

TC

File Edit Run Compile Project Options Debug Break/watch

Line 11 Col 6 Insert Indent Tab Fill Unindent \* E:9AM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4], i;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* gr gr gr gr */
```

9:21 AM 14-Aug-24

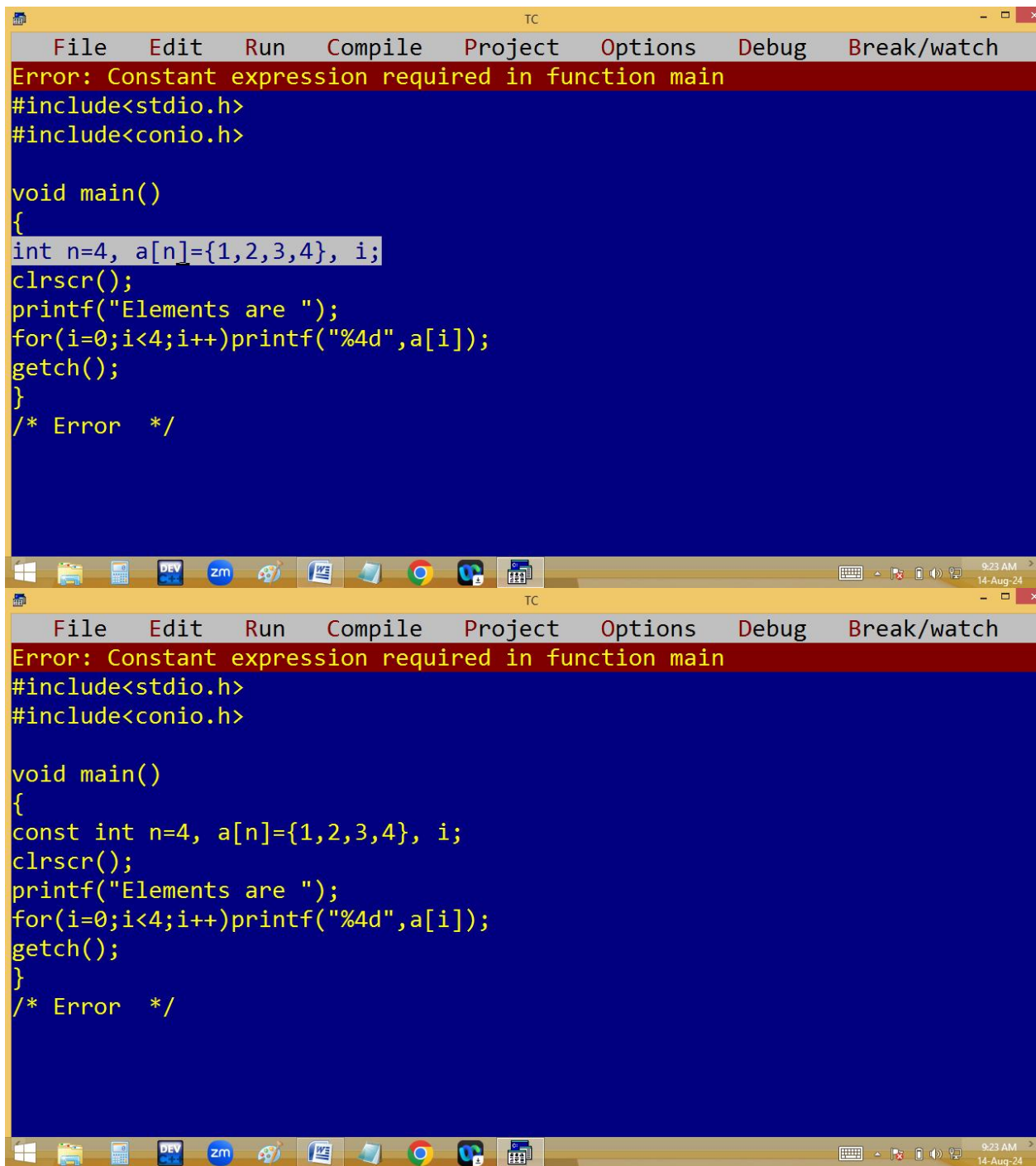
TC

File Edit Run Compile Project Options Debug Break/watch

Line 11 Col 12 Insert Indent Tab Fill Unindent \* E:9AM.C

