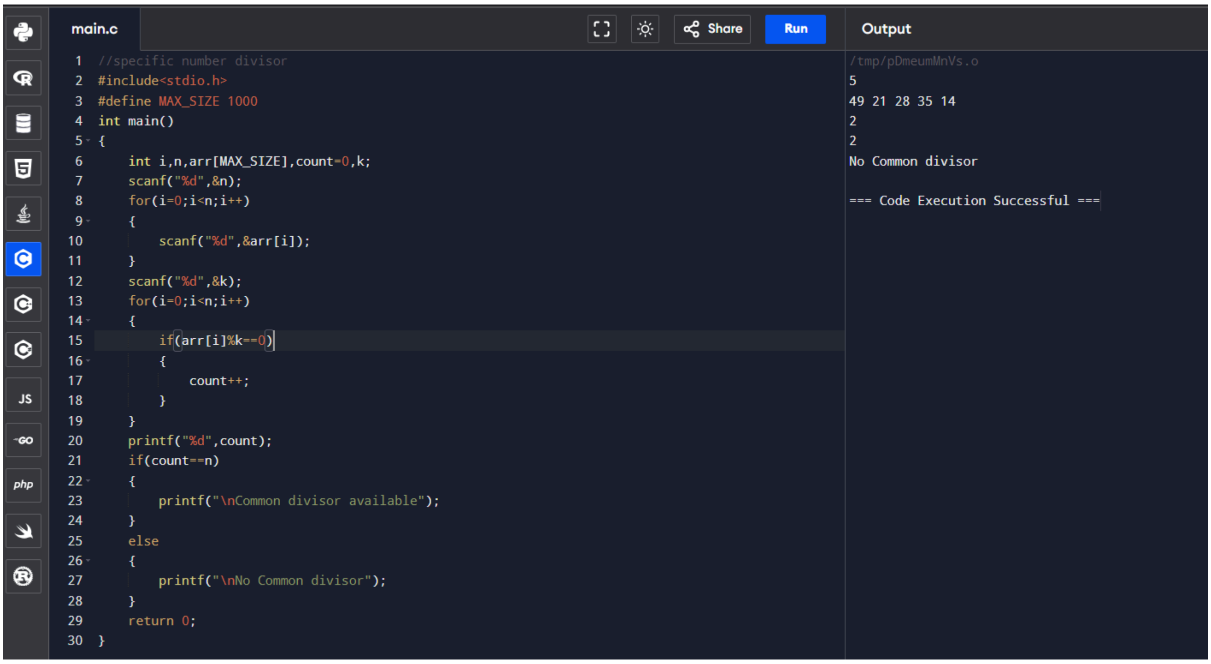
32.sum of first and last second first and second last



```c
//sum of first and last second first and second last
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],sum=0;
    int sum1=0,sum2=0;
    scanf("%d",&n);
    if(n<4)
    {
        printf("Invalid");
    }
    else
    {
      for(i=0;i<n;i++)
      {
          scanf("%d",&arr[i]);
      }
      sum1=arr[0]+arr[n-1];
      sum2=arr[1]+arr[n-2];
      sum=sum1+sum2;
      printf("%d",sum1);
      printf("\n%d",sum2);
      printf("\n%d",sum);
    }
    return 0;
}
```

```
/tmp/BSSqQ5Ljh0.o
2
Invalid

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

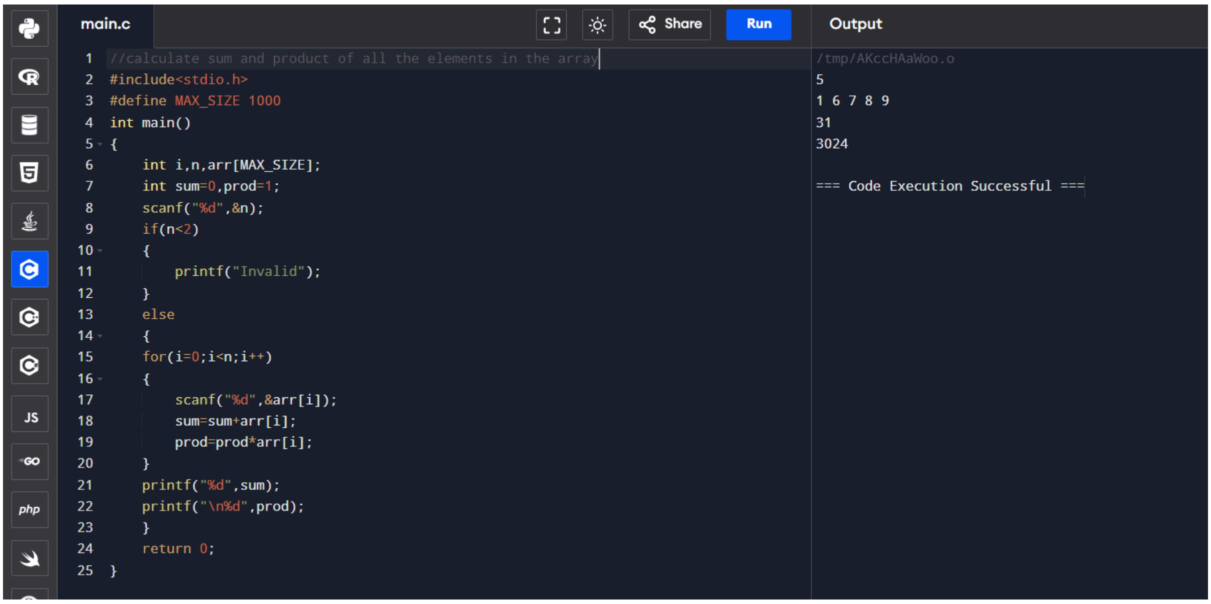
33.specific number divisor



```c
//specific number divisor
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],count=0,k;
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    scanf("%d",&k);
    for(i=0;i<n;i++)
    {
        if(arr[i]%k==0)
        {
            count++;
        }
    }
    printf("%d",count);
    if(count==n)
    {
        printf("\nCommon divisor available");
    }
    else
    {
        printf("\nNo Common divisor");
    }
    return 0;
}
```

