

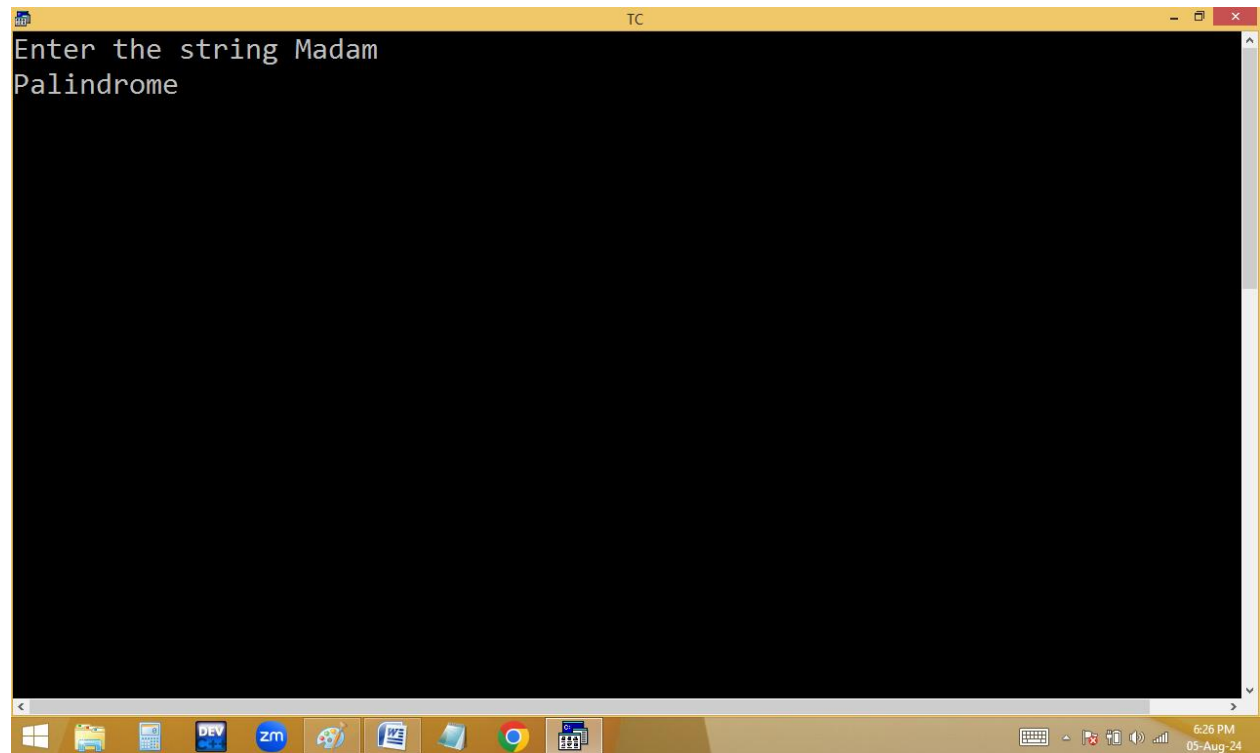
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program that checks if a string is a palindrome. The code includes headers for `conio.h` and `ctype.h`, and uses `gets()` for input and `tolower()` for case-insensitive comparison. The logic involves copying the input string into a second array in reverse order and then comparing the two arrays character by character. The bottom window shows the program's execution, where the user has entered the string "liril" and the program has output "Palindrome".

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 32 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s1[100],s2[100]; int i, j;
clrscr();
printf("Enter the string "); gets(s1);
for(i=0; s1[i]!='\0' ; i++); /* strlen */
for(j=0,s2[i--]='\0';i>=0;i--,j++)s2[j]=s1[i]; /* rev + copy */
for(i=0;s1[i]!='\0';i++)
{
if(tolower(s1[i])!=tolower(s2[i]))
{puts("Not a Palindrome");getch();return;}
}
printf("Palindrome");
getch();
}
```

TC

Enter the string liril
Palindrome

6:26 PM
05-Aug-24



