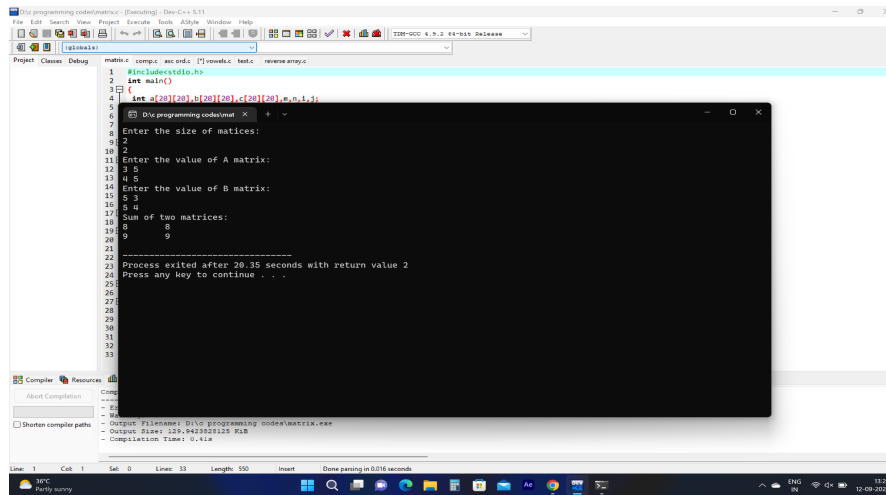


C PROGRAMMING

1. Write a program for matrix multiplication?

```
#include<stdio.h>
int main()
{
    int a[20][20],b[20][20],c[20][20],m,n,i,j;
    printf("Enter the size of matrices:\n");
    scanf("%d%d",&m,&n);
    printf("Enter the value of A matrix:\n");
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    printf("Enter the value of B matrix:\n");
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            scanf("%d",&b[i][j]);
        }
    }
    printf("Sum of two matrices:\n");
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            c[i][j]=a[i][j]+b[i][j];
            printf("%d\t",c[i][j]);
        }
        printf("\n");
    }
}
```