```
#include<stdio.h>
#include<conio.h>
int a[4], i;
void main()
{
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* 0 0 0 0 */
```

9:22 AM 14-Aug-24

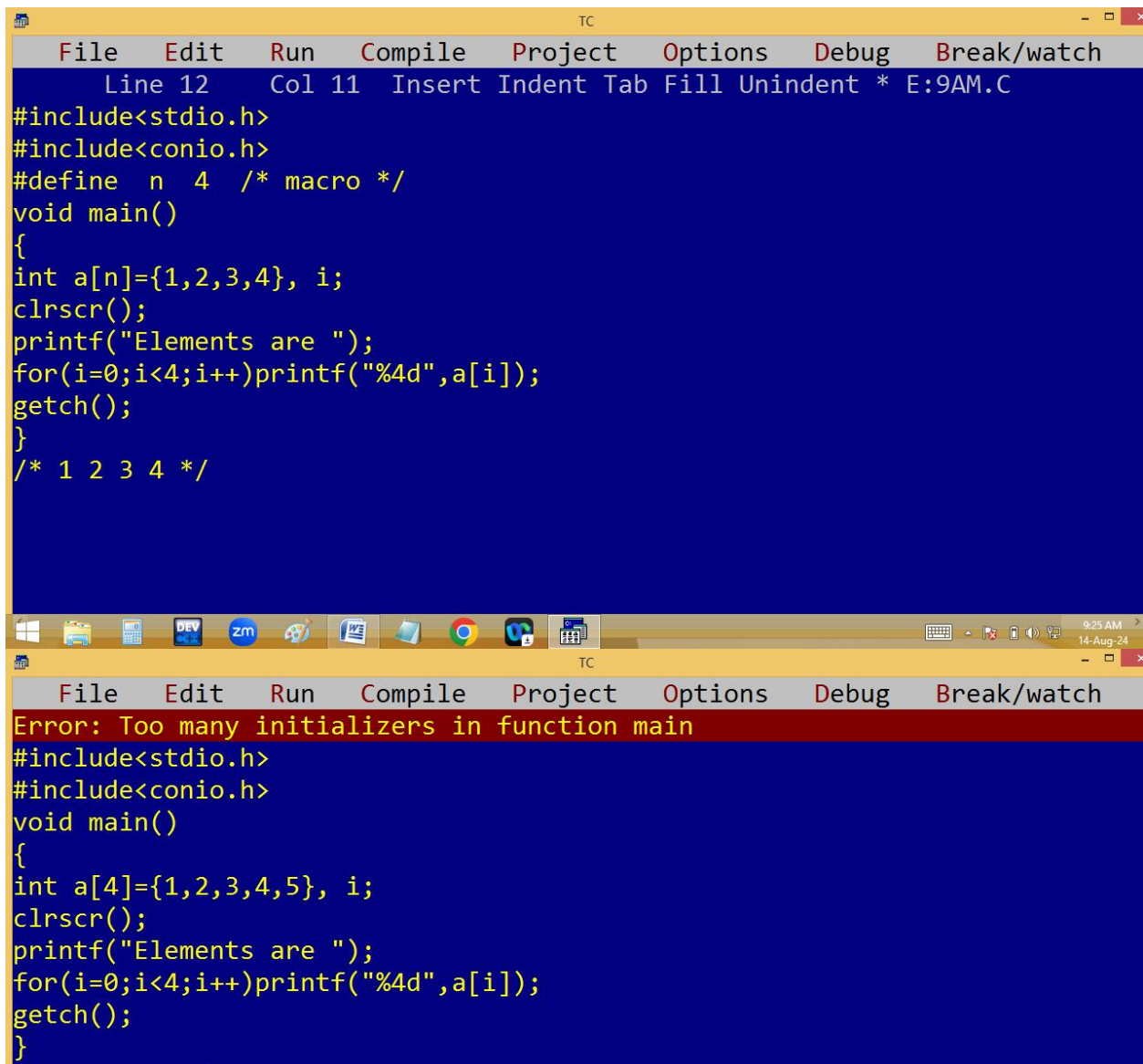


The image shows two overlapping screenshots of the Turbo C++ (TC) IDE. Both windows display the same C program and the same compilation error. The error message, shown in a red banner at the top of each window, is "Error: Constant expression required in function main". The code in the editor is as follows:

```
File Edit Run Compile Project Options Debug Break/watch
Error: Constant expression required in function main
#include<stdio.h>
#include<conio.h>

void main()
{
int n=4, a[n]={1,2,3,4}, i;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* Error */
```

The second window shows the same code but with the variable `n` declared as `const int` in the line `const int n=4, a[n]={1,2,3,4}, i;`. Despite this change, the error message remains the same. The Windows taskbar at the bottom of each window shows the time as 9:23 AM on 14-Aug-24.



The image shows two screenshots of the Turbo C++ (TC) IDE. The top screenshot displays a C program that prints the elements of an array. The bottom screenshot shows the same program with a compilation error.

**Top Screenshot:**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 11 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
#define n 4 /* macro */
void main()
{
int a[n]={1,2,3,4}, i;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* 1 2 3 4 */
```

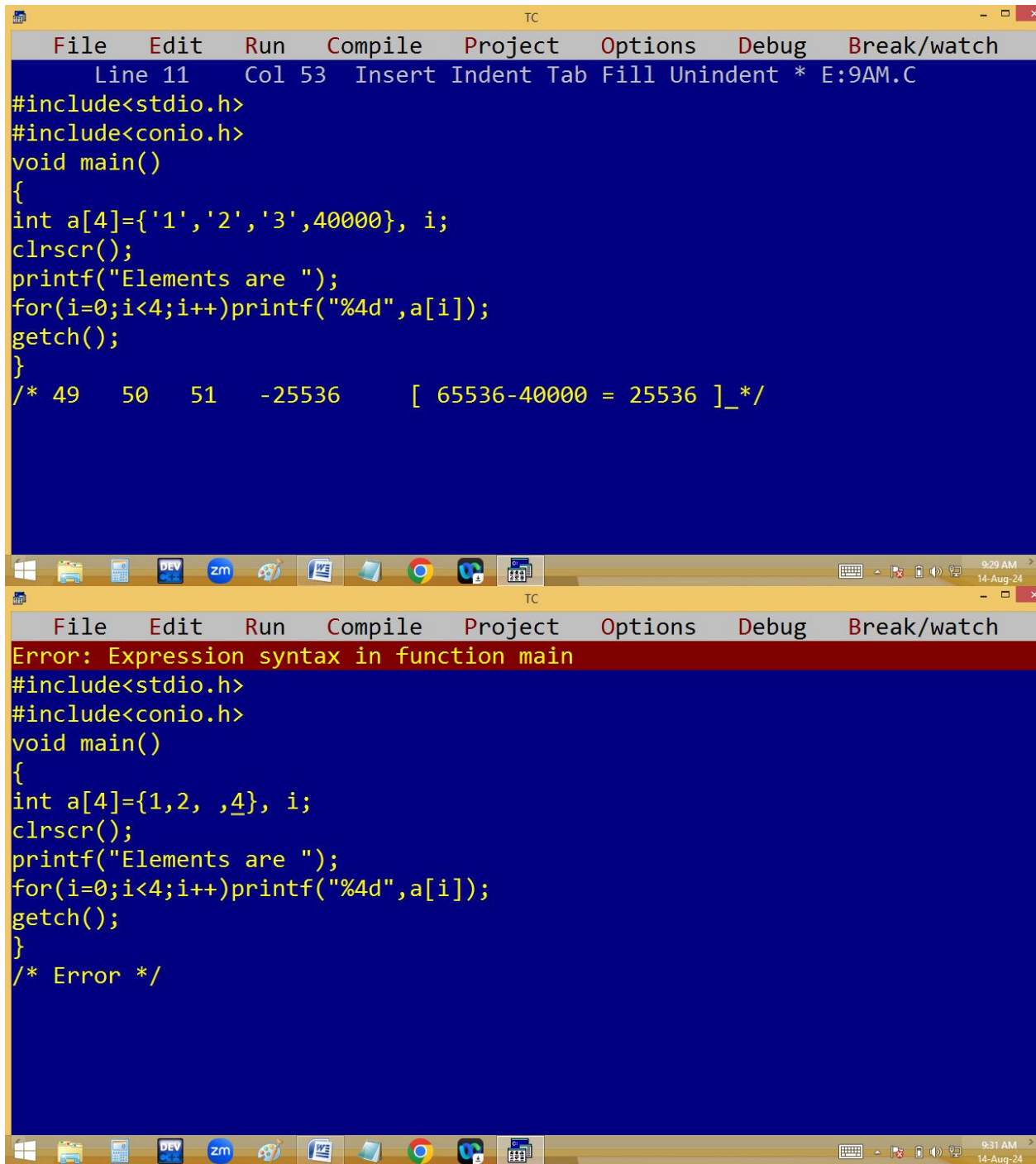
**Bottom Screenshot:**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Error: Too many initializers in function main
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={1,2,3,4,5}, i;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
```

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program with a compilation error. The error message is "Error: Incompatible type conversion in function main", highlighted in a red bar. The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]=1, i;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* Error */
```

The bottom window shows the output of the program: "Elements are 1 2 3 4". The Windows taskbar at the bottom indicates the time is 9:26 AM on 14-Aug-24.