```

Enter the string ammu
Not a Palindrome

```

for(i=0; s1[i]!='\0';i++); length=4 ✓

for(s2[i--]='\0', j=0; i>=0; i--,j++) ✓

s2[j]=s1[i]; rev copy ✓ ✓

for(i=0;s1[i]!='\0';i++)
 {if(s1[i]!=s2[i])p(not);return;
 strcmp
 p(palin);

3 → 0
 2 → 1
 1 → 2
 0 → 3
 -1

i
 4
 3
 2
 1
 0
 -1

j
 4
 3
 2
 1
 0
 -1

6550050123504

s1	a	m	m	a	\0
	0	1	2	3	4

s2	a	m	m	a	\0
	0	1	2	3	4

Finding no of words in given string:

Jaanu I miss you → 4 words

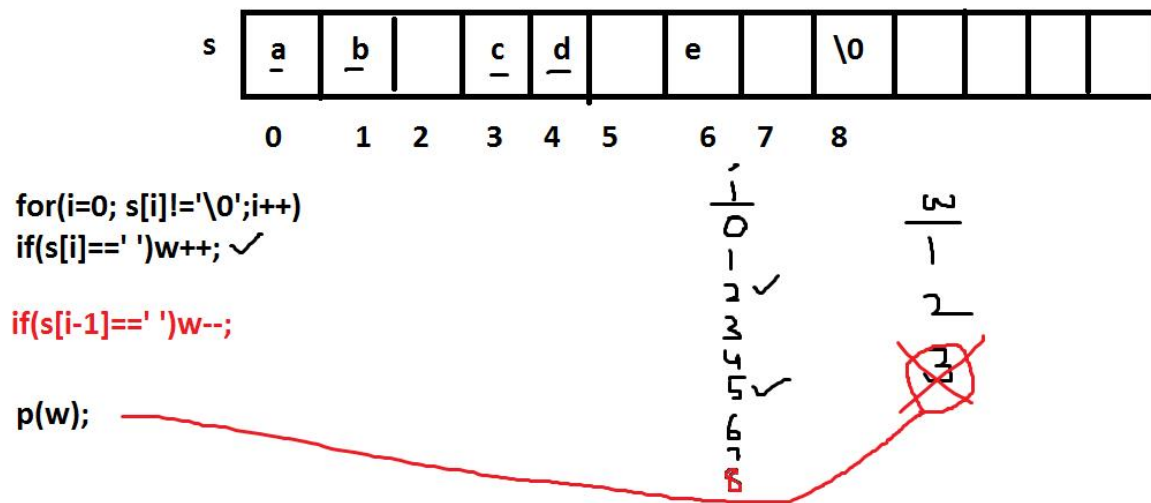
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program for counting words in a string. The code is as follows:

```
Line 12 Col 19 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s[100]; int i,w=1;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0' ; i++)if(s[i]!=' ')&& s[i+1]!=' ')w++;
if(s[0]!=' ')w--;
if(s[i-1]!=' ')w--;
if(s[0]=='\0')w--;_
printf("%d words",w);
getch();
}
```

The bottom window shows the execution of the program. It prompts the user to "Enter the string" and displays the output "0 words_".

```
TC
Enter the string naresh  it
2 words_
```

```
TC
Enter the string  hyd
1 words_
```

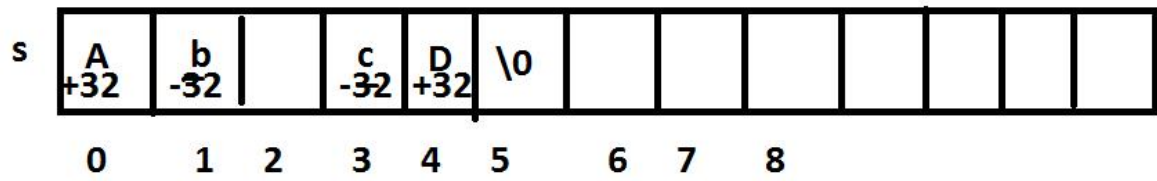


Lower to upper / upper to lower:

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 9 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s[100]; int i,w=1;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0' ; i++)
if(s[i]>='a'&& s[i]<='z') s[i]-=32;
else if(s[i]>='A'&& s[i]<='Z') s[i]+=32;
printf(s);
getch();
}

Enter the string James Bond - 007
jAMES bOND - 007_

TC
6:48 PM
05-Aug-24
```

