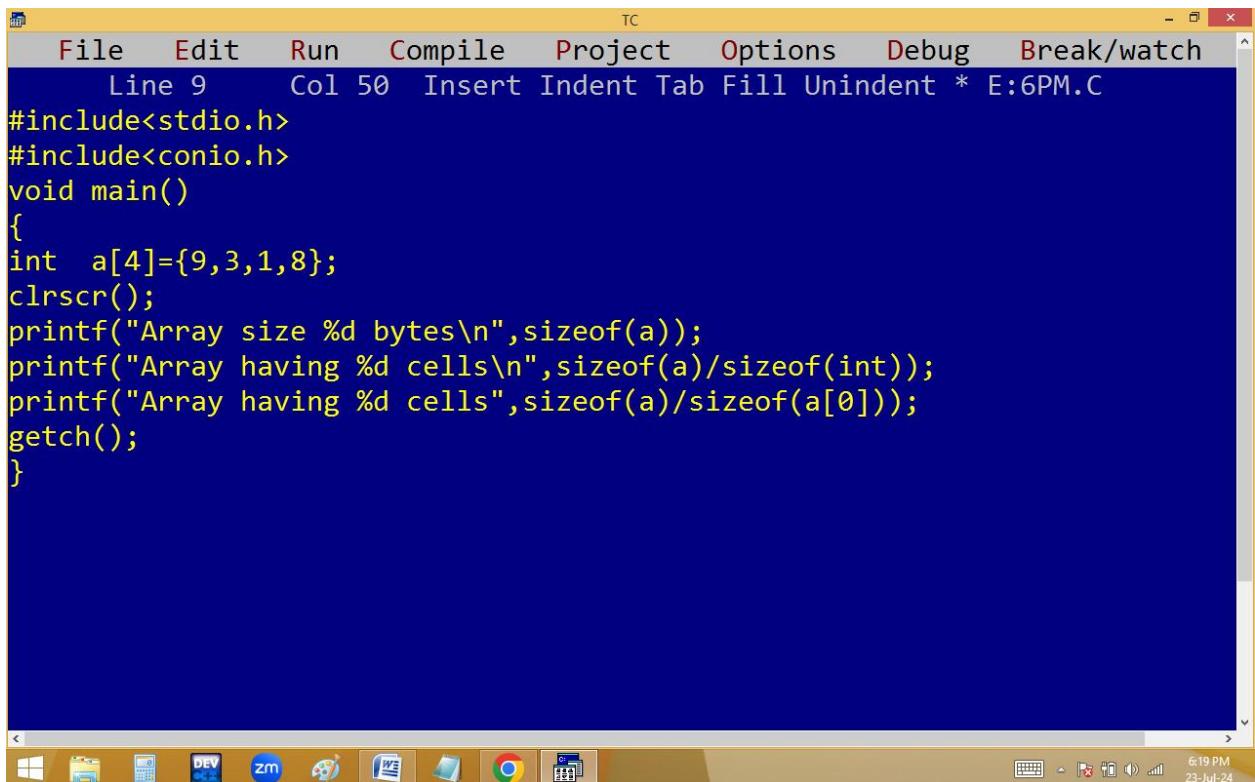
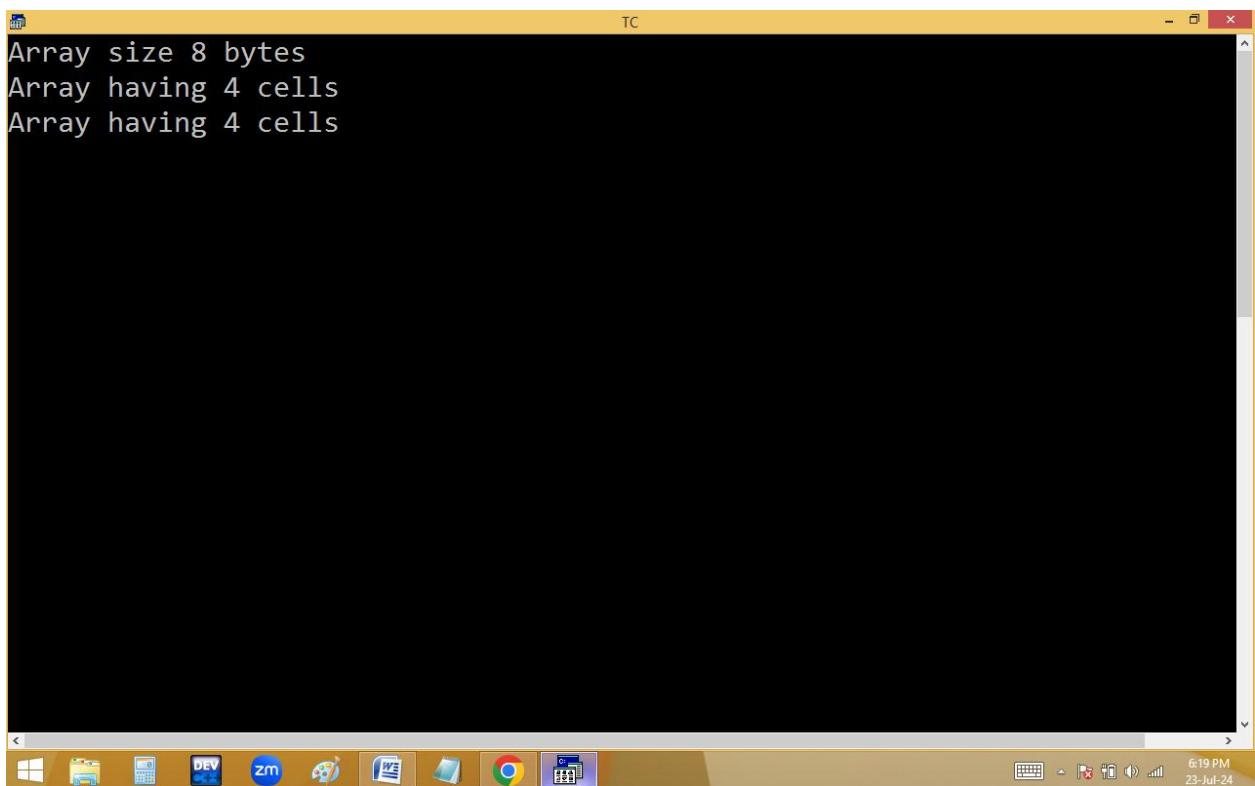