The image shows two screenshots of the Turbo C++ (TC) IDE. The top screenshot displays a C program that is syntactically correct. The bottom screenshot shows the same program with a syntax error in the array initialization.

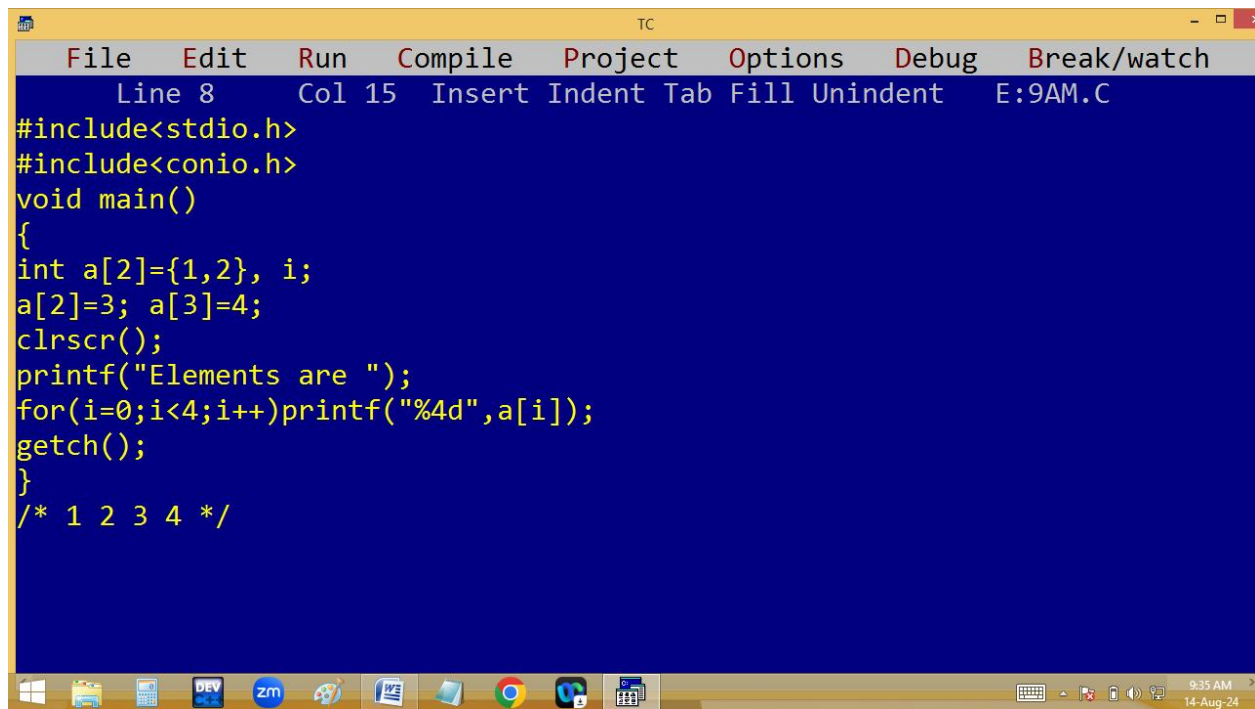
**Top Screenshot (Correct Code):**

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 53 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={'1','2','3',40000}, i;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* 49    50    51    -25536    [ 65536-40000 = 25536 ]_*/
```

**Bottom Screenshot (Error Message):**