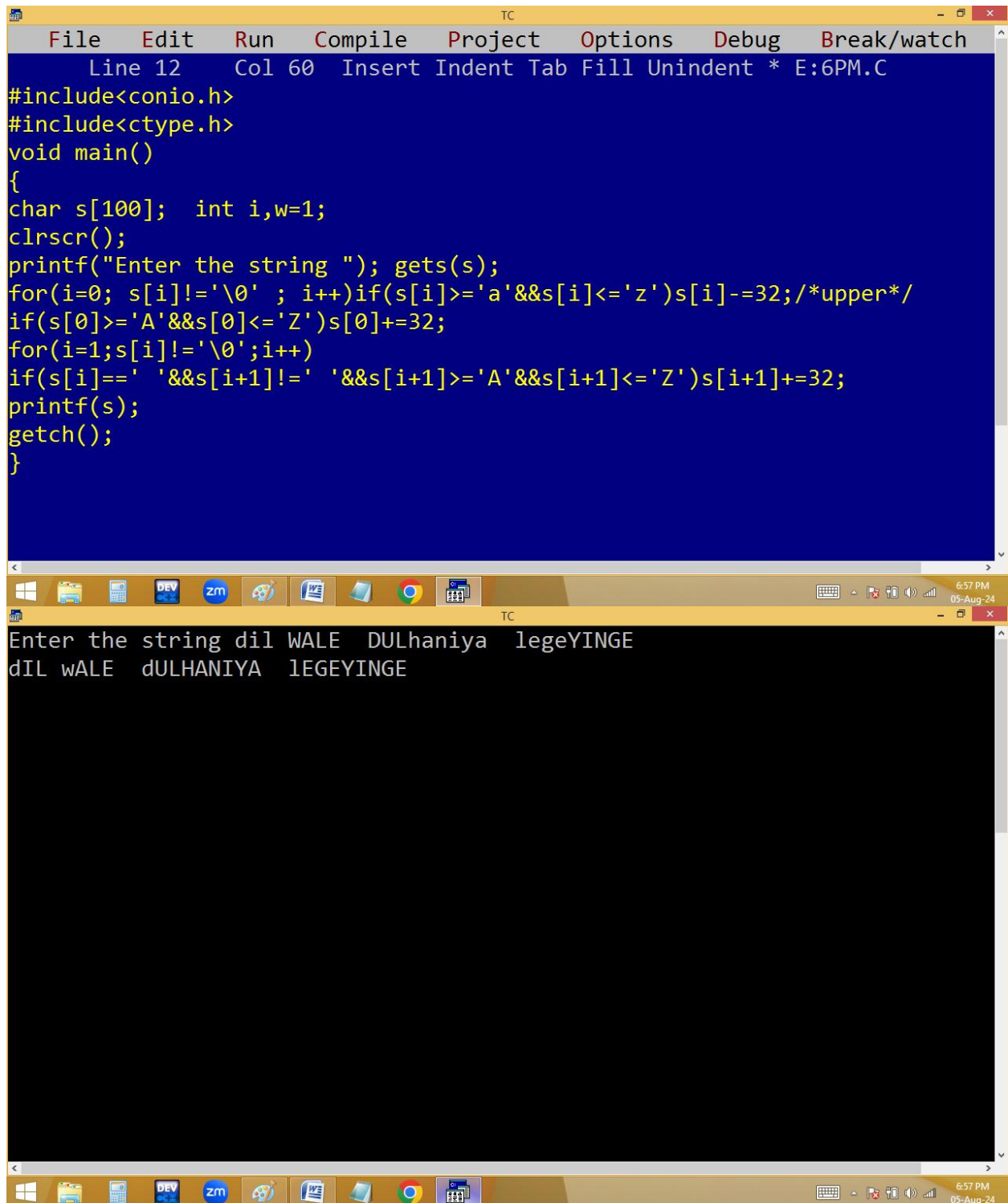


Capitalized Each Word [Title Case]:


```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 64 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s[100]; int i,w=1;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0' ; i++)if(s[i]>='A'&& s[i]<='Z')s[i]+=32;/*lower*/
if(s[0]>='a'&& s[0]<='z')s[0]-=32;
for(i=1; s[i]!='\0'; i++)
if(s[i]==' ' && s[i+1]!=' ' && s[i+1]>='a'&& s[i+1]<='z')s[i+1]-=32;_
printf(s);
getch();
}
```

Enter the string kabhi KUSHI kabHI GHUM
Kabhi Kushi Kabhi Ghum

tOGGLE cASE:



The image shows a screenshot of a Turbo C++ IDE. The top window displays the source code for a C program that converts a sentence to title case. The code includes headers for `conio.h` and `ctype.h`, and uses `gets(s)` to read a string. It then iterates through the string, converting lowercase letters to uppercase using `s[i] -= 32` and uppercase letters to lowercase using `s[i] += 32`. The bottom window shows the program's execution, where the input string "dil WALE DULhaniya legeYINGE" is converted to "dIL wALE dULHANIYA lEGEYINGE".

```
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 60 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s[100]; int i,w=1;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0' ; i++)if(s[i]>='a'&&s[i]<='z')s[i]-=32;/*upper*/
if(s[0]>='A'&&s[0]<='Z')s[0]+=32;
for(i=1;s[i]!='\0';i++)
if(s[i]==' '&&s[i+1]!=' ' &&s[i+1]>='A'&&s[i+1]<='Z')s[i+1]+=32;
printf(s);
getch();
}
```

Enter the string dil WALE DULhaniya legeYINGE
dIL wALE dULHANIYA lEGEYINGE

Sentence case:

Naresh it located in hyd. Ameerpet. Hyd.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 46 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s[100]; int i,w=1;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0' ; i++)if(s[i]>='A'&& s[i]<='Z')s[i]+=32;/*Lower*/
if(s[0]>='a'&& s[0]<='z')s[0]-=32;
for(i=1; s[i]!='\0'; i++)
if(s[i]=='.'&& s[i+1]==' ' && s[i+2]>='a'&& s[i+2]<='z')s[i+2]-=32;
printf(s);
getch();
}

TC
Enter the string nareSH it. ameEERPet. hyDERABAD.
Naresh it. Ameerpet. Hyderabad._
7:01 PM
05-Aug-24
```

Abbreviation:

KKKG – KABHI KUSHI KABHI GHUM

ISRO – INDIAN SPACE AND RESEARCH ORGANIZATION

PK – PAWAN KALYAN

NTR – NANDHAMURI TARAKA RAMARAO

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 49 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s[100]; int i,w=1;
clrscr();
printf("Enter the string "); gets(s);
if(s[0]!=' ') printf("%c ",s[0]);
for(i=1; s[i]!='\0' ; i++)
if(s[i]==' ' && s[i+1]!=' ') printf("%c ",s[i+1]);_
getch();
}

TC
Enter the string kabhi kushi kabhi ghum
k k k g _
7:08 PM
05-Aug-24
```

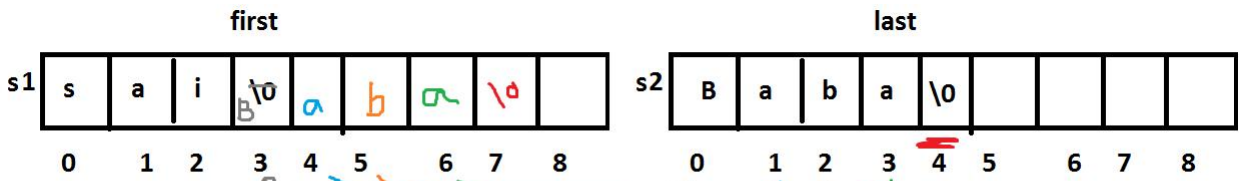
```
TC
Enter the string Ranam Raudram Rudhiram
R R R _
```

```
TC
Enter the string Jhanvi Kapoor
J K
```

String concatenation:

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 14 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s1[100],s2[100]; int i,j;
clrscr();
printf("Enter first name "); gets(s1);
printf("Enter last name "); gets(s2);
for(i=0; s1[i]!='\0' ; i++); /* s1 length */
for( j=0; s2[j]!='\0';j++,i++) s1[i]=s2[j];
s1[i]='\0';
printf("Ur name is %s",s1);
getch();
}

TC
Enter first name Sai
Enter last name Baba
Ur name is SaiBaba
```

```
for(i=0;s1[i]!='\0';i++); s1 length=3
```

```
for( j=0; s2[j]!='\0';j++,i++)s1[i]=s2[ j];
```

```

3 ← 0
4 ← 1
5 ← 2
6 ← 3
7 ← 4
s1[i]='\0';

