

DATA STRUCTURE AND ALGORITHM DIGITAL ASSIGNMENT

THE GAME OF ARRAY-THE MODULO LEARNING PUZZLE

This game is made by using the C language with arrays as the data structure. An array is a collection of elements of a similar data types ,the elements can be accessed randomly using the array index data elements are stored in contiguous locations in memory thus it is used for the game so that the user can easily use it.

This game is suitable for the early learners or the beginners who started learning computer science or mathematics operator using basic mathematic function and is new to the concept of using the modulo operator or the person is a self learner.

In this the user(who is the player) enters 'N' number of elements which are positive numbers, each number divide themselves giving remainders. According to the code ,following the for loop the values in the array are inserted, using the if condition the largest and the second largest number are finalized. Then the greatest modulo value is found out by dividing the second largest number(max2) divided by the largest number(max1).

This game helps to clear the concept of modulo operator easily and also the function of the array how it is used and why it is beneficial to use it.

INPUT

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

```
#include <stdlib.h>
```

```
int main()
```

```
{
```

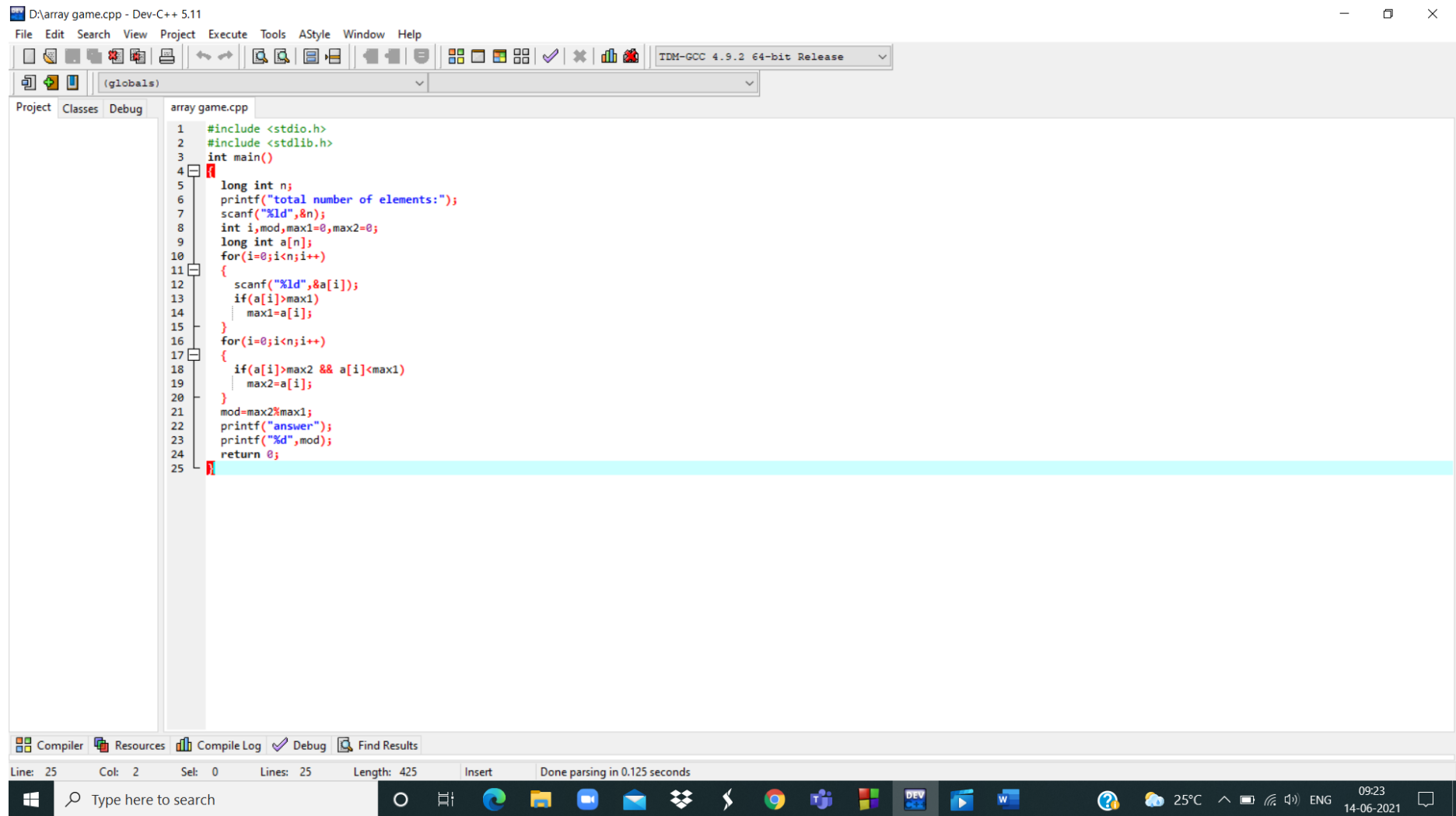
```
    long int n;
```

```
    printf("total number of elements:");
```