```
File Edit Run Compile Project Options Debug Break/watch
Error: Expression syntax in function main
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={1,2, ,4}, i;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* Error */
```

The error message "Error: Expression syntax in function main" is displayed in a red bar at the top of the bottom screenshot, indicating a syntax error in the array initialization `{1,2, ,4}`.



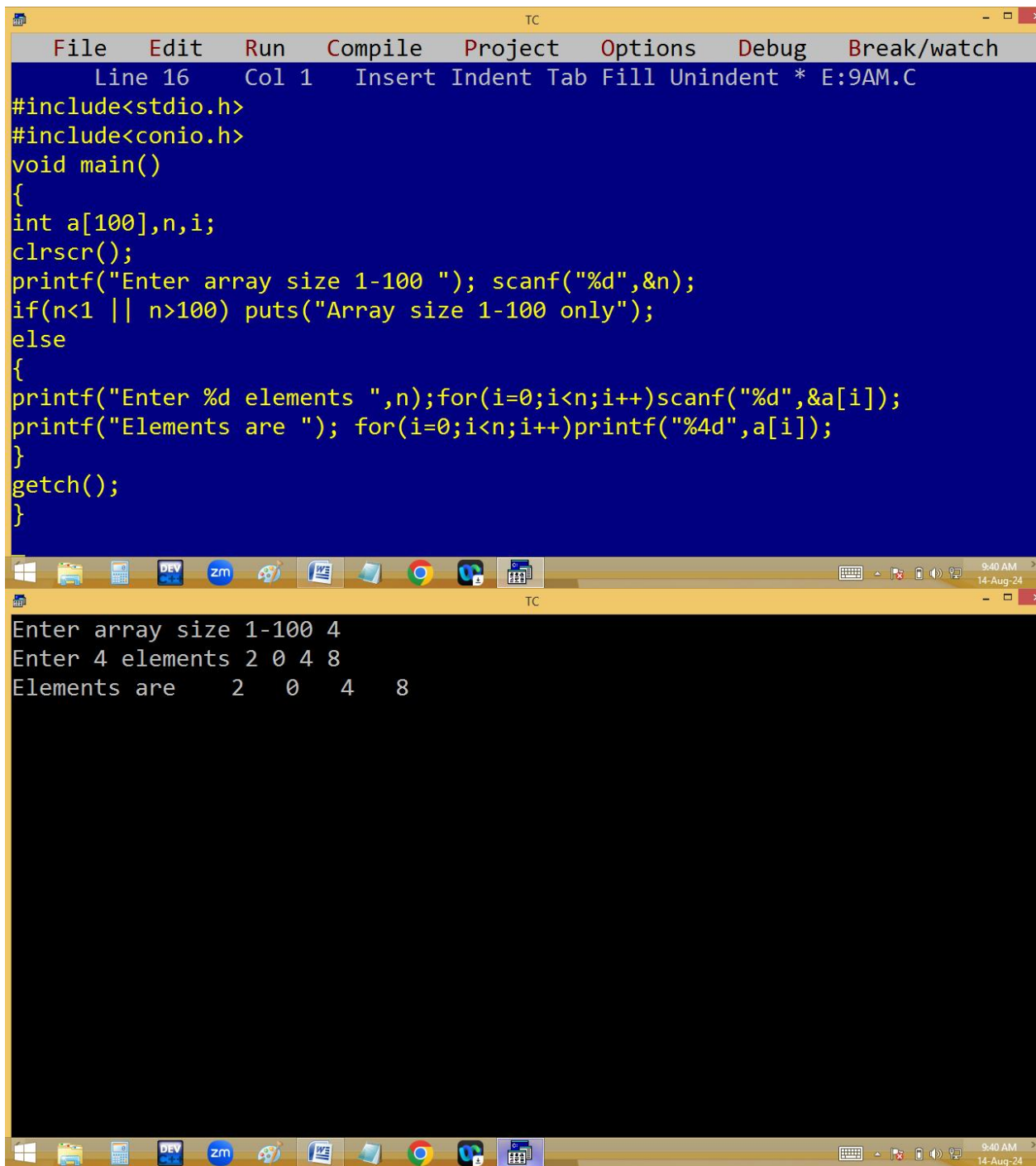
The image shows a screenshot of a Turbo C++ (TC) IDE window. The title bar reads "TC". The menu bar includes "File", "Edit", "Run", "Compile", "Project", "Options", "Debug", and "Break/watch". The status bar at the top indicates "Line 8", "Col 15", and "E:9AM.C". The main editing area has a blue background and contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[2]={1,2}, i;
a[2]=3; a[3]=4;
clrscr();
printf("Elements are ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* 1 2 3 4 */
```

The Windows taskbar is visible at the bottom, showing icons for various applications including a file explorer, DEV C++, Zoom, and a calendar. The system clock in the bottom right corner shows "9:35 AM" and "14-Aug-24".