Finding array size:



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 50 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={9,3,1,8};
clrscr();
printf("Array size %d bytes\n",sizeof(a));
printf("Array having %d cells\n",sizeof(a)/sizeof(int));
printf("Array having %d cells",sizeof(a)/sizeof(a[0]));
getch();
}
```



```
TC
Array size 8 bytes
Array having 4 cells
Array having 4 cells
```

TC

File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 8 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[]={9,3,1,8};
clrscr();
printf("Array size %d bytes\n",sizeof(a));
printf("Array having %d cells\n",sizeof(a)/sizeof(int));
printf("Array having %d cells",sizeof(a)/sizeof(a[0]));
getch();
}
```



6:20 PM
23-Jul-24

```
TC
Array size 8 bytes
Array having 4 cells
Array having 4 cells_
```

Finding array address:

The screenshot shows the Turbo C++ IDE interface. The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates Line 10, Col 1, Insert, Indent Tab, Fill Unindent, * E:6PM.C. The code editor contains the following C program:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={9,3,1,8};
clrscr();
printf("a[0] cell address %u\n",&a[0]);
printf("a stored addr is %u\n",a);
printf("a address is %u",&a);
getch();
}
```

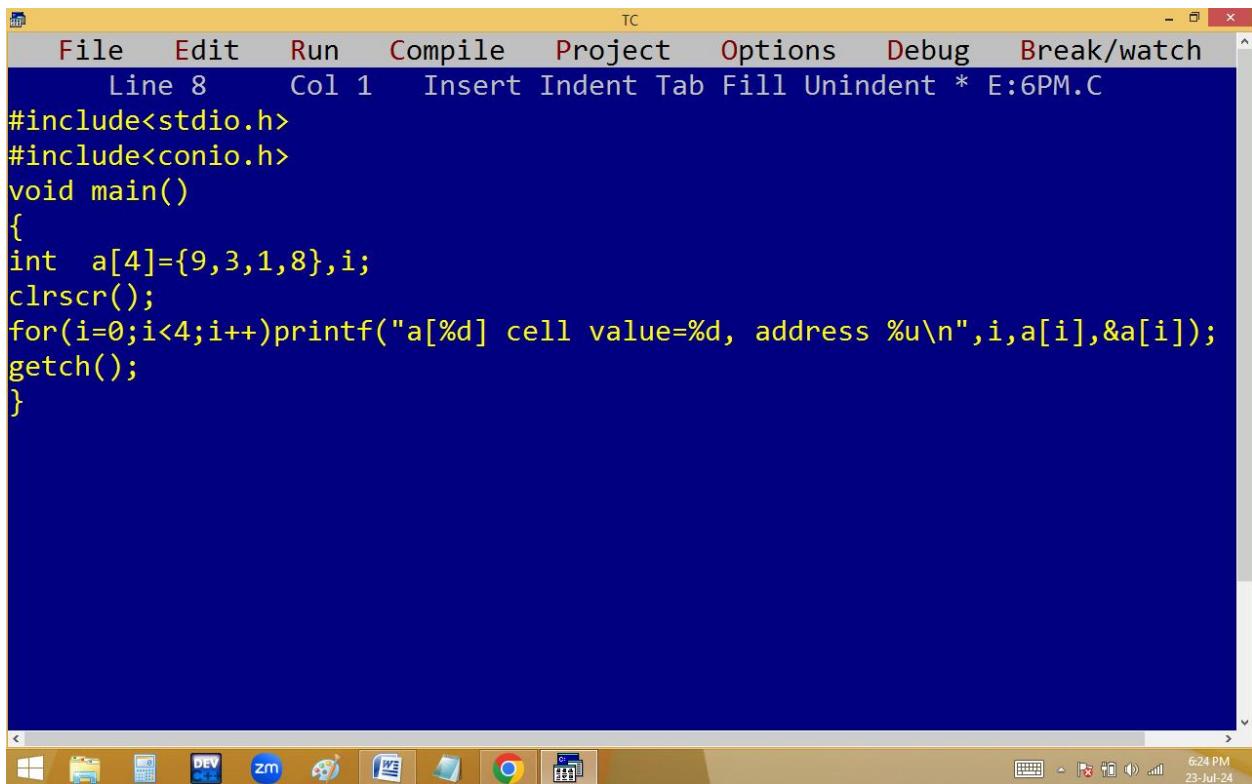
The status bar at the bottom shows the system time as 6:21 PM and date as 23-Jul-24.

The screenshot shows a terminal window displaying the output of the C program. The output is:

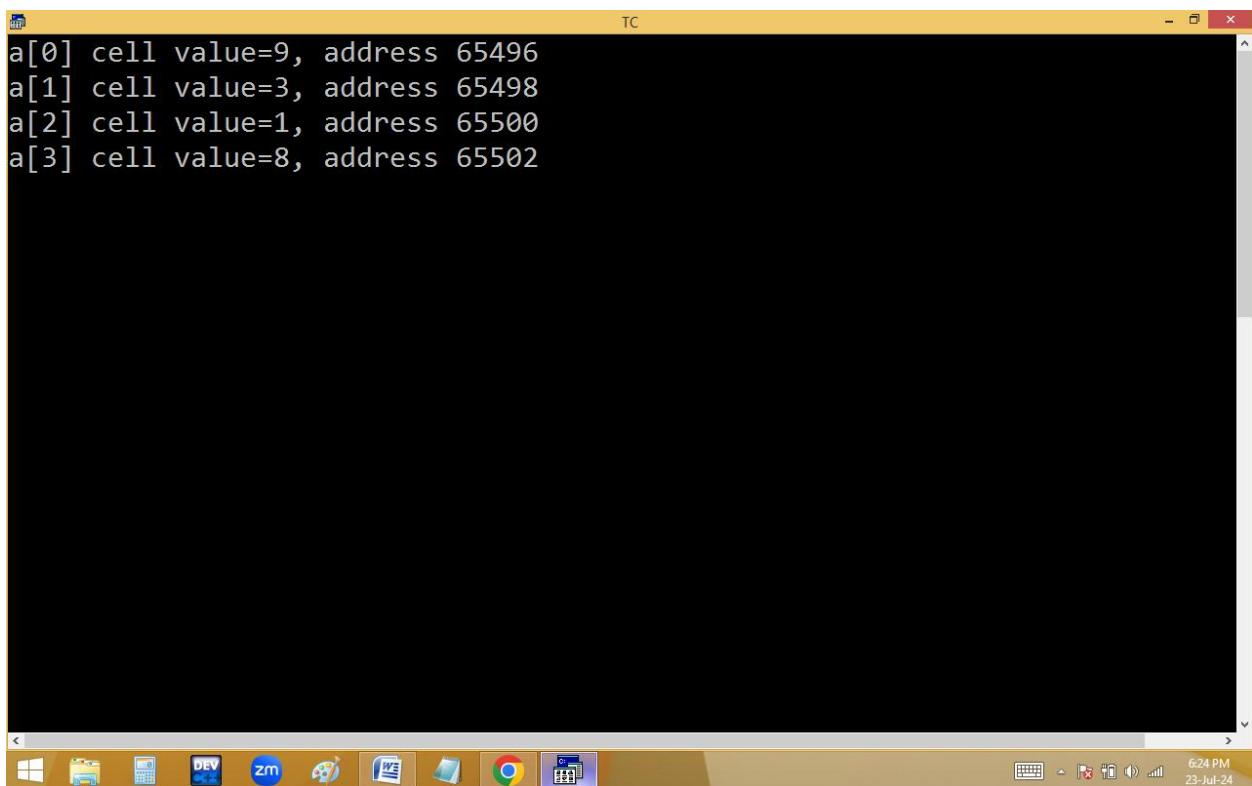
```
a[0] cell address 65496
a stored addr is 65496
a address is 65496
```

The status bar at the bottom shows the system time as 6:22 PM and date as 23-Jul-24.

Finding array element, position and address:



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={9,3,1,8},i;
clrscr();
for(i=0;i<4;i++)printf("a[%d] cell value=%d, address %u\n",i,a[i],&a[i]);
getch();
}
```



```
a[0] cell value=9, address 65496
a[1] cell value=3, address 65498
a[2] cell value=1, address 65500
a[3] cell value=8, address 65502
```