```
/tmp/pDmeumMnVs.o
5
49 21 28 35 14
2
2
No Common divisor

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

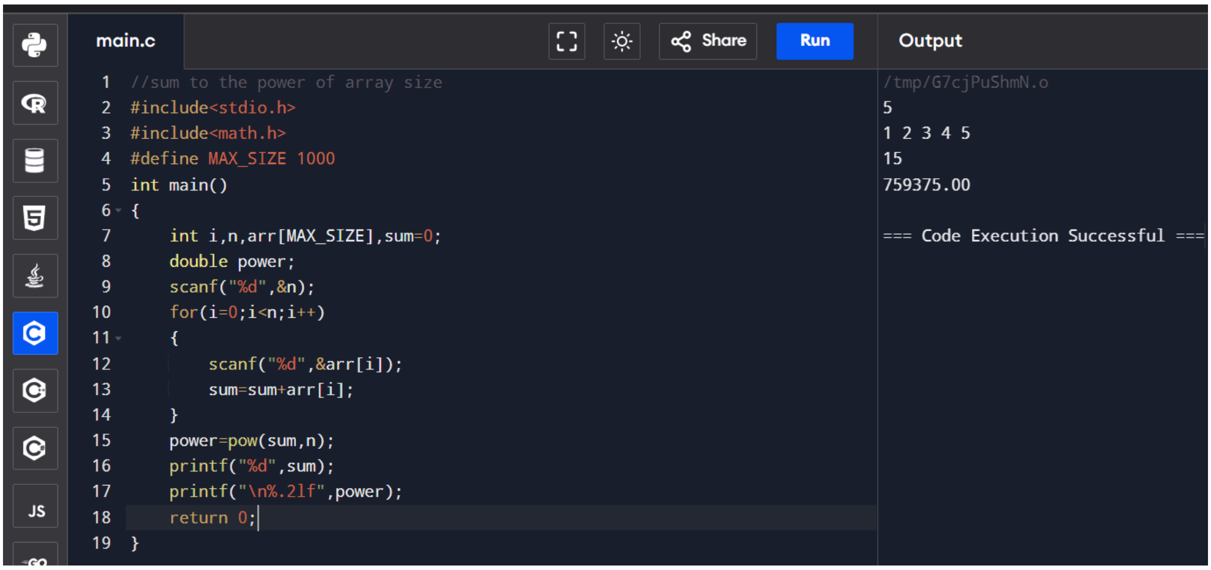
34.calculate sum and product of all the elements in the array



```c
//calculate sum and product of all the elements in the array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE];
    int sum=0,prod=1;
    scanf("%d",&n);
    if(n<2)
    {
        printf("Invalid");
    }
    else
    {
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
        sum=sum+arr[i];
        prod=prod*arr[i];
    }
    printf("%d",sum);
    printf("\n%d",prod);
    }
    return 0;
}
```

```
/tmp/AKccHAaWoo.o
5
1 6 7 8 9
31
3024

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

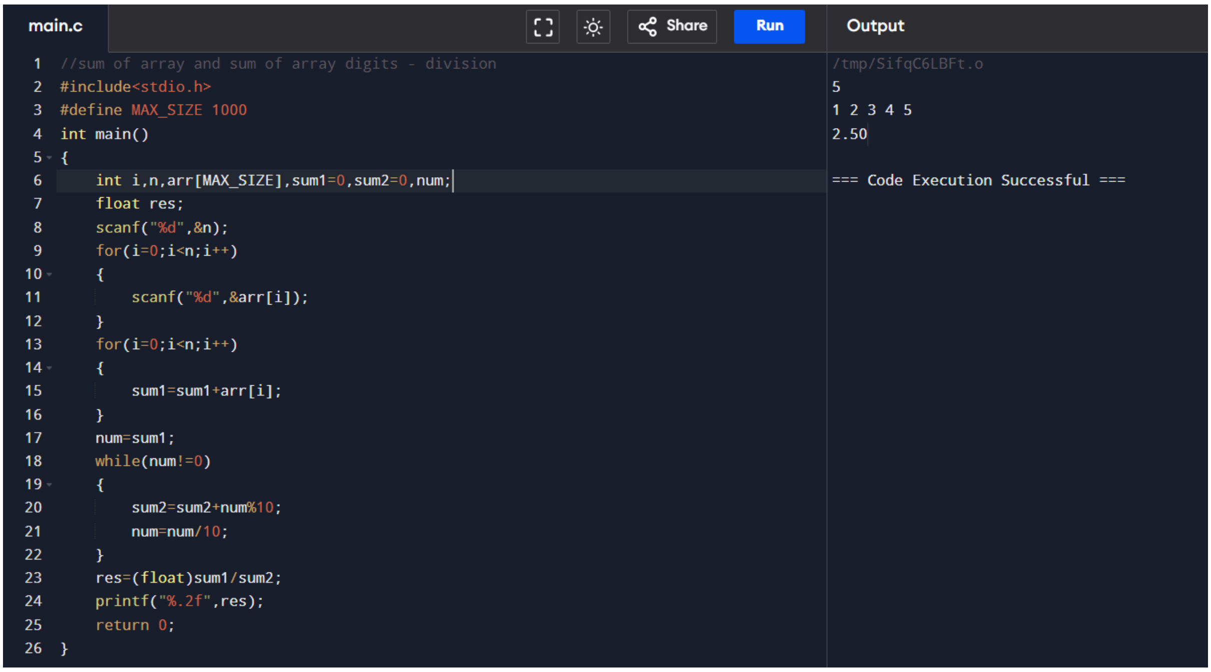
35.sum to the power of array size



```c
//sum to the power of array size
#include<stdio.h>
#include<math.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],sum=0;
    double power;
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
        sum=sum+arr[i];
    }
    power=pow(sum,n);
    printf("%d",sum);
    printf("\n%.2lf",power);
    return 0;
}
```