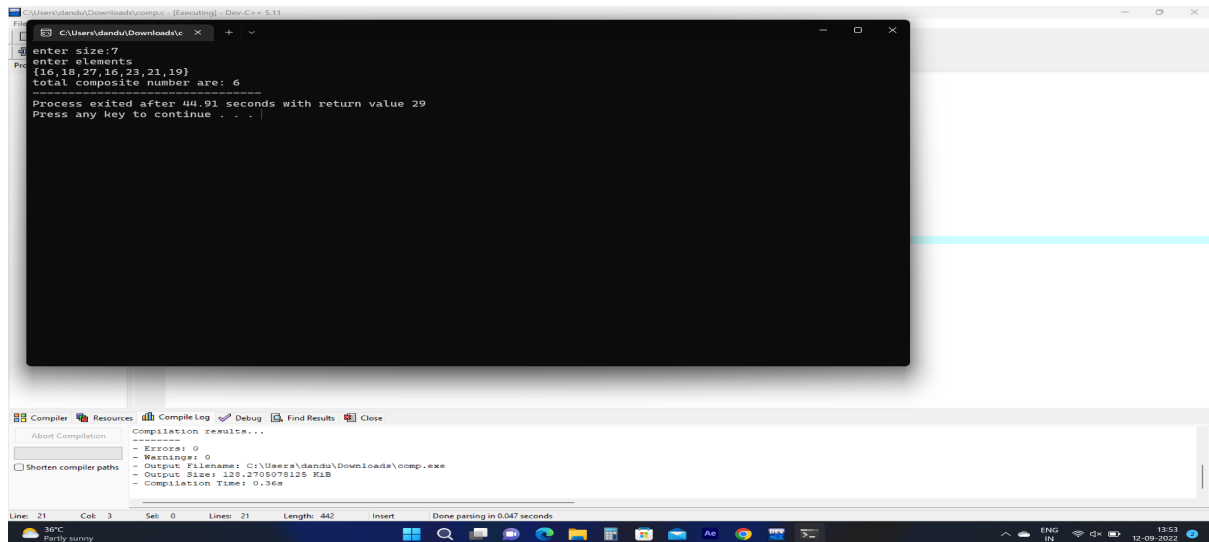
C PROGRAMMING



2. Write a program to find the number of composite numbers in an array of elements

```
#include<stdio.h>
void main (){
    int i,n,a[100],count=0;
    printf("enter size:");
    scanf("%d",&n);
    printf("enter elements\n");
    for(i=0;i<n;i++){
        scanf("%d",&a[i]);
    }
    for(i=0;i<n;i++){
        if(a[i]==2){
            continue;
        }
        else if(a[i]%2==0){
            count++;
        }
    }
    if(count>2){
        printf("total composite number are: %d",count);
    }
}
```

C PROGRAMMING



```
enter size:7
enter elements
{16,18,27,16,23,21,19}
total composite number are: 6
Process exited after 44.91 seconds with return value 29
Press any key to continue . . .
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\dandu\Downloads\comp.exe
- Output Size: 128.2705079125 KIB
- Compilation Time: 0.36s

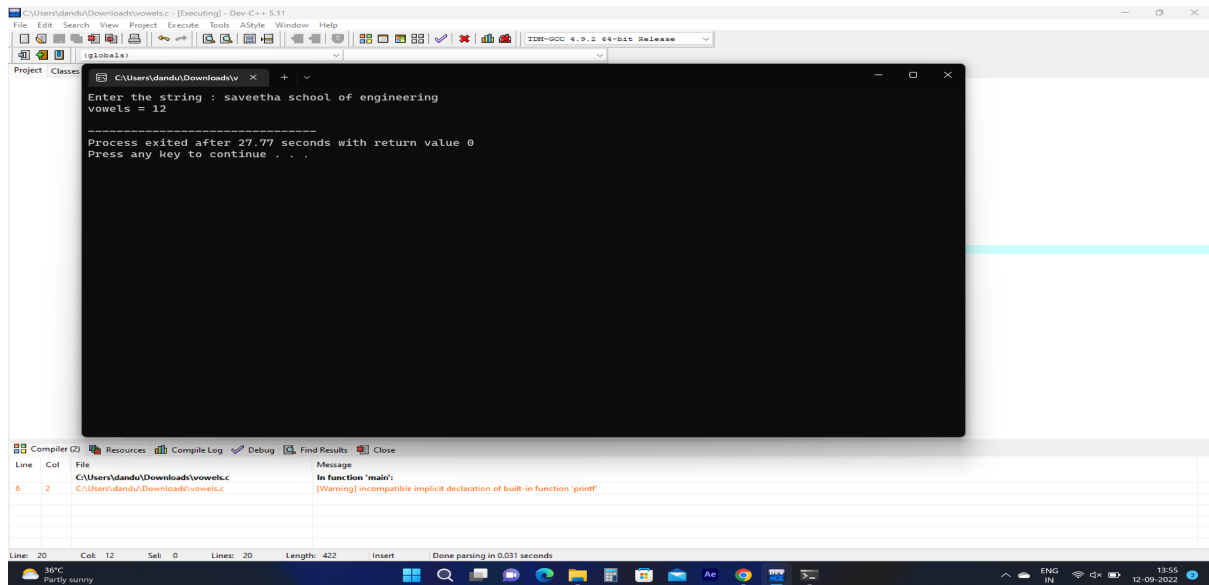
3. Write a program to print the number of vowels in the given statement?