A screenshot of a Windows operating system desktop. At the top is the taskbar with various icons. Below it is a window titled "TC" which is a terminal or code editor. The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the bottom shows "Line 7 Col 17 Insert Indent Tab Fill Unindent * E:6PM.C". The main area of the window contains C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
char a[4]={9,3,1,8},i;
clrscr();
for(i=0;i<4;i++)printf("a[%d] cell value=%d, address %u\n",i,a[i],&a[i]);
getch();
}
```

The same terminal window from the previous screenshot is shown again, displaying the output of the executed C program. The text in the terminal window is:

```
a[0] cell value=9, address 65498
a[1] cell value=3, address 65499
a[2] cell value=1, address 65500
a[3] cell value=8, address 65501
```

TC

File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 43 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
float a[4]={9,3,1,8}; int i;
clrscr();
for(i=0;i<4;i++)printf("a[%d] cell value=%f, address %u\n",i,a[i],&a[i]);
getch();
}
```

TC

```
a[0] cell value=9.000000, address 65488
a[1] cell value=3.000000, address 65492
a[2] cell value=1.000000, address 65496
a[3] cell value=8.000000, address 65500
```

Direct initialization of array elements:

A screenshot of a Windows operating system desktop. At the top is the taskbar with various icons. Below it is a large terminal window titled "TC". The terminal window has a yellow header bar with menu options: File, Edit, Run, Compile, Project, Options, Debug, Break/watch. It also shows the current line (Line 7), column (Col 20), and status (E:6PM.C). The main body of the terminal window contains C code for direct initialization of array elements. The code includes #include<stdio.h>, #include<conio.h>, void main(), and an array declaration int a[4]={9,3,1,8}, i;. It also includes clrscr(), puts("Elements "), and a for loop printf("%4d", a[i]). A getch(); statement is at the end. The code is highlighted in yellow.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={9,3,1,8}, i;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
```

A screenshot of a Windows operating system desktop showing the same terminal window from the previous image. The terminal window is titled "TC" and displays the output of the program. The output starts with "Elements" followed by a blank line, then the integers 9, 3, 1, and 8 separated by spaces. The terminal window has a yellow header bar with menu options: File, Edit, Run, Compile, Project, Options, Debug, Break/watch. The main body of the terminal window shows the output text.

```
Elements
9   3   1   8
```

TC

File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 8 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[]={9,3,1,8}, i;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
```