```
/tmp/G7cjPuShmN.o
5
1 2 3 4 5
15
759375.00

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

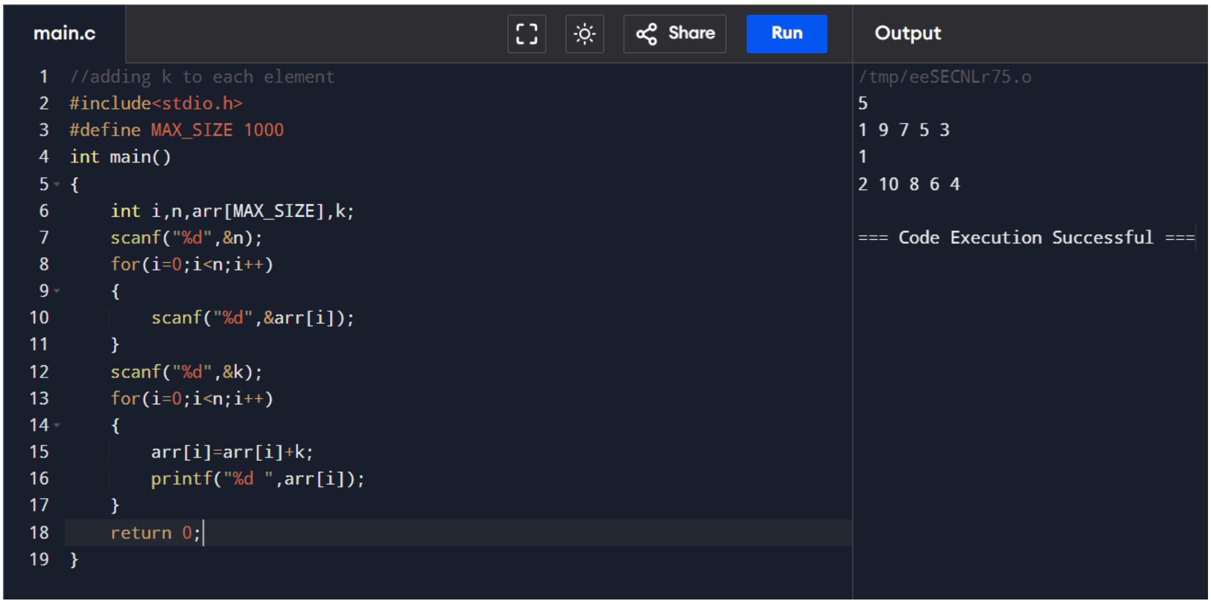
36.sum of array and sum of array digits - division



```c
//sum of array and sum of array digits - division
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],sum1=0,sum2=0,num;
    float res;
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        sum1=sum1+arr[i];
    }
    num=sum1;
    while(num!=0)
    {
        sum2=sum2+num%10;
        num=num/10;
    }
    res=(float)sum1/sum2;
    printf("%.2f",res);
    return 0;
}
```

```
/tmp/SifqC6LBFt.o
5
1 2 3 4 5
2.50

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

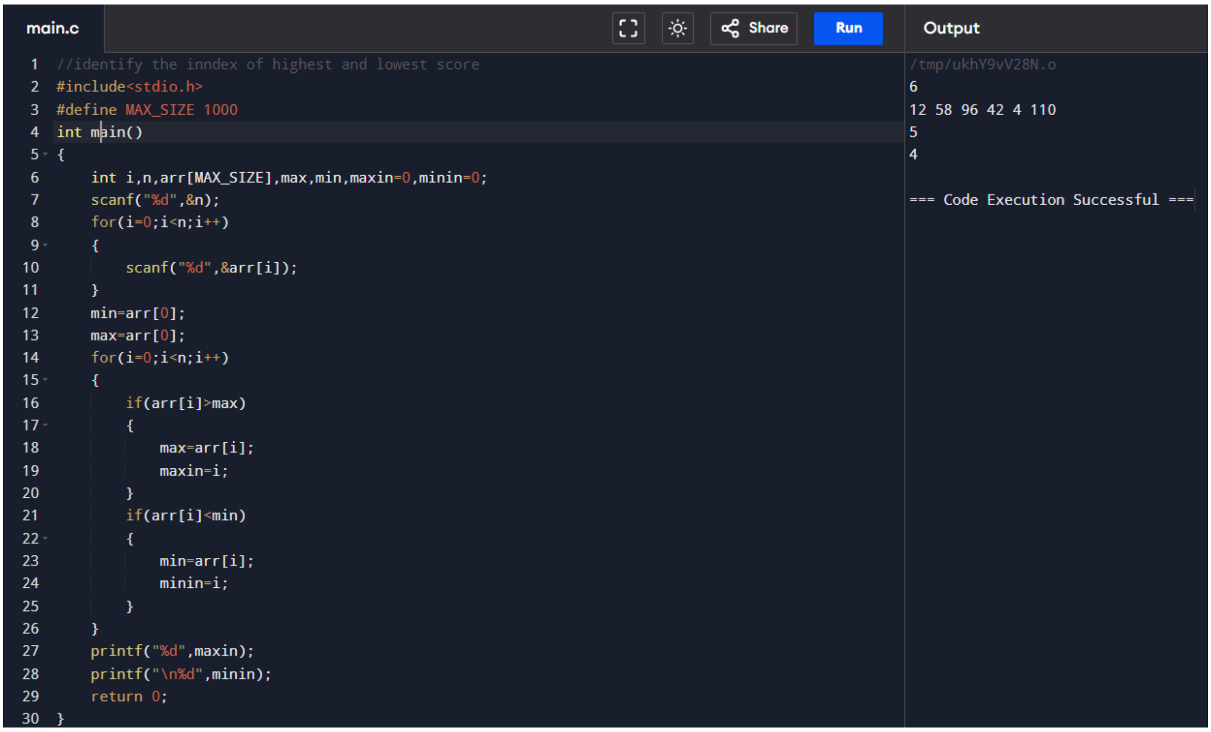
37.adding k to each element



```c
//adding k to each element
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],k;
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    scanf("%d",&k);
    for(i=0;i<n;i++)
    {
        arr[i]=arr[i]+k;
        printf("%d ",arr[i]);
    }
    return 0;
}
```