```
#include <string.h>
int main()
{
    char s[1000];
    int i,vowels=0,consonants=0;
    printf("Enter the string : ");
    gets(s);
    for(i=0;s[i];i++)
    {
        if((s[i]>=65 && s[i]<=90)|| (s[i]>=97 && s[i]<=122))
        {
            if(s[i]=='a' ||
            s[i]=='e' || s[i]=='i' || s[i]=='o' || s[i]=='u' || s[i]=='A' || s[i]=='E' || s[i]=='I' || s[i]=='O' || s[i]=='U')
            vowels++;
        }
        else
            consonants++;
    }

    printf("vowels = %d\n",vowels);
    return 0;}

```

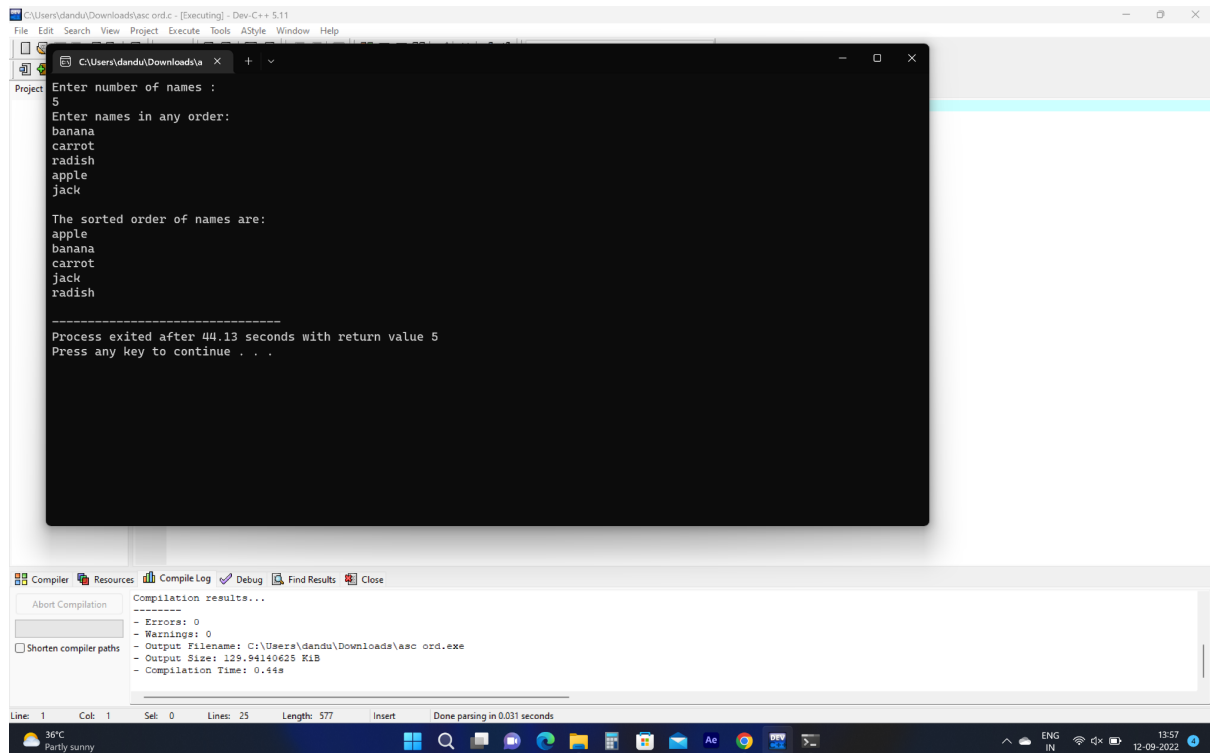
C PROGRAMMING



4. Write a program that would sort a list of names in alphabetical order Ascending or Descending, choice get from the user?