TC

```
Elements
9   3   1   8
```



TC

File Edit Run Compile Project Options Debug Break/watch

Error: Size of structure or array not known in function main

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

6:31 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch

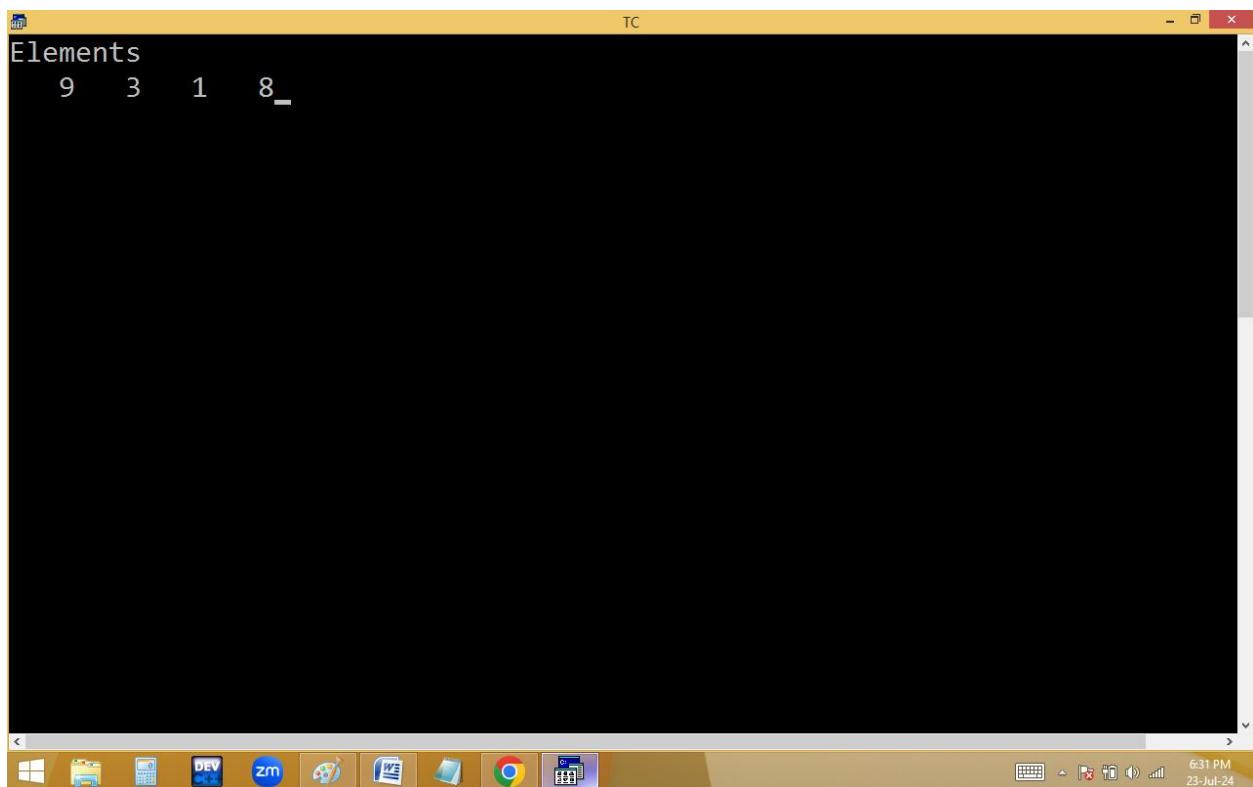
Line 7 Col 52 Insert Indent Tab Fill Unindent E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[]={9,3,1,8}, i;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%4d",i[a]);
getch();
}
```

6:31 PM
23-Jul-24

TC

Elements
9 3 1 8_

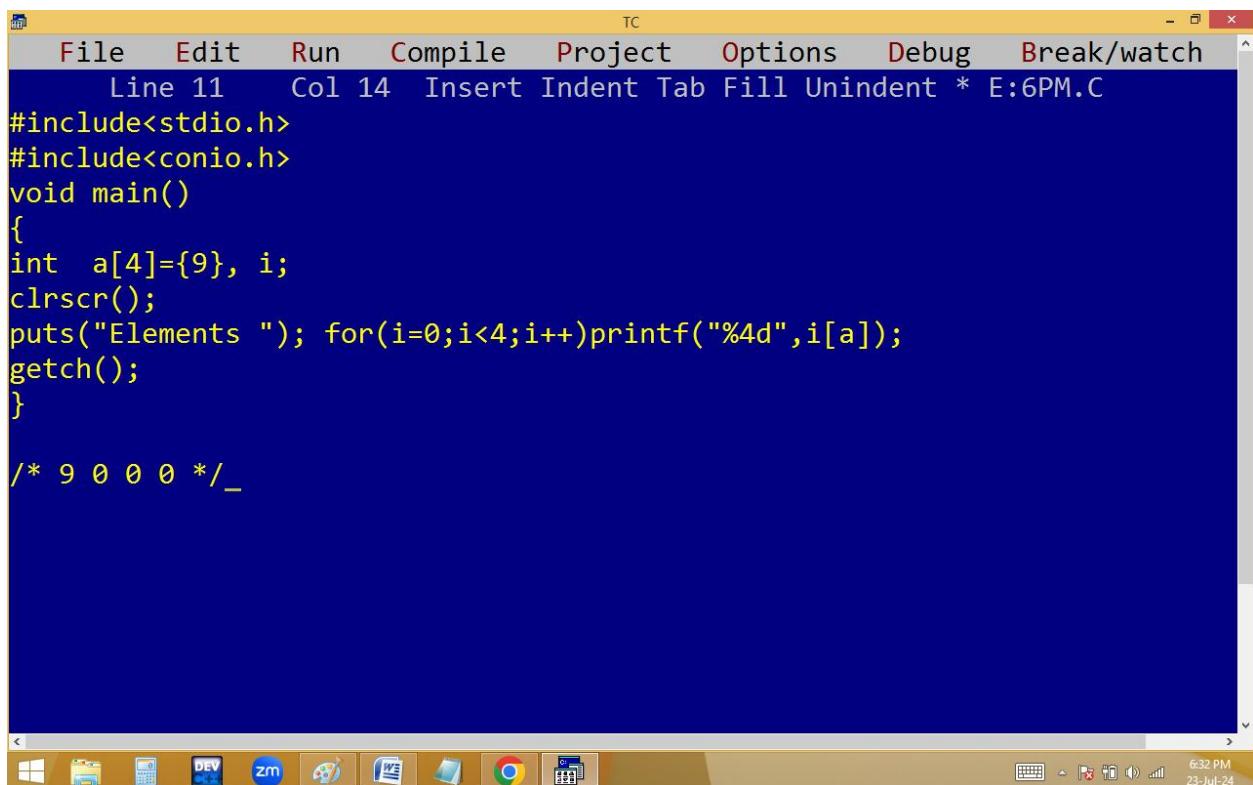


TC

File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 14 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={9}, i;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%4d",i[a]);
getch();
}

/* 9 0 0 0 */_
```



TC

File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 14 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[]={9}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%4d",i[a]);
getch();
}