```
/tmp/eeSECNLr75.o
5
1 9 7 5 3
1
2 10 8 6 4

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

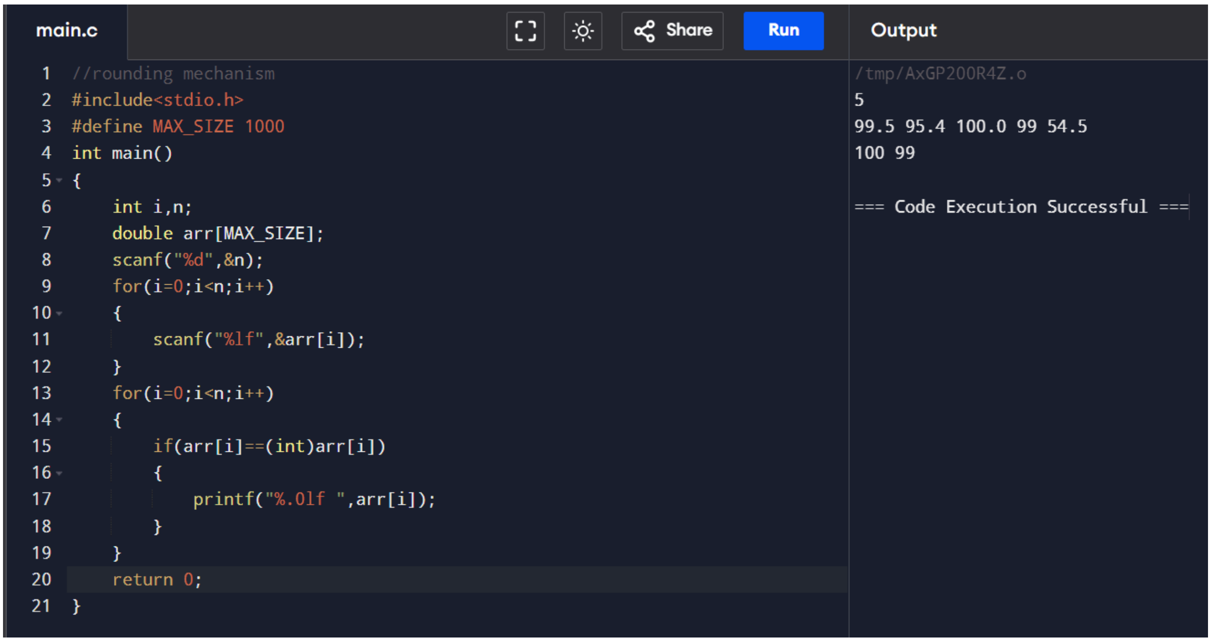
38.identify the index of highest and lowest score



```c
//identify the inndex of highest and lowest score
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],max,min,maxin=0,minin=0;
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    min=arr[0];
    max=arr[0];
    for(i=0;i<n;i++)
    {
        if(arr[i]>max)
        {
            max=arr[i];
            maxin=i;
        }
        if(arr[i]<min)
        {
            min=arr[i];
            minin=i;
        }
    }
    printf("%d",maxin);
    printf("\n%d",minin);
    return 0;
}
```

```
/tmp/ukhY9vV28N.o
6
12 58 96 42 4 110
5
4

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

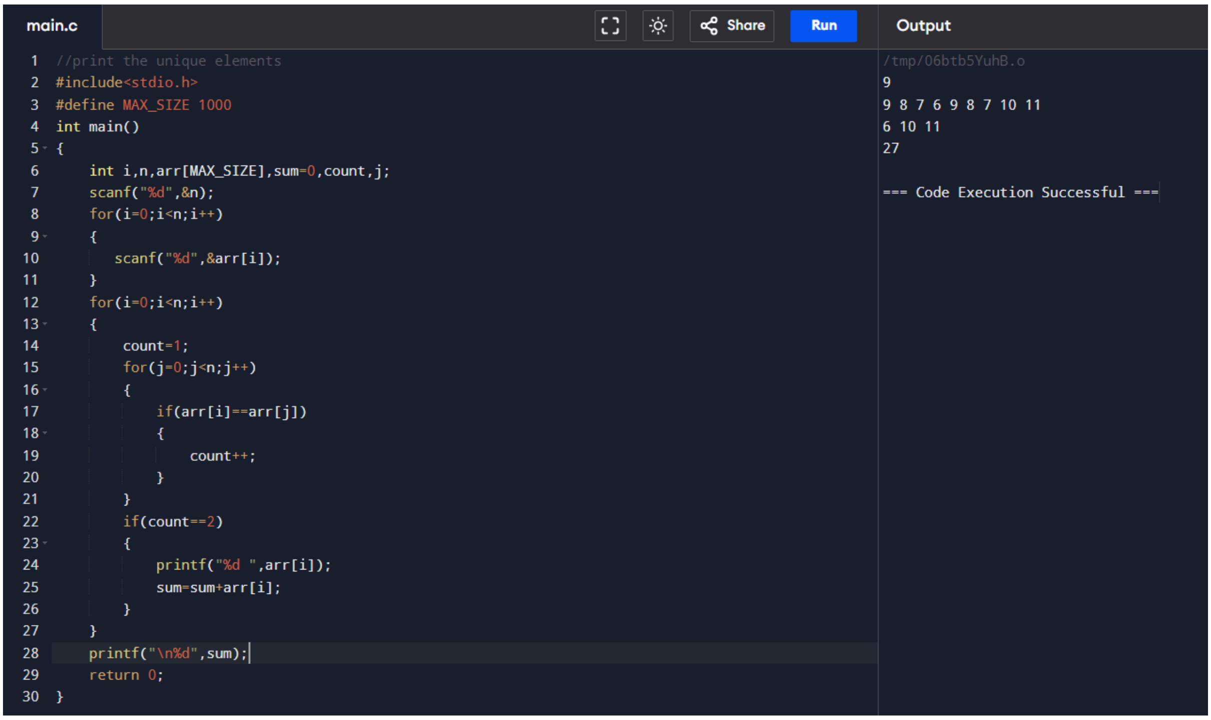
39.rounding mechanism



```c
//rounding mechanism
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n;
    double arr[MAX_SIZE];
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%lf",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        if(arr[i]==(int)arr[i])
        {
            printf("%.0lf ",arr[i]);
        }
    }
    return 0;
}
```

```
/tmp/AxGP200R4Z.o
5
99.5 95.4 100.0 99 54.5
100 99

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

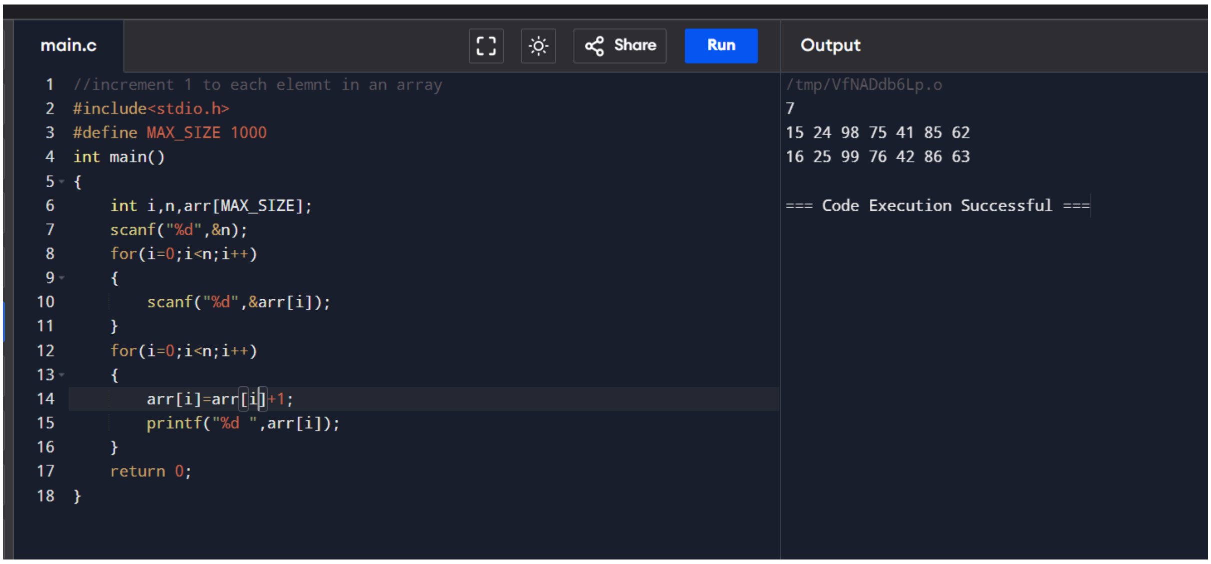
40.print unique elements along with their sum



```c
//print the unique elements
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE],sum=0,count,j;
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        count=1;
        for(j=0;j<n;j++)
        {
            if(arr[i]==arr[j])
            {
                count++;
            }
        }
        if(count==2)
        {
            printf("%d ",arr[i]);
            sum=sum+arr[i];
        }
    }
    printf("\n%d",sum);
    return 0;
}
```

```
/tmp/06btb5YuhB.o
9
9 8 7 6 9 8 7 10 11
6 10 11
27

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

41.Increment each element by 1

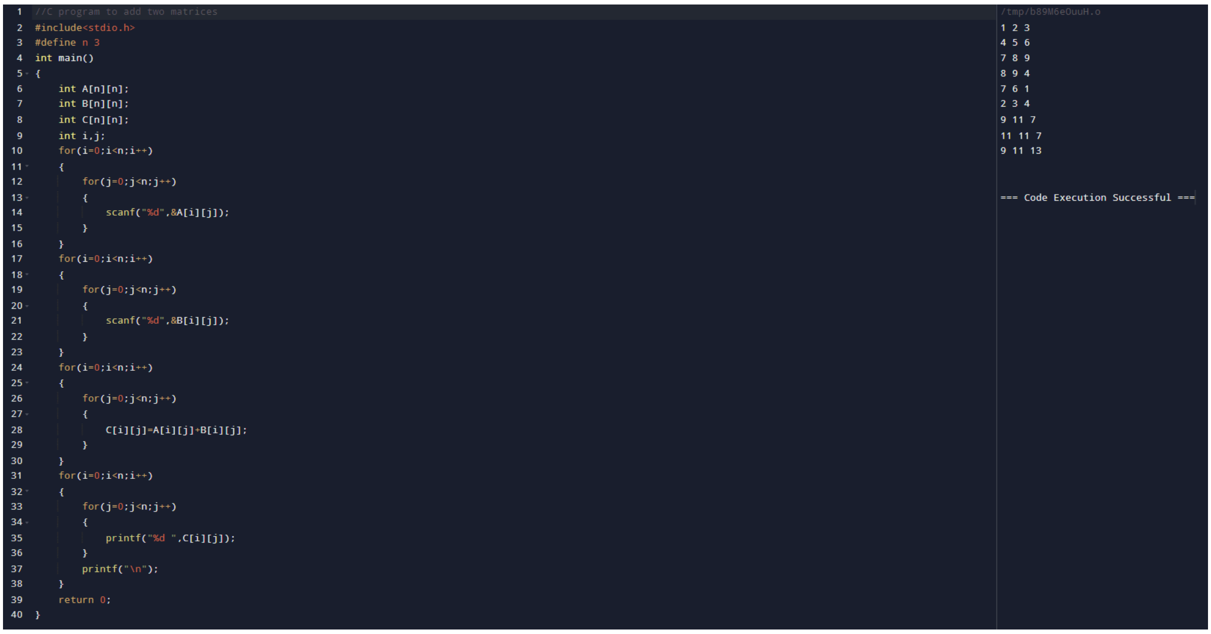