```
#include<stdio.h>
#include<string.h>
main(){
    int i,j,n;
    char str[100][100],s[100];
    printf("Enter number of names :\n");
    scanf("%d",&n);
    printf("Enter names in any order:\n");
    for(i=0;i<n;i++){
        scanf("%s",str[i]);
    }
    for(i=0;i<n;i++){
        for(j=i+1;j<n;j++){
            if(strcmp(str[i],str[j])>0){
                strcpy(s,str[i]);
                strcpy(str[i],str[j]);
                strcpy(str[j],s);
            }
        }
    }
    printf("\nThe sorted order of names are:\n");
    for(i=0;i<n;i++){
        printf("%s\n",str[i]);
    }
}
```

C PROGRAMMING



```
Enter number of names :
5
Enter names in any order:
banana
carrot
radish
apple
jack

The sorted order of names are:
apple
banana
carrot
jack
radish

-----
Process exited after 44.13 seconds with return value 5
Press any key to continue . . .
```

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\dandud\Downloads\aac ord.exe
- Output Size: 129,941,492,628 B
- Compilation Time: 0.44s

5. Find the Mean, Median, Mode of the array of numbers?

```
#include<stdio.h>
```

```
main()
```

```
{
```

```
int i,j,a[20]={0},sum=0,n,t,b[20]={0},k=0,c=1,max=0,mode;
```

```
float x=0.0,y=0.0;
```

```
printf("\nEnter the limit\n");
```

```
scanf("%d",&n);
```

```
printf("Enter the set of numbers\n");
```

```
for(i=0;i<n;i++)
```

```
{
```

```
scanf("%d",&a[i]);
```

```
sum=sum+a[i];
```

```
}
```

```
x=(float)sum/(float)n;
```

```
printf("Mean\t= %f",x);
```

```
for(i=0;i<n;i++)
```

```
{
```

```
for(j=i+1;j<n;j++)
```

```
{
```

```
if(a[i]>a[j])
```

```
{
```

```
t=a[i];
```

```
a[i]=a[j];
```

```
a[j]=t;
```

C PROGRAMMING

```
    }
    }
}
if(n%2==0)
y=(float)(a[n/2]+a[(n-1)/2])/2;
else
y=a[(n-1)/2];
printf("\nMedian\t= %f",y);

for(i=0;i<n-1;i++)
{
mode=0;
for(j=i+1;j<n;j++)
{
if(a[i]==a[j])
{
mode++;
}
}
if((mode>max)&&(mode!=0))
{
k=0;
max=mode;
b[k]=a[i];
k++;
}
else if(mode==max)
{
b[k]=a[i];
k++;
}
}
for(i=0;i<n;i++)
{
if(a[i]==b[i])
c++;
}
if(c==n)
printf("\nThere is no mode");
else
{
printf("\nMode\t= ");
for(i=0;i<k;i++)
printf("%d ",b[i]);
}
}
```

C PROGRAMMING

The screenshot shows a C++ IDE with a project named 'D:\c programming codes\mean.c'. The code in 'mean.c' calculates the mean, median, and mode of an array. The output window shows the following results:

```
Enter the limit
7
Enter the set of numbers
16
18
27
16
23
21
19
Mean = 20.000000
Median = 19.000000
Mode = 16
Process exited after 53.66 seconds with return value 1
Press any key to continue . . .
```

6. Write a program to reverse an array