**Reading and printing of array elements:**





The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. It prompts the user to enter an array size (1-100) and then the elements of the array. The output window shows the execution results: the user entered 4 for the size and 2 0 4 8 for the elements, which are then printed.

```
File Edit Run Compile Project Options Debug Break/watch
Line 16 Col 1 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
if(n<1 || n>100) puts("Array size 1-100 only");
else
{
printf("Enter %d elements ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("Elements are "); for(i=0;i<n;i++)printf("%4d",a[i]);
}
getch();
}
```

Enter array size 1-100 4  
Enter 4 elements 2 0 4 8  
Elements are 2 0 4 8

```
TC
Enter array size 1-100 -3
Array size 1-100 only
```

```
TC
Enter array size 1-100 101
Array size 1-100 only
-
```



```
#include<stdio.h>
#include<conio.h>
void main()
{
float a[100]; int n,i;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
if(n<1 || n>100) puts("Array size 1-100 only");
else
{
printf("Enter %d elements ",n);for(i=0;i<n;i++)scanf("%f",&a[i]);
printf("Elements are "); for(i=0;i<n;i++)printf("%10.2f",a[i]);
}
getch();
}
```

Enter array size 1-100 4  
Enter 4 elements 1 2 3 4  
Elements are        1.00        2.00        3.00        4.00

**Read n elements into array and find elements sum and avg[mean].**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 1 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
float a[100],s=0; int n,i;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++){scanf("%f",&a[i]);s=s+a[i];}
printf("Elements sum %.2f and avg=%.2f ",s,s/n);
getch();
}