```c
//increment 1 to each elemnt in an array
#include<stdio.h>
#define MAX_SIZE 1000
int main()
{
    int i,n,arr[MAX_SIZE];
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    for(i=0;i<n;i++)
    {
        arr[i]=arr[i]+1;
        printf("%d ",arr[i]);
    }
    return 0;
}
```

```
/tmp/VfNADdb6Lp.o
7
15 24 98 75 41 85 62
16 25 99 76 42 86 63

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

MATRIX

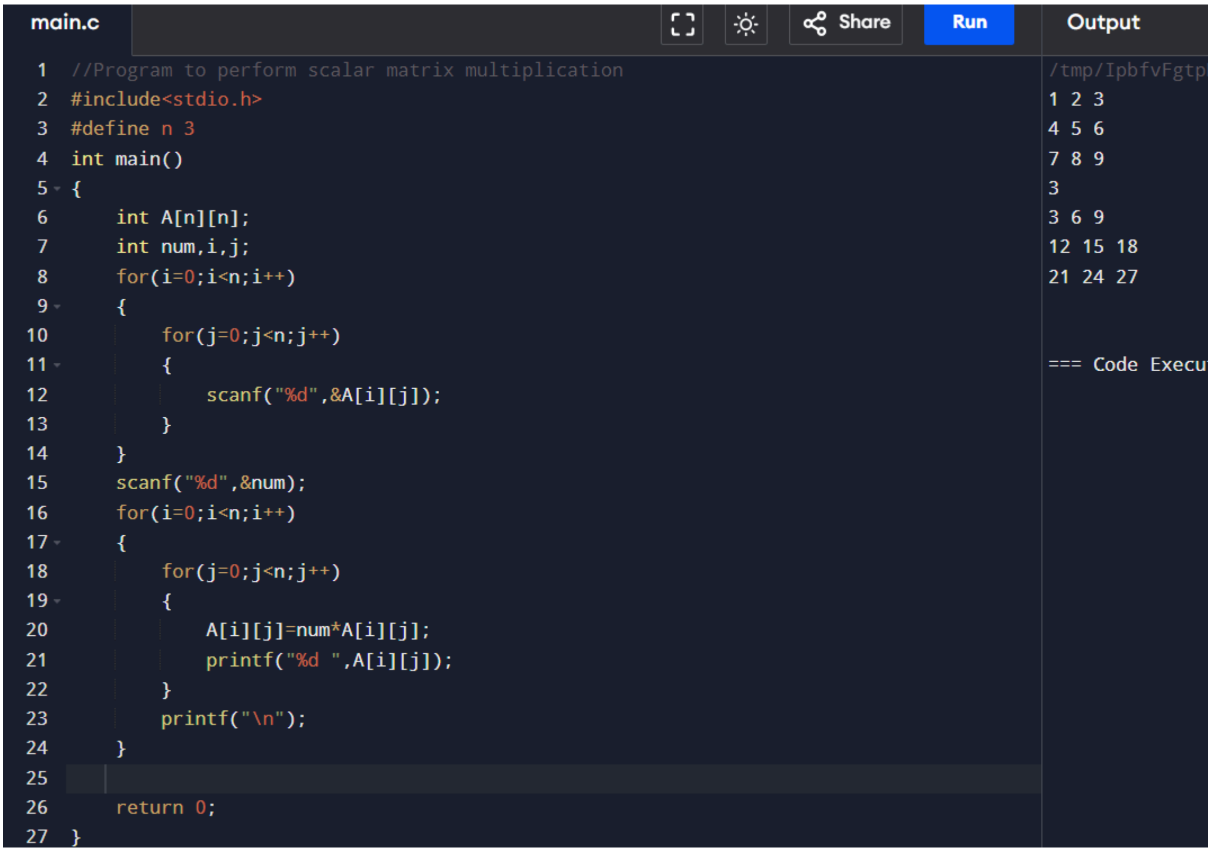
42.program to add two matrices



```c
//C program to add two matrices
#include<stdio.h>
#define n 3
int main()
{
    int A[n][n];
    int B[n][n];
    int C[n][n];
    int i,j;
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&A[i][j]);
        }
    }
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&B[i][j]);
        }
    }
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            C[i][j]=A[i][j]+B[i][j];
        }
    }
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            printf("%d ",C[i][j]);
        }
        printf("\n");
    }
    return 0;
}
```

```
/tmp/b89M6eOuuH.o
1 2 3
4 5 6
7 8 9
8 9 4
7 6 1
2 3 4
9 11 7
11 11 7
9 11 13


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

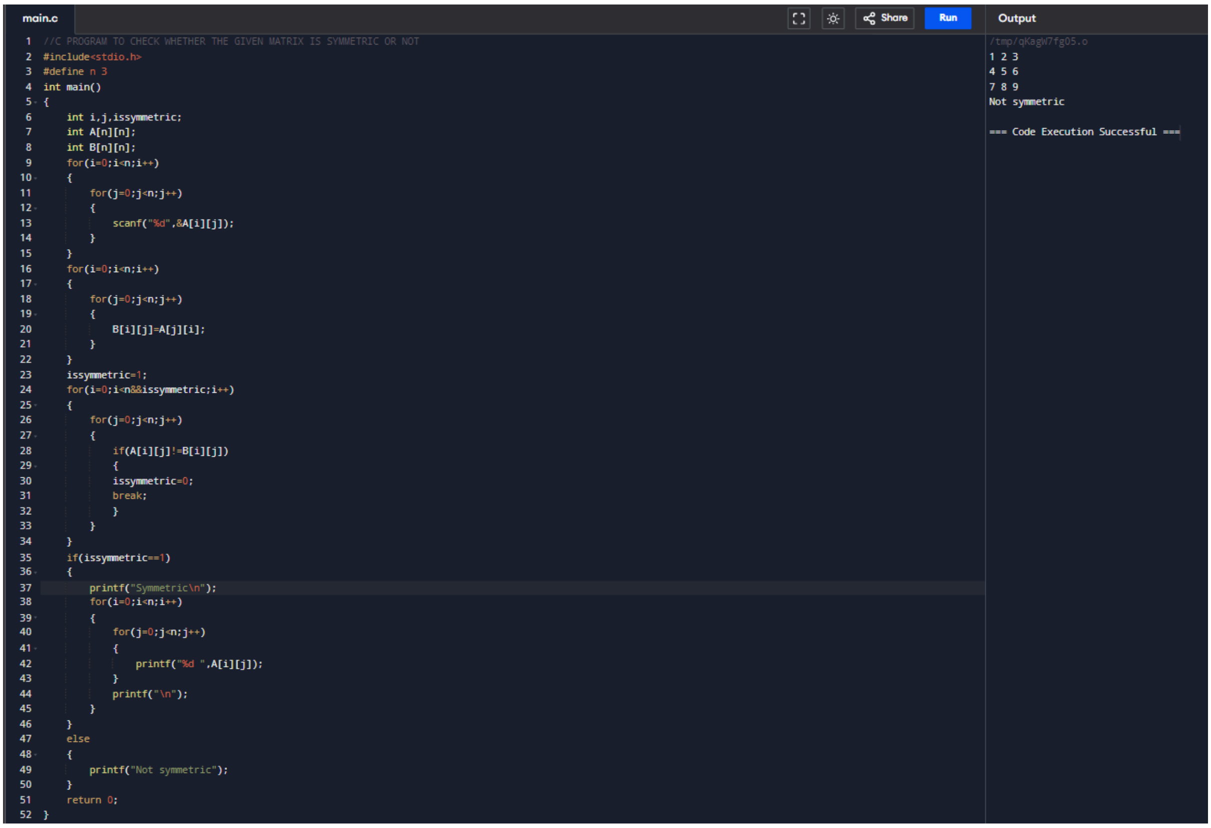
43.Scalar Matrix Multiplication