```
#include <stdio.h>
```

```
int main(){
```

```
    int num, i, j, array1[50], array2[50];
```

```
    printf("Enter no of elements in array\n");
```

```
    scanf("%d", &num);
```

```
    printf("Enter array elements\n");
```

```
    for (i = 0; i < num; i++)
```

```
        scanf("%d", &array1[i]);
```

```
    for (i = num - 1, j = 0; i >= 0; i--, j++)
```

```
        array2[j] = array1[i];
```

```
    for (i = 0; i < num; i++)
```

```
        array1[i] = array2[i];
```

```
    printf("The reversed array:\n");
```

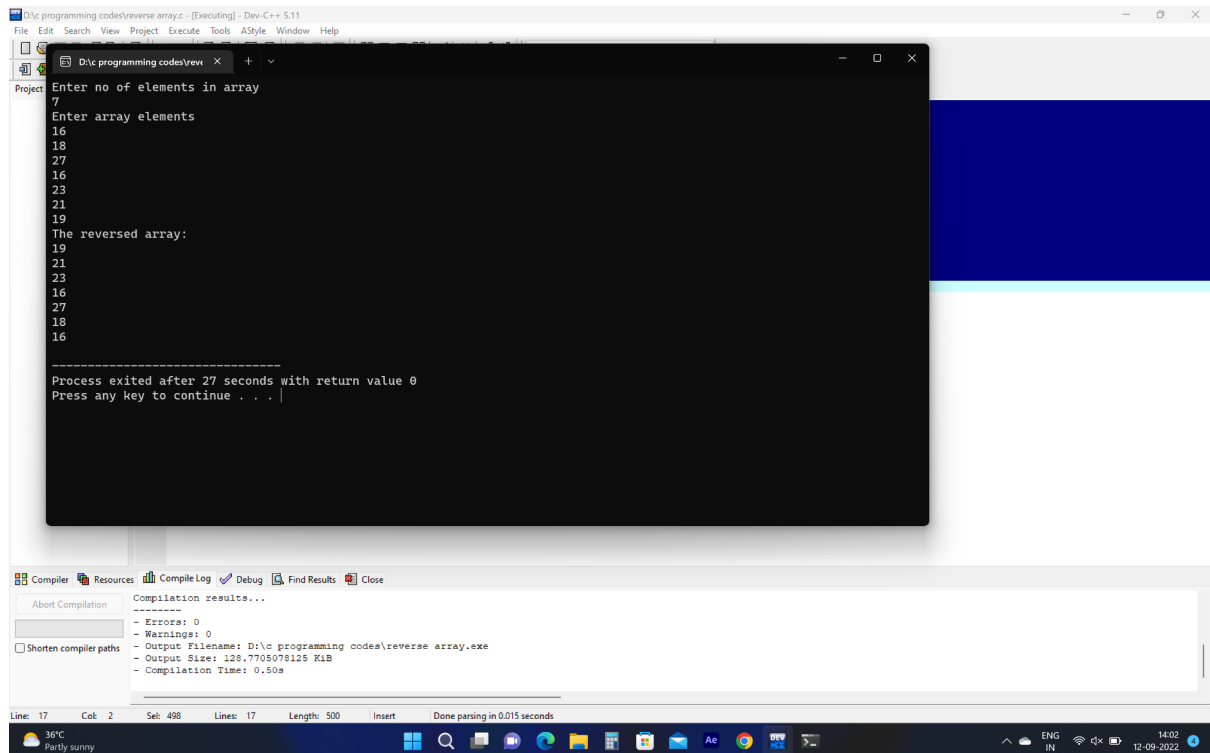
```
    for (i = 0; i < num; i++)
```

```
        printf("%d\n", array1[i]);
```

```
    return 0;
```

```
}
```

C PROGRAMMING



```
D:\c programming codes\reverse array.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
D:\c programming codes\revi
Enter no of elements in array
7
Enter array elements
16
18
27
16
23
21
19
The reversed array:
19
21
23
16
27
18
16