Enter array size 1-100 4
Enter 4 elements 1.1 2.2 3.3 4.4
Elements sum 11.00 and avg=2.75 _
```

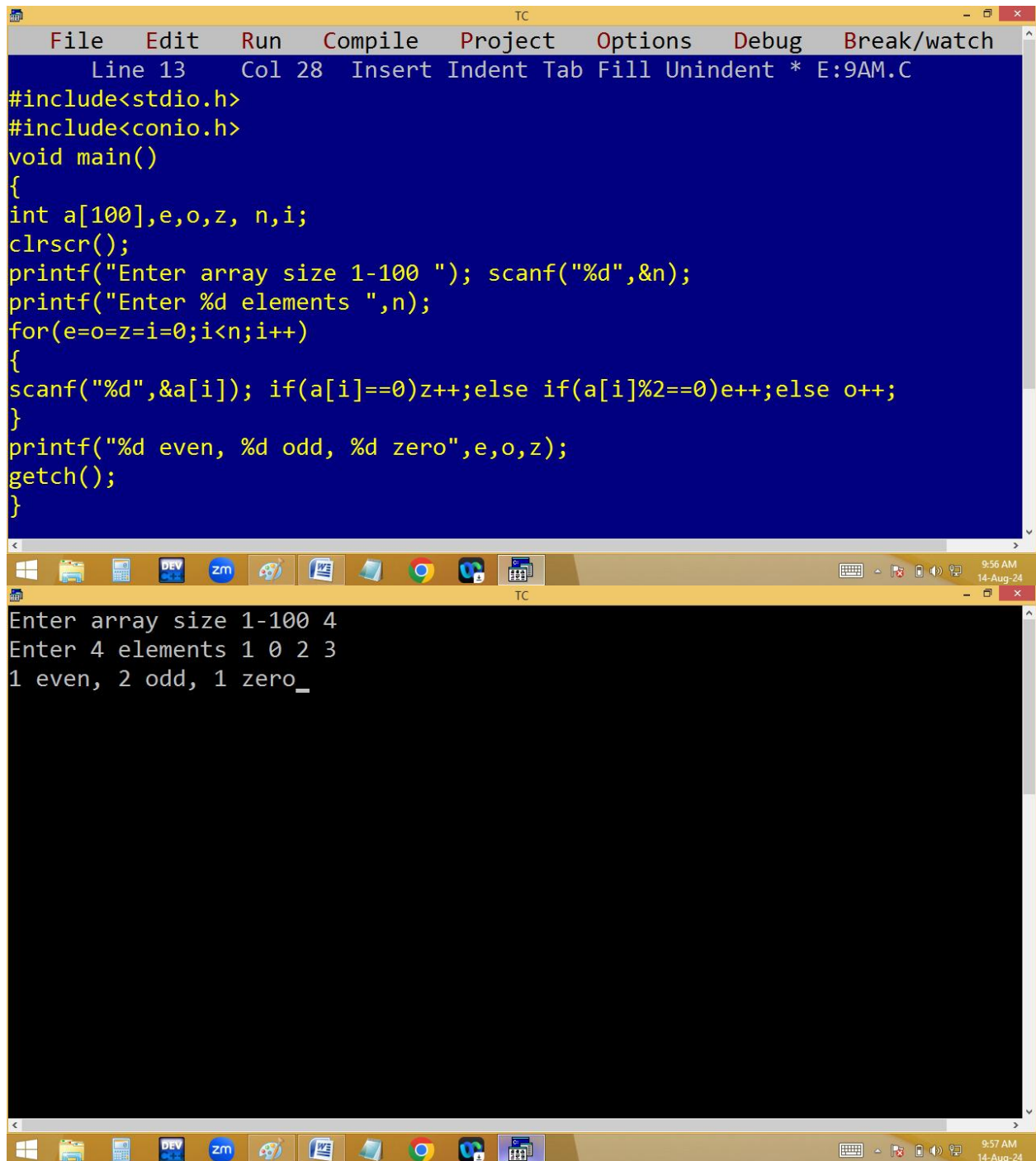
```
s=0;
for(i=0;i<4;i++)
{
scanf("%f",&a[i]); s+=a[i];
}
p(s, s/4);
```

a

1.1	2.2	3.3	4.4	
0	1	2	3	4

$$11.0 / 4 = 2.75$$

## Finding no of even/odd/zero elements in given array:



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, an array `a` of size 100 is declared, along with counters `e`, `o`, and `z` for even, odd, and zero elements respectively. The program prompts the user to enter the array size (1-100) and the number of elements. It then uses a `for` loop to read the elements and counts them based on their parity. Finally, it prints the counts of even, odd, and zero elements and waits for a key press with `getch()`.

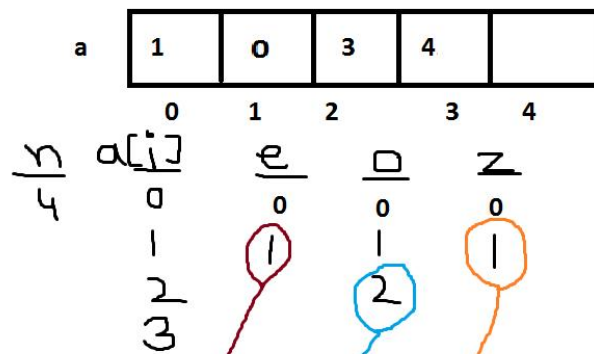
```
Line 13 Col 28 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],e,o,z, n,i;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(e=o=z=i=0;i<n;i++)
{
scanf("%d",&a[i]); if(a[i]==0)z++;else if(a[i]%2==0)e++;else o++;
}
printf("%d even, %d odd, %d zero",e,o,z);
getch();
}
```

The bottom window shows the program's execution. The user has entered an array size of 4 and 4 elements: 1, 0, 2, 3. The program outputs: "1 even, 2 odd, 1 zero\_".

```
Enter array size 1-100 4
Enter 4 elements 1 0 2 3
1 even, 2 odd, 1 zero_
```

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 28 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],e,o,z, n,i;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(e=o=z=i=0;i<n;i++)
{
scanf("%d",&a[i]); if(a[i]==0)z++;else if(a[i]%2==0)e++;else o++;
}
printf("%d even, %d odd, %d zero",e,o,z);
getch();
}
```

```
e=o=z=0;
for(i=0;i<4;i++)
{
scanf("%d",&a[i]);
if(a[i]==0)z++;
else if(a[i]%2==0)e++;
else o++;
}
p(e, o, z);
```



**Finding max, min array elements:**

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],max, min, n,i;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
for(max=min=a[0],i=1;i<n;i++)
{
if(max<a[i])max=a[i];
if(min>a[i])min=a[i];
}
printf("Min=%d, Max=%d",min, max);
getch();
}
```

Enter array size 1-100 9  
Enter 9 elements 1 8 0 -3 7 15 -9 14 3  
Min=-9, Max=15

TC

```
max=min=a[0];
```

```
for(i=1;i<4;i++)
```

```
{
```

```
if(max<a[i])max=a[i];
```

```
if(min>a[i])min=a[i];
```

```
}
```

```
p(max); min
```

a	1	0	-3	4	
	0	1	2	3	4

	i	max	min
3	1	1 < 0	0 > 0
4	2	1 < -3	0 > -3
	3	1 < 4	-3 > 4

Finding prime/ composite elements of array:



```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,j,c; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<n;i++)
{
if(a[i]==1)puts("1 Not a prime / composite no");
else
{
for(c=0, j=1;j<=a[i];j++){if(a[i]%j==0)c++;}
if(c==2)printf("%d prime\n",a[i]);else printf("%d composite\n",a[i]);
}
}
getch();
}

Enter array size 1-100 9
Enter 9 elements 1 2 3 4 5 6 7 8 9
1 Not a prime / composite no
2 prime
3 prime
4 composite
5 prime
6 composite
7 prime
8 composite
9 composite

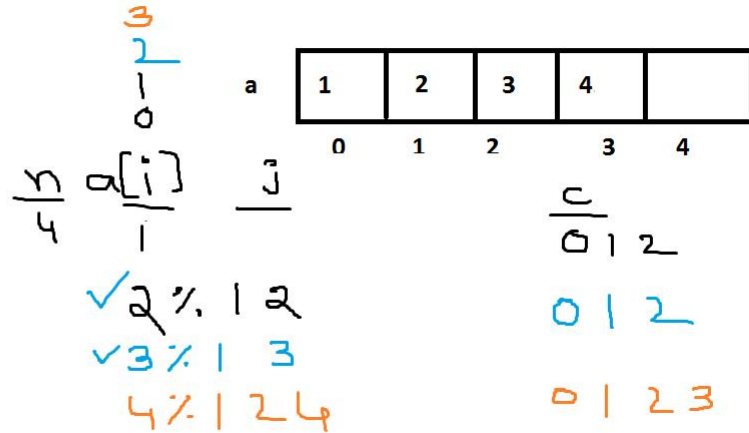
TC
10:31 AM
14-Aug-24
```

```
TC
10:32 AM
14-Aug-24
```

```

for( i=0; i<4; i++)
{
    if(a[i]==1)puts("Not a prime/com");
    else
    {
        for( c=0, j=1; j<=a[i]; j++)
        if(a[i]%j==0)c++;
        if(c==2)p(prime);else p(com);
    }
}

```



**Arranging array elements in reverse order:**

**Temp:**

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code of a C program designed to reverse an array. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, an array `a` of size 100 is declared, along with variables `n`, `i`, `j`, and `c`. The program prompts the user to enter an array size (1-100) and stores it in `n`. It then prompts for `n` elements and reads them into the array `a` using a `for` loop. Finally, it prints the elements in reverse order using a `while` loop and `printf`, followed by a `getch()` call to pause the execution.

```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 66 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,j,c; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("elements in reverse "); while( n>0 )printf("%4d",a[--n]);_
getch();
}
```

The bottom window shows the execution output of the program. It displays the prompts and the user's input: an array size of 4 and four elements (1, 2, 3, 4). The output shows the elements printed in reverse order: 4, 3, 2, 1.

```
Enter array size 1-100 4
Enter 4 elements 1 2 3 4
elements in reverse 4 3 2 1_
```

while( n>0 ) p( a[--n] );

5  
4  
3  
2  
1  
0

a

1	2	3	4	
0	1	2	3	4

**Permanent:**

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program that reverses an array. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, it declares an array `a` of size 100, and variables `n`, `i`, and `t`. It prompts the user to enter the array size (1-100) and stores it in `n`. Then, it prompts for `n` elements and stores them in the array `a`. A loop then swaps the elements at indices `i` and `n-i-1` for `i` from 0 to `n/2-1`. Finally, it prints the elements in reverse order. The bottom window shows the program's execution: the user entered 5 for the array size and 1 2 3 4 5 for the elements. The output shows the elements in reverse order: 5 4 3 2 1. The Windows taskbar at the bottom shows the time as 10:45 AM on 14-Aug-24.

```
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 64 Insert Indent Tab Fill Unindent E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,t; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<n/2;i++){t=a[i];a[i]=a[n-i-1];a[n-i-1]=t;}
printf("elements in reverse ");for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
```

Enter array size 1-100 5  
Enter 5 elements 1 2 3 4 5  
elements in reverse    5    4    3    2    1

```

for( i=0; i<4/2; i++) ✓
{
  t = a[i];
  a[i] = a[n-i-1];
  a[n-i-1]=t;
}

```