```c
//Program to perform scalar matrix multiplication
#include<stdio.h>
#define n 3
int main()
{
    int A[n][n];
    int num,i,j;
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&A[i][j]);
        }
    }
    scanf("%d",&num);
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            A[i][j]=num*A[i][j];
            printf("%d ",A[i][j]);
        }
        printf("\n");
    }

    return 0;
}
```

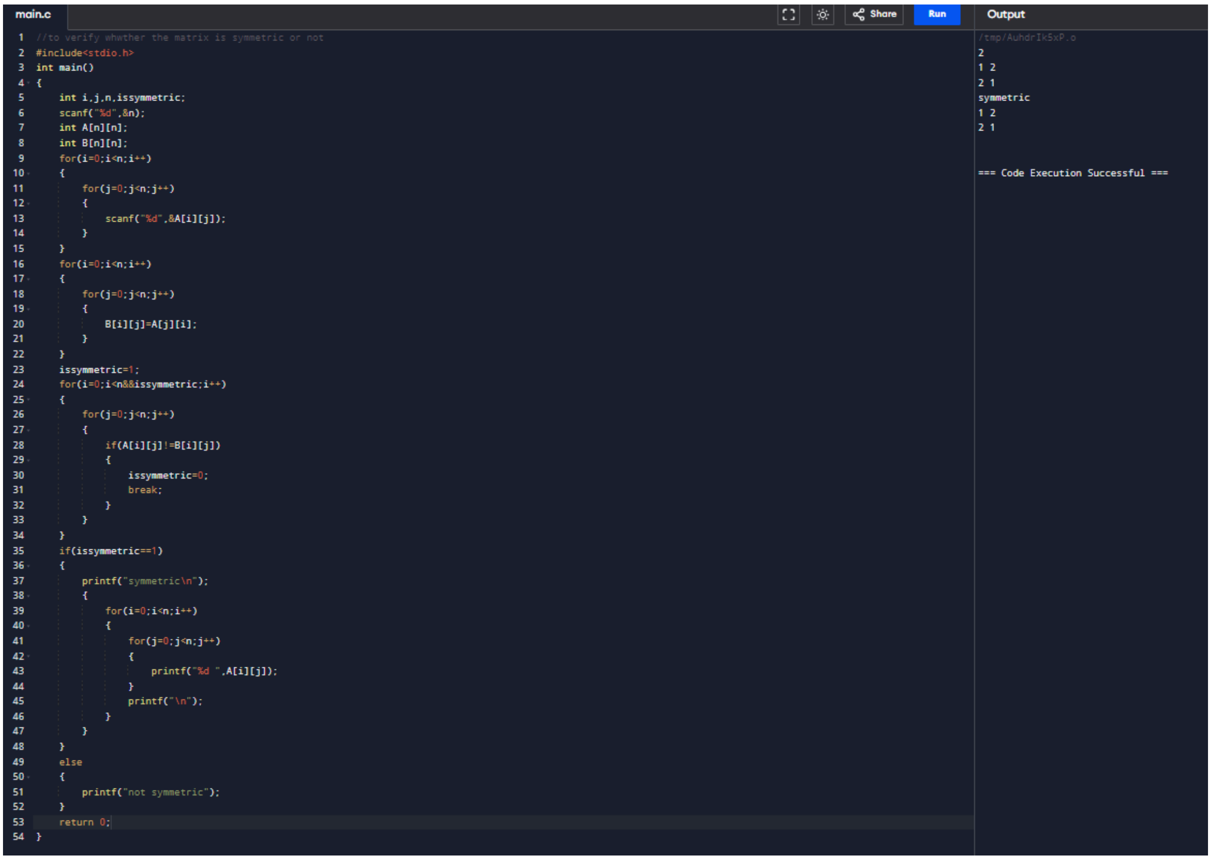
```
/tmp/IpbfvFgtp
1 2 3
4 5 6
7 8 9
3
3 6 9
12 15 18
21 24 27