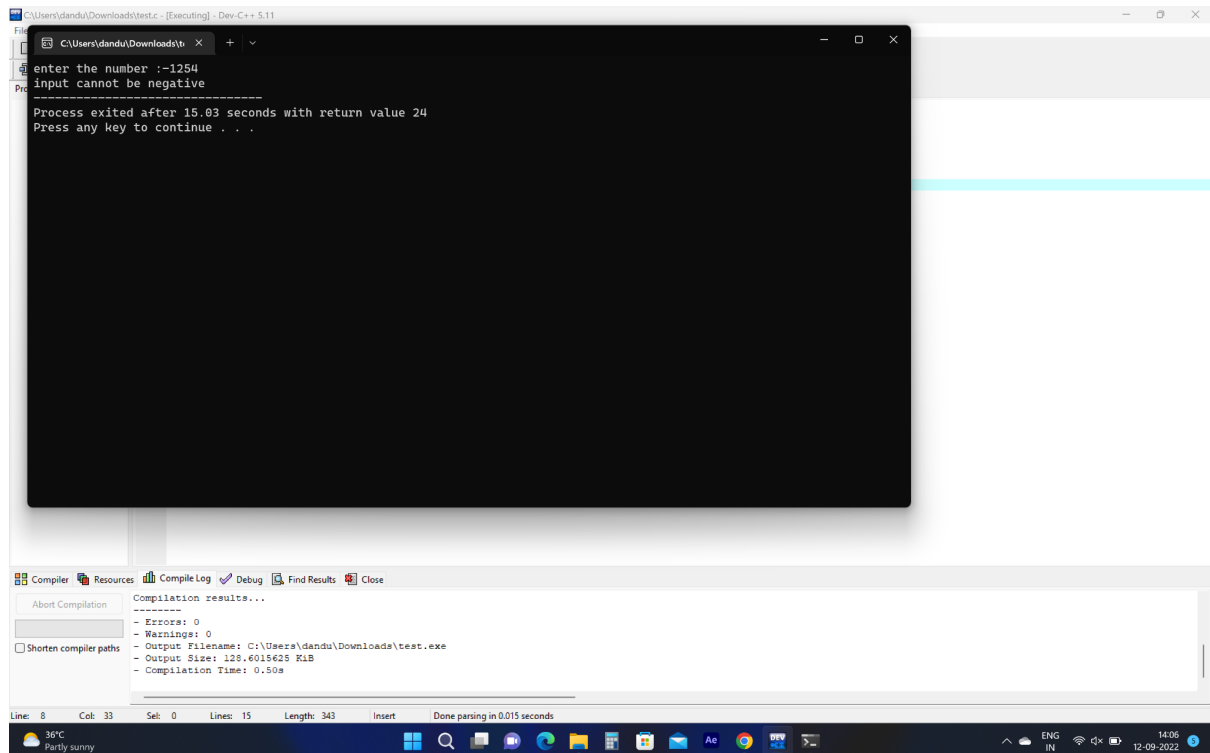
-----
Process exited after 27 seconds with return value 0
Press any key to continue . . . |

Compiler Resources Compile Log Debug Find Results Close
About Compilation
Shorten compiler paths
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: D:\c programming codes\reverse array.exe
- Output Size: 128.7705078125 KiB
- Compilation Time: 0.50s
Line: 17 Col: 2 Sel: 498 Lines: 17 Length: 500 Insert Done parsing in 0.015 seconds
36°C Partly sunny 14:02 12-09-2022
```

7.write a program to check whether the number divisible by 2 then print the given number even otherwise odd.?