/* 9 gr gr gr */
```

6:33 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch

Error: Initializer syntax error in function main

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

/* Error */
```

6:34 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch

Error: Incompatible type conversion in function main

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]=9, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%4d",i[a]);
getch();
}

/* Error */
```

6:35 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch

Error: Initializer syntax error in function main

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

/* Error */
```

6:36 PM
23-Jul-24

TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={{1},{2},{3},{4}}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%4d",i[a]);
getch();
}

/* 1 2 3 4 */
```



TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 46 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4], i; /* local var */
a[0]=1;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 1 gr gr gr */
```



TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
static int a[4], i; /* local var */
a[0]=1;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 1 0 0 0 */
```

TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 5 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
int a[4], i; /* global var */
void main()
{
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 0_0 0 0 */
```

TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>

void main()
{
int a[4]={9}, i; /* global var */
clrscr();
a[0]=1; a[3]=4;
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 1 0 0 4 */
```

TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 13 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>

void main()
{
int a[]={9}, i; /* global var */
clrscr();
a[0]=1; a[3]=4;
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 1 gr gr 4 */
```

```
TC
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]={9,3,1,8}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* Error*/
```

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

void main()
{
const int n=4, a[n]={9,3,1,8}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* Error */
```

A screenshot of a Windows desktop environment displaying two code editors. The top editor shows a C program with a syntax highlighting error at the line `int a[n]={9,3,1,8}, i;`. The bottom editor shows the same program with a different syntax highlighting error at the line `int a[9%5]={9,3,1,8}, i;`. Both editors have a menu bar with File, Edit, Run, Compile, Project, Options, Debug, Break/watch, and status bars indicating the line and column numbers, and the file name E:6PM.C.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
#define n 4 /* macro - symbolic constant */
void main()
{
int a[n]={9,3,1,8}, i;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 9 3 1 8 */
```

A screenshot of a Windows desktop environment displaying two code editors. The top editor shows a C program with a syntax highlighting error at the line `int a[n]={9,3,1,8}, i;`. The bottom editor shows the same program with a different syntax highlighting error at the line `int a[9%5]={9,3,1,8}, i;`. Both editors have a menu bar with File, Edit, Run, Compile, Project, Options, Debug, Break/watch, and status bars indicating the line and column numbers, and the file name E:6PM.C.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[9%5]={9,3,1,8}, i;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 9 3 1 8 */
```

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[9>5]={9,3,1,8}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* Errors */
```

6:51 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch

Error: Array size too large in function main

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[-9%5]={9,3,1,8}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* Errors */
```

6:52 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[9%-5]={9,3,1,8}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 9 3 1 8 */
```

TC

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();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* Error */
```

TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={1.1,2.2,3.3,4.4}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%6d",i[a]);
getch();
}

/* 1 2 3 4 */
```

TC

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 9 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
float a[4.5]={1.1,2.2,3.3,4.4}; int i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%f\t",i[a]);
getch();
}

/* Error */
```

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 44 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
float a[4]={1.1,2.2,3.3,4.4}; int i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%10.2f",i[a]);
getch();
}

/* -----1.10-----2.20-----3.30-----4.40 */
```

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 43 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
float a[4]={1,2,3,4}; int i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%10.2f",i[a]);
getch();
}

/* -----1.00-----2.00-----3.00-----4.00 */
```

TC

File Edit Run Compile Project Options Debug Break/watch
Line 5 Col 29 Insert Indent Tab Fill Unindent * E:6PM.C

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

/* 49 50 51 97 */
```

7:01 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
char a[4]={'1','2','3','a'}, i;
clrscr();
puts("Elements "); for(i=0;i<4;i++)printf("%4c",a[i]);
getch();
}

/* 1 2 3 a */
```

7:01 PM
23-Jul-24

A screenshot of a Windows operating system desktop. At the top is the taskbar with various pinned icons. Below the taskbar are two open windows: a code editor and a terminal window.

The code editor window (TC) has a yellow header bar with menu items: File, Edit, Run, Compile, Project, Options, Debug, Break/watch. It displays the following C code:

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

The terminal window below it also has a yellow header bar with the same menu items. It displays the output of the program: "Elements " followed by four blank spaces.

The terminal window in the previous screenshot now displays the output of the program: "Elements" followed by four blank spaces. The rest of the desktop environment remains the same, with the taskbar and other windows visible.

TC

File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 47 Insert Indent Tab Fill Unindent * E:6PM.C

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[4]={0,1,2,-25536}, i;
clrscr();
puts("Elements ");
for(i=0;i<4;i++)printf("%4d",a[i]);
getch();
}
/* 0 1 2 -25536 */
```