=== Code Execu
```

44.to check whether the matrix is symmetric or not



```c
//C PROGRAM TO CHECK WHETHER THE GIVEN MATRIX IS SYMMETRIC OR NOT
#include<stdio.h>
#define n 3
int main()
{
    int i,j,issymmetric;
    int A[n][n];
    int B[n][n];
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&A[i][j]);
        }
    }
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            B[i][j]=A[j][i];
        }
    }
    issymmetric=1;
    for(i=0;i<n&&issymmetric;i++)
    {
        for(j=0;j<n;j++)
        {
            if(A[i][j]!=B[i][j])
            {
            issymmetric=0;
            break;
            }
        }
    }
    if(issymmetric==1)
    {
        printf("Symmetric\n");
        for(i=0;i<n;i++)
        {
            for(j=0;j<n;j++)
            {
                printf("%d ",A[i][j]);
            }
            printf("\n");
        }
    }
    else
    {
        printf("Not symmetric");
    }
    return 0;
}
```

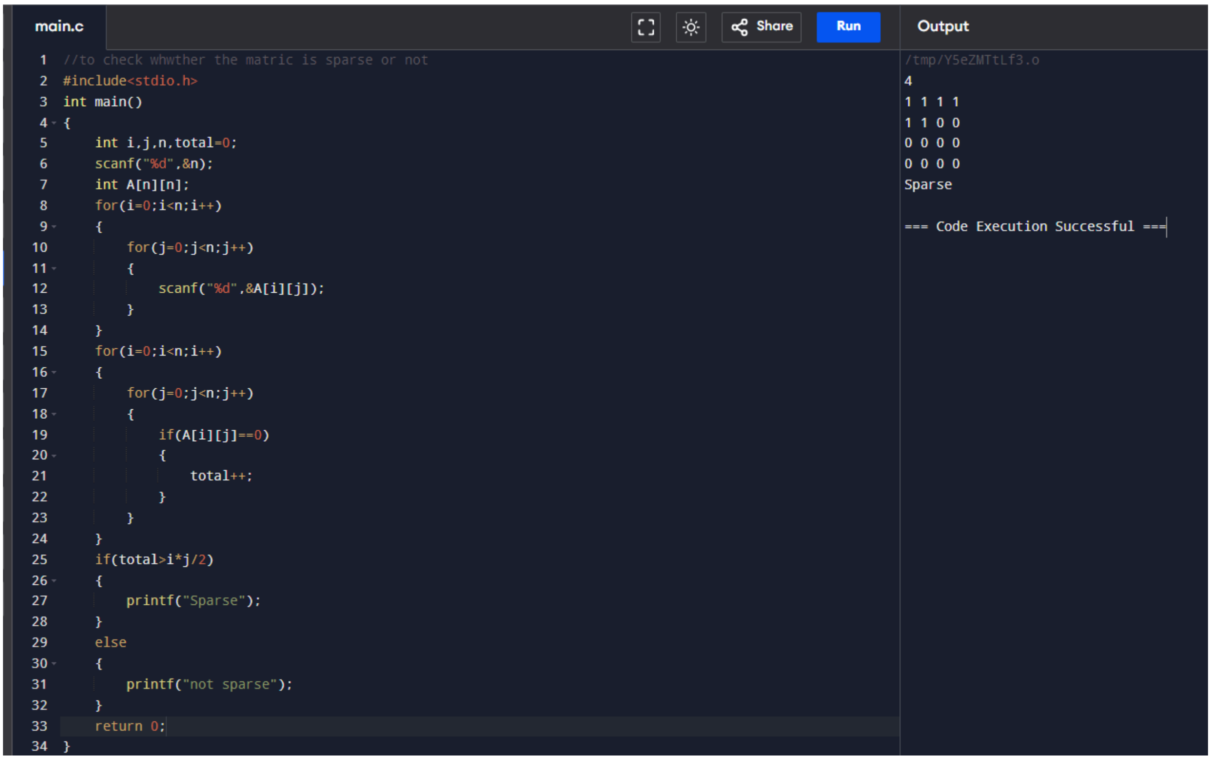
```
/tmp/qKagW7fg05.o
1 2 3
4 5 6
7 8 9
Not symmetric

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



```c
//to verify whwther the matrix is symmetric or not
#include<stdio.h>
int main()
{
    int i,j,n,issymmetric;
    scanf("%d",&n);
    int A[n][n];
    int B[n][n];
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&A[i][j]);
        }
    }
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            B[i][j]=A[j][i];
        }
    }
    issymmetric=1;
    for(i=0;i<n&&issymmetric;i++)
    {
        for(j=0;j<n;j++)
        {
            if(A[i][j]!=B[i][j])
            {
                issymmetric=0;
                break;
            }
        }
    }
    if(issymmetric==1)
    {
        printf("symmetric\n");
        {
            for(i=0;i<n;i++)
            {
                for(j=0;j<n;j++)
                {
                    printf("%d ",A[i][j]);
                }
                printf("\n");
            }
        }
    }
    else
    {
        printf("not symmetric");
    }
    return 0;
}
```

```
/tmp/AuhdrIk5xP.o
2
1 2
2 1
symmetric
1 2
2 1


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

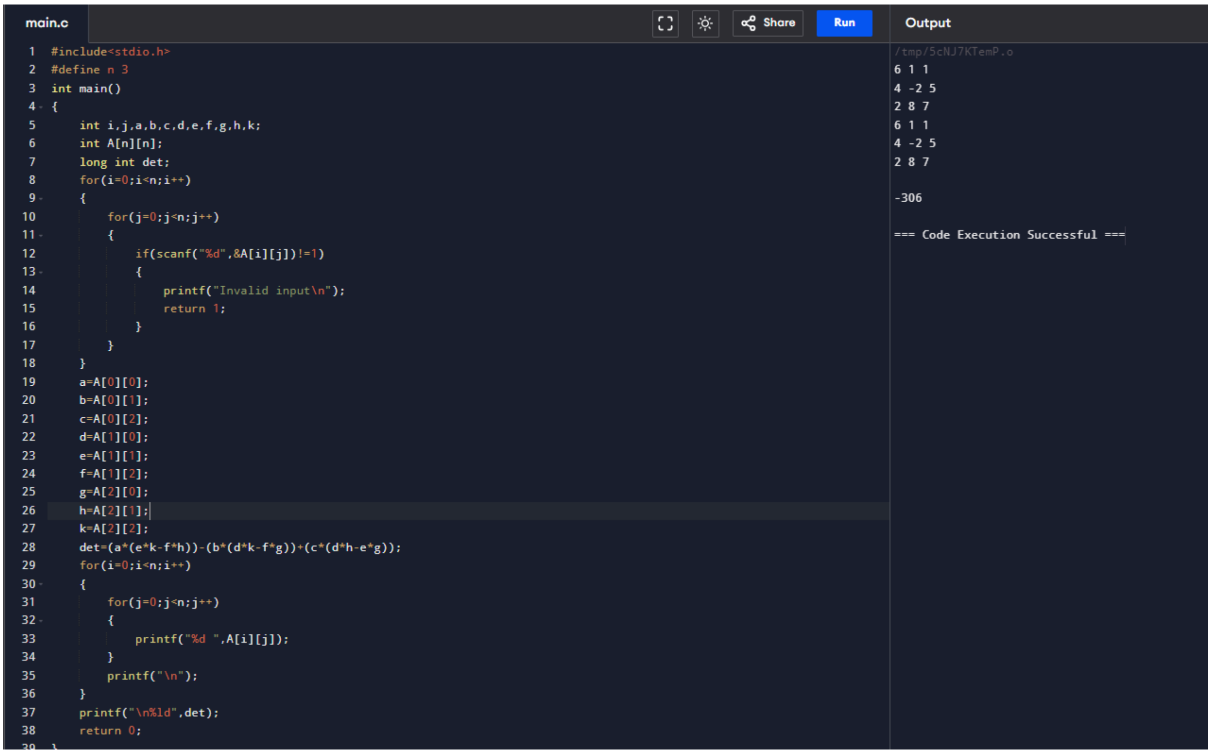
45. To check sparse matrix or not