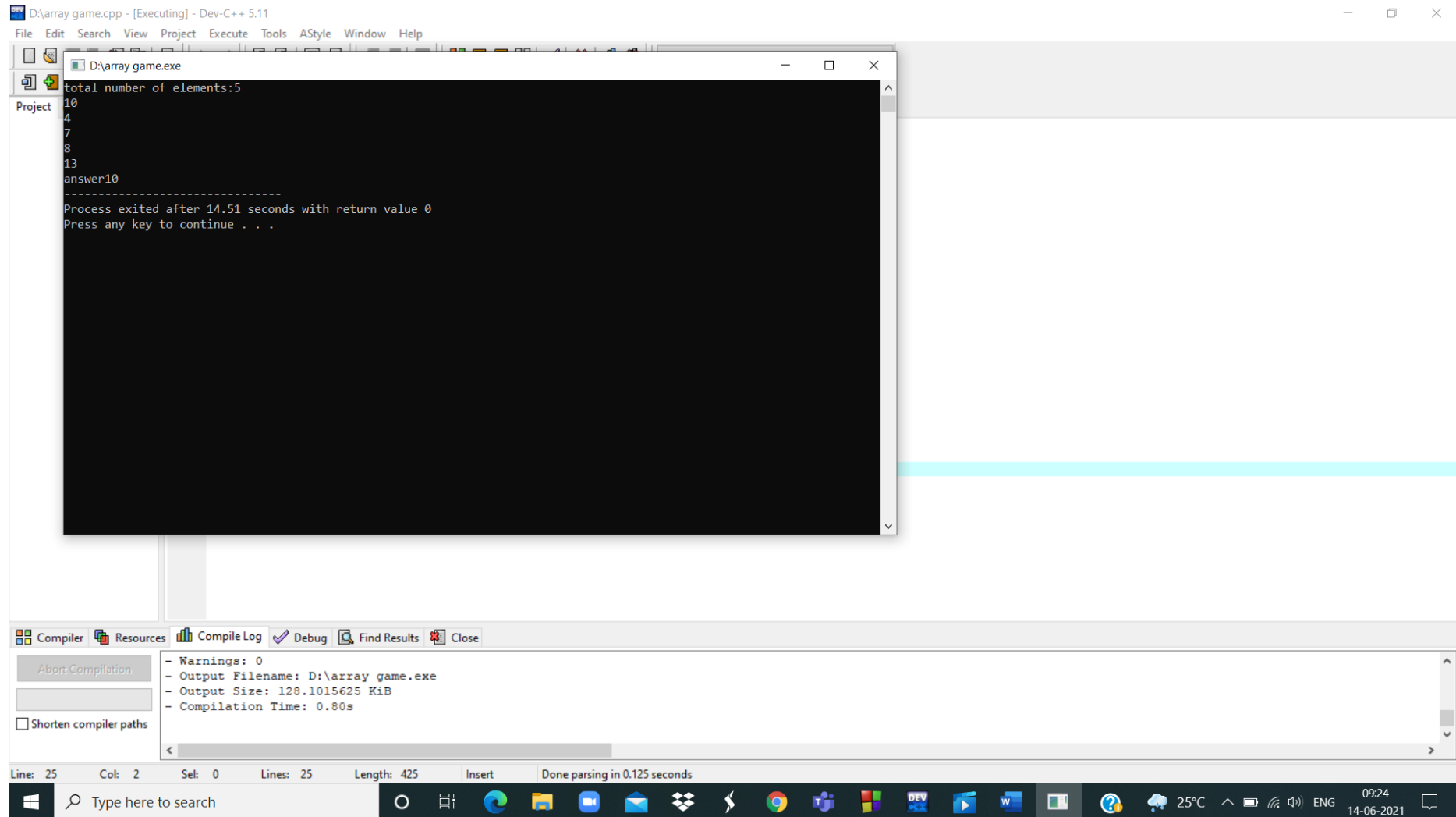
```
    scanf("%ld",&n);
```

```
int i,mod,max1=0,max2=0;
long int a[n];
for(i=0;i<n;i++)
{
    scanf("%ld",&a[i]);
    if(a[i]>max1)
        max1=a[i];
}
for(i=0;i<n;i++)
{
    if(a[i]>max2 && a[i]<max1)
        max2=a[i];
}
```

```
mod=max2%max1;  
printf("answer");  
printf("%d",mod);  
return 0;  
}
```



OUTPUT



D:\array game.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

Project

D:\array game.exe

```
total number of elements:5
10
4
7
8
13
answer:10
-----
Process exited after 14.51 seconds with return value 0
Press any key to continue . . .
```

Compiler Resources Compile Log Debug Find Results Close

Abort Compilation

Shorten compiler paths

- Warnings: 0
- Output Filename: D:\array game.exe
- Output Size: 128.1015625 KiB
- Compilation Time: 0.80s

Line: 25 Col: 2 Sel: 0 Lines: 25 Length: 425 Insert Done parsing in 0.125 seconds

Type here to search

09:24 14-06-2021

Video Link:-

<https://drive.google.com/file/d/1m2EonATHGKS3SdFT7k4SA0Hw7sp2K8ML/view?usp=sharing>

The above is the video reviewing the above game ,it's input and output.

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