```
#include<stdio.h>
int main()
{
    int num;
    printf("enter the number :");
    scanf("%d",&num);
    if(num==0)
        printf("input cannot be 0");
    else if(num<=0)
        printf("input cannot be negative");
    else if(num%2==0)
        printf("the given number is even");
    else if(num%2!=0)
        printf("the given number is odd");
}
```


C PROGRAMMING

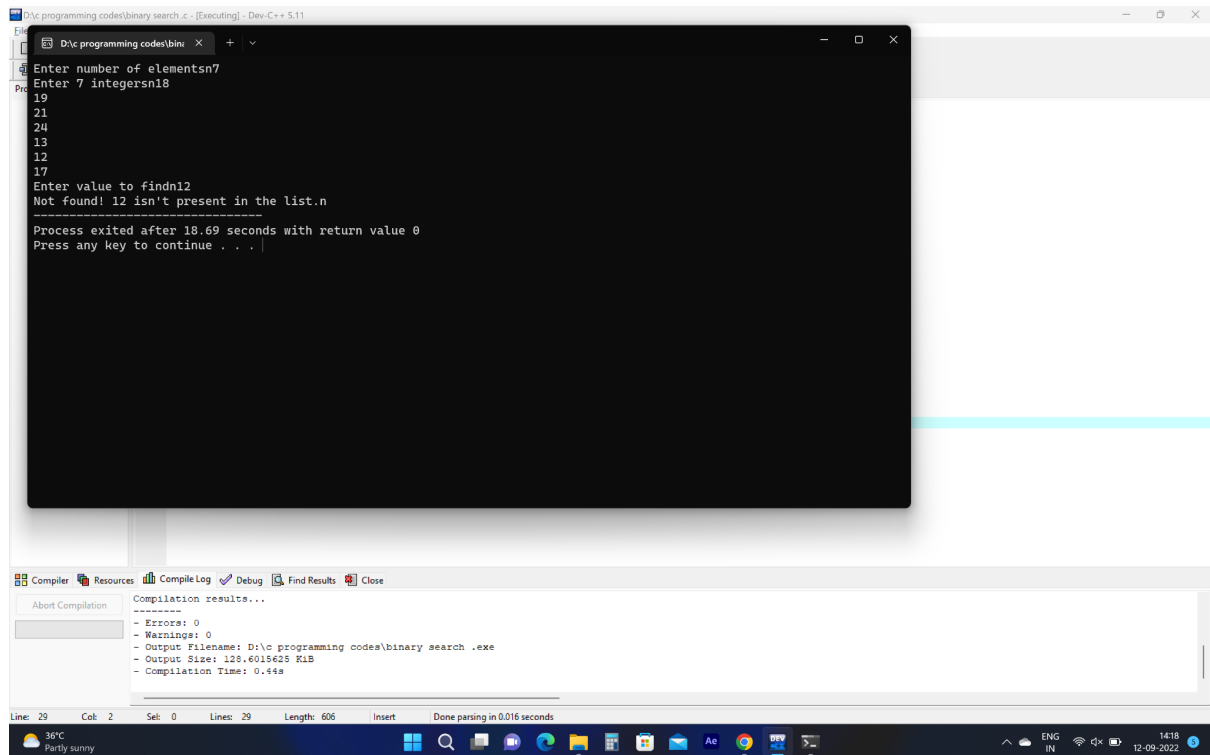


8. Write a program to search the given element using binary search method and display its position in a linear array?

```
#include <stdio.h>
int main()
{
    int i, low, high, mid, n, key, array[100];
    printf("Enter number of elementsn");
    scanf("%d",&n);
    printf("Enter %d integersn", n);
    for(i = 0; i < n; i++)
        scanf("%d",&array[i]);
    printf("Enter value to findn");
    scanf("%d", &key);
    low = 0;
    high = n - 1;
    mid = (low+high)/2;
    while (low <= high) {
        if(array[mid] < key)
            low = mid + 1;
        else if (array[mid] == key) {
            printf("%d found at location %d.n", key, mid+1);
            break;
        }
        else
            high = mid - 1;
        mid = (low + high)/2;
    }
```

C PROGRAMMING

```
}  
if(low > high)  
printf("Not found! %d isn't present in the list.n", key);  
return 0;  
}
```



The screenshot shows a Windows Dev-C++ IDE with the following components:

- Console Window:** Displays the execution of a C program. The output is as follows:
Enter number of elementsn7
Enter 7 integersn18
19
21
24
13
12
17
Enter value to findn12
Not found! 12 isn't present in the list.n

Process exited after 18.69 seconds with return value 0
Press any key to continue . . .
- Compiler Window:** Shows the compilation results for the file `D:\c programming codes\binary search .exe`. The results are:

- Errors: 0
- Warnings: 0
- Output Filename: D:\c programming codes\binary search .exe
- Output Size: 128.6015625 KiB
- Compilation Time: 0.44s
- Status Bar:** At the bottom, it shows the current line and column (Line: 29, Col: 2), the selection (Sel: 0), and the length of the selection (Length: 606). It also indicates that parsing is done in 0.016 seconds.
- Taskbar:** The Windows taskbar at the bottom shows the system clock as 14:18 on 12-09-2022, along with weather information (36°C, Partly sunny) and various application icons.