```c
//to check whwther the matric is sparse or not
#include<stdio.h>
int main()
{
    int i,j,n,total=0;
    scanf("%d",&n);
    int A[n][n];
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&A[i][j]);
        }
    }
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            if(A[i][j]==0)
            {
                total++;
            }
        }
    }
    if(total>i*j/2)
    {
        printf("Sparse");
    }
    else
    {
        printf("not sparse");
    }
    return 0;
}
```

```
/tmp/Y5eZMTtLf3.o
4
1 1 1 1
1 1 0 0
0 0 0 0
0 0 0 0
Sparse

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

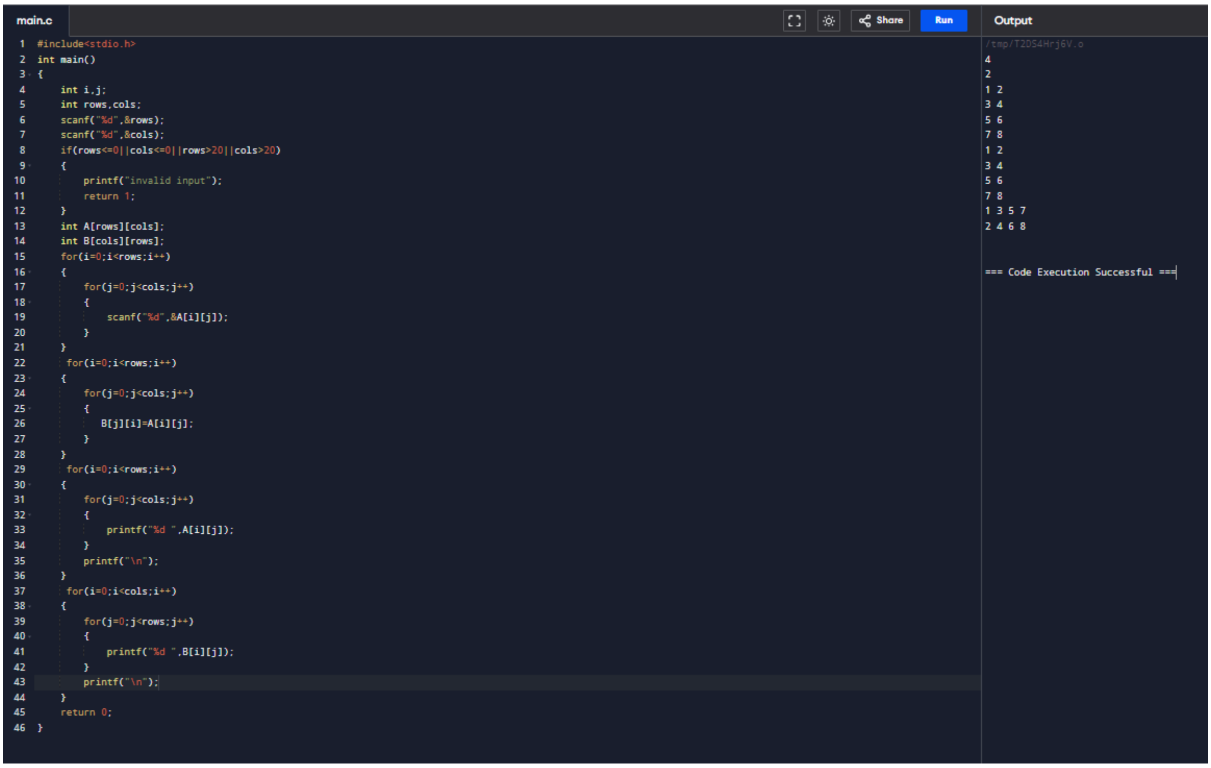
46.To find the determinant of the matrix



```c
#include<stdio.h>
#define n 3
int main()
{
    int i,j,a,b,c,d,e,f,g,h,k;
    int A[n][n];
    long int det;
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            if(scanf("%d",&A[i][j])!=1)
            {
                printf("Invalid input\n");
                return 1;
            }
        }
    }
    a=A[0][0];
    b=A[0][1];
    c=A[0][2];
    d=A[1][0];
    e=A[1][1];
    f=A[1][2];
    g=A[2][0];
    h=A[2][1];
    k=A[2][2];
    det=(a*(e*k-f*h))-(b*(d*k-f*g))+(c*(d*h-e*g));
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            printf("%d ",A[i][j]);
        }
        printf("\n");
    }
    printf("\n%ld",det);
    return 0;
}
```

```
/tmp/5cNJ7KTemP.o
6 1 1
4 -2 5
2 8 7
6 1 1
4 -2 5
2 8 7

-306

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

47.transpose of the given rows and columns



```c
#include<stdio.h>
int main()
{
    int i,j;
    int rows,cols;
    scanf("%d",&rows);
    scanf("%d",&cols);
    if(rows<=0||cols<=0||rows>20||cols>20)
    {
        printf("invalid input");
        return 1;
    }
    int A[rows][cols];
    int B[cols][rows];
    for(i=0;i<rows;i++)
    {
        for(j=0;j<cols;j++)
        {
            scanf("%d",&A[i][j]);
        }
    }
     for(i=0;i<rows;i++)
    {
        for(j=0;j<cols;j++)
        {
           B[j][i]=A[i][j];
        }
    }
     for(i=0;i<rows;i++)
    {
        for(j=0;j<cols;j++)
        {
            printf("%d ",A[i][j]);
        }
        printf("\n");
    }
     for(i=0;i<cols;i++)
    {
        for(j=0;j<rows;j++)
        {
            printf("%d ",B[i][j]);
        }
        printf("\n");
    }
    return 0;
}
```

```
/tmp/T2DS4Hrj6V.o
4
2
1 2
3 4
5 6
7 8
1 2
3 4
5 6
7 8
1 3 5 7
2 4 6 8


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