7:06 PM
23-Jul-24

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

7:07 PM
23-Jul-24

TC

File Edit Run Compile Project Options Debug Break/watch

Line 10 Col 13 Insert Indent Tab Fill Unindent * E:6PM.C

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

7:08 PM
23-Jul-24

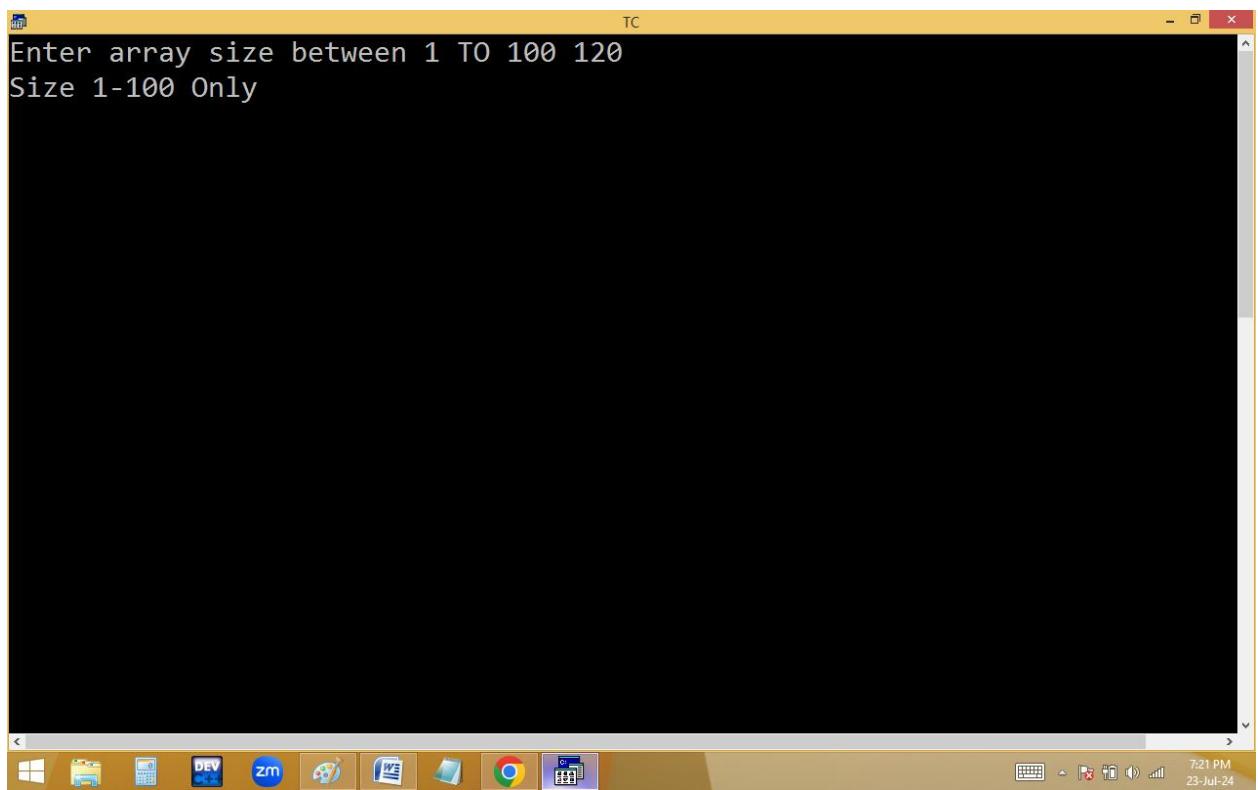
The screenshot shows a window titled "TC" (Turbo C++) with a menu bar including File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the bottom indicates "Line 5 Col 9 Insert Indent Tab Fill Unindent E:6PM.C". The code area contains the following C program:

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

Reading and printing elements of a one dim array:

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 16 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i;
clrscr();
printf("Enter array size between 1 TO 100 ");scanf("%d",&n);
if(n<1||n>100)puts("Size 1-100 Only");
else
{
printf("Enter %d integers ", n);for(i=0;i<n;i++)scanf("%d",&a[i]);
puts("Elements "); for(i=0;i<n;i++)printf("%4d",a[i]);
}
getch();
}
```

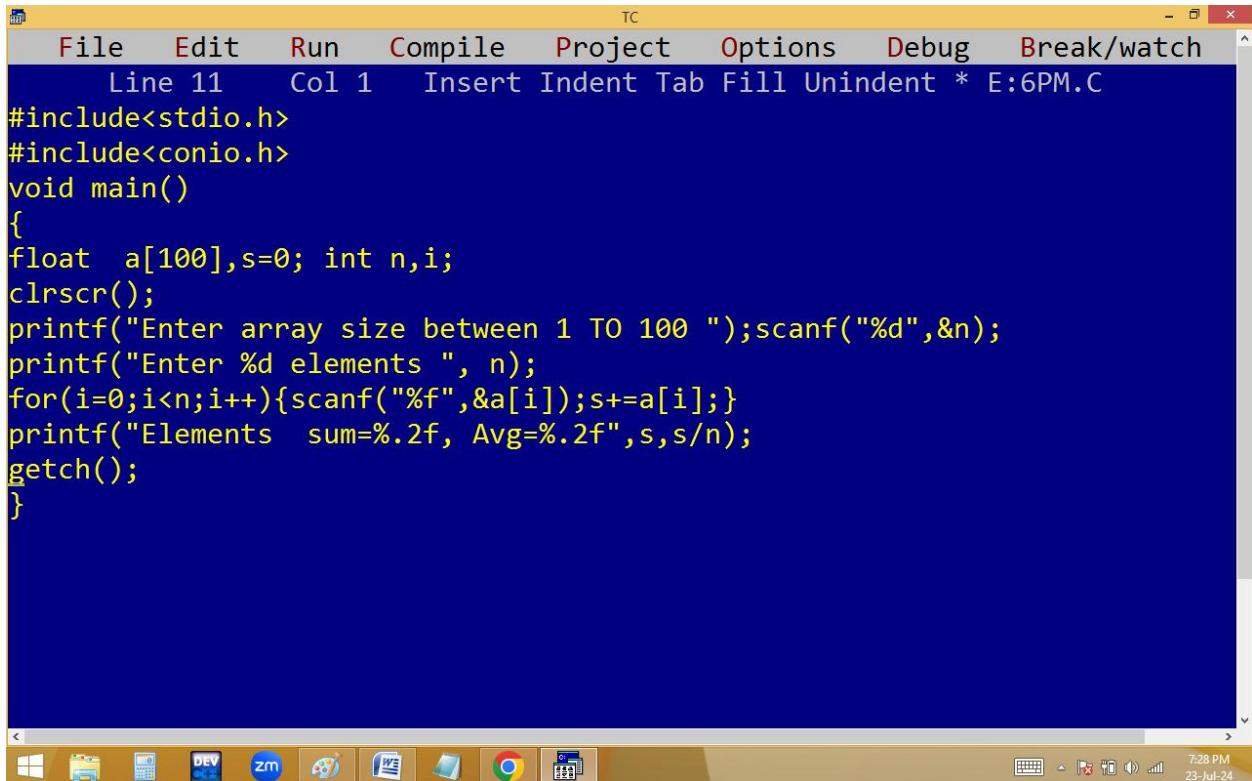
```
Enter array size between 1 TO 100 -3
Size 1-100 Only
```



```
TC
Enter array size between 1 TO 100 9
Enter 9 integers 1 2 0 8 -3 7 1 6 9
Elements
 1   2   0   8   -3   7   1   6   9
```

```
TC
Enter array size between 1 TO 100 4
Enter 4 integers 2 0 1 8
Elements
 2   0   1   8_
```

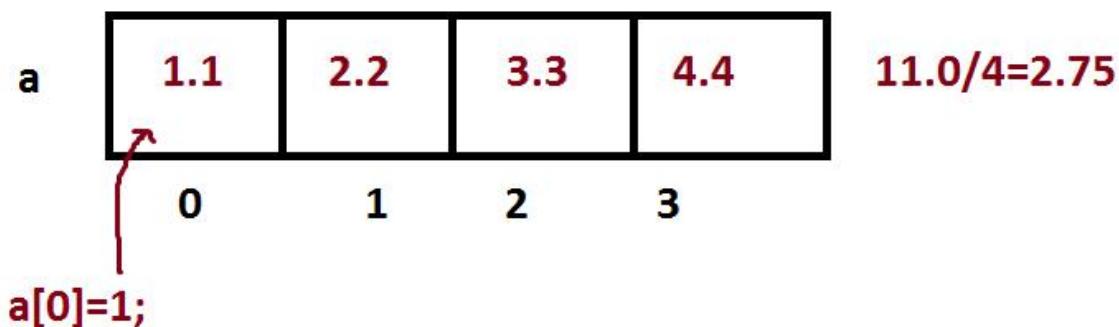
Read n elements into array and find the elements sum and avg.



The screenshot shows a Windows desktop environment with a code editor window titled "TC". The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the bottom indicates "Line 11 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C". The code itself is a C program that reads an array of floats from the user, calculates their sum and average, and prints the results. The code uses standard input-output functions like `stdio.h` and `conio.h` and includes a `clrscr()` call.

```
#include<stdio.h>
#include<conio.h>
void main()
{
float a[100],s=0; int n,i;
clrscr();
printf("Enter array size between 1 TO 100 ");scanf("%d",&n);
printf("Enter %d elements ", n);
for(i=0;i<n;i++){scanf("%f",&a[i]);s+=a[i];}
printf("Elements sum=%f, Avg=%f",s,s/n);
getch();
}
```

```
TC
Enter array size between 1 TO 100 4
Enter 4 elements 1.1 2.2 3.3 4.4
Elements sum=11.00, Avg=2.75
```



Home work:

Read a stu id, name, 6 sub marks using array. Find tot, avg and result [pass / fail]