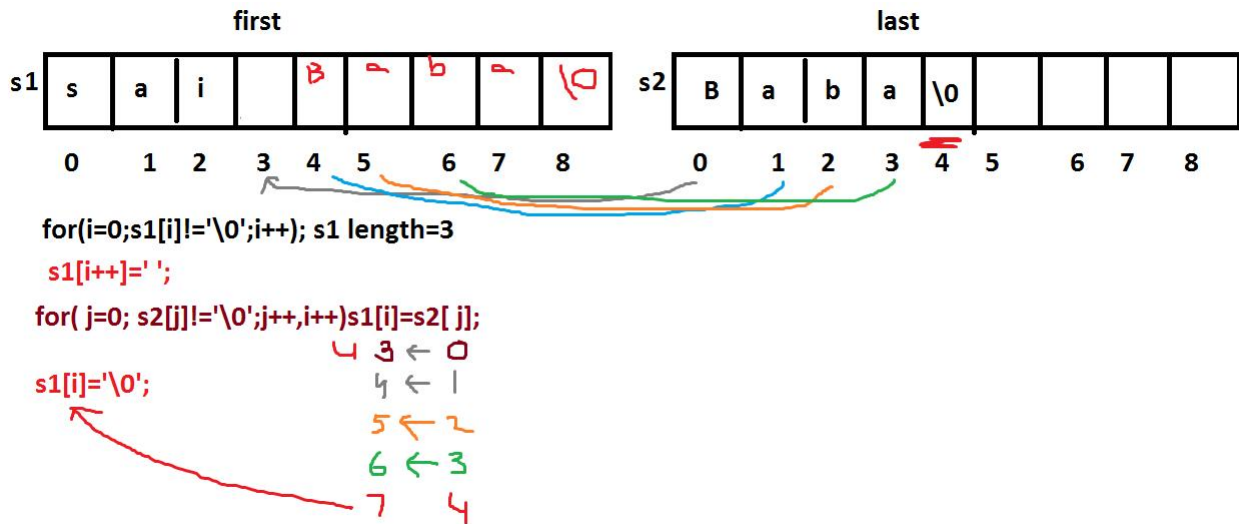
```

With space:

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program named E:6PM.C. The code includes headers for `conio.h` and `ctype.h`, and defines a `main` function. Inside `main`, two character arrays `s1` and `s2` of size 100 are declared, along with integer variables `i` and `j`. The program uses `clrscr()` to clear the screen, then prompts the user to enter a first name and a last name using `gets()`. It then concatenates the two strings into `s1` using a nested loop and `printf` to display the result. The bottom window shows the program's execution output, where the user has entered 'Kishore' for the first name and 'Naidu' for the last name, resulting in the output 'Ur name is Kishore Naidu'. The Windows taskbar at the bottom indicates the time is 7:20 PM on 05-Aug-24.

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 11 Insert Indent Tab Fill Unindent * E:6PM.C
#include<conio.h>
#include<ctype.h>
void main()
{
char s1[100],s2[100]; int i,j;
clrscr();
printf("Enter first name "); gets(s1);
printf("Enter last name "); gets(s2);
for(i=0; s1[i]!='\0' ; i++); /* s1 length */
s1[i++]=' ';
for( j=0; s2[j]!='\0';j++,i++) s1[i]=s2[j];
s1[i]='\0';
printf("Ur name is %s",s1);
getch();
}
```

Enter first name Kishore
Enter last name Naidu
Ur name is Kishore Naidu



Character frequency:

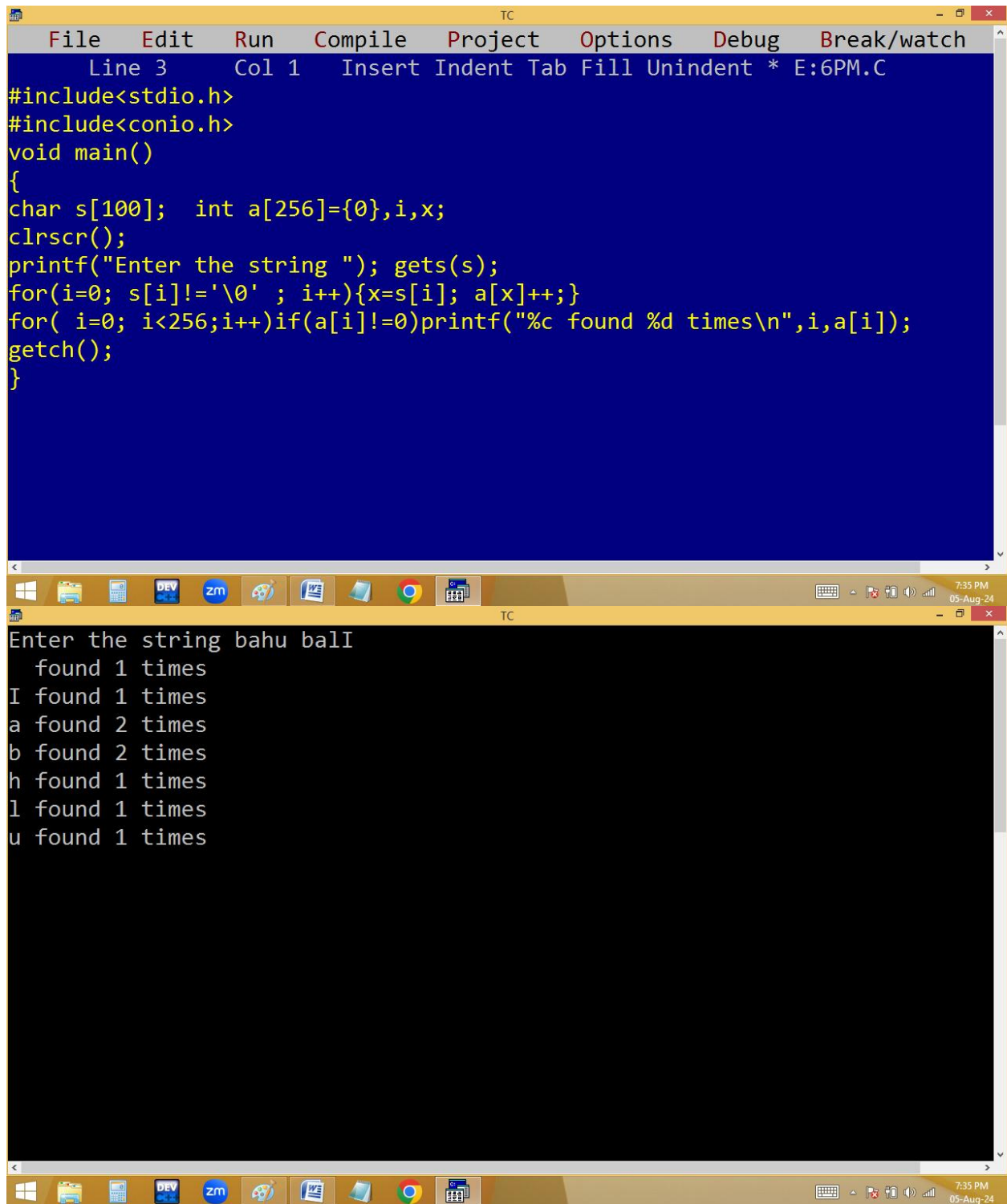
Aadya ➔

A – 1 time

a – 2 times

d – 1 time

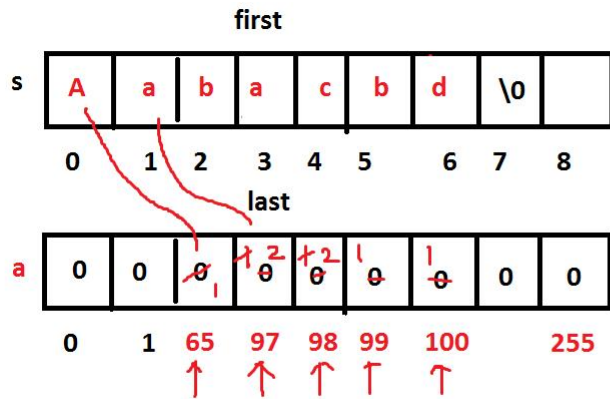
y – 1 time



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program that counts the frequency of characters in a string. The program includes `<stdio.h>` and `<conio.h>`, defines a `main` function, and uses arrays to store character frequencies. The bottom window shows the program's execution output for the input string "bahu balI".

```
File Edit Run Compile Project Options Debug Break/watch
Line 3 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char s[100]; int a[256]={0},i,x;
clrscr();
printf("Enter the string "); gets(s);
for(i=0; s[i]!='\0' ; i++){x=s[i]; a[x]++;}
for( i=0; i<256;i++)if(a[i]!=0)printf("%c found %d times\n",i,a[i]);
getch();
}
```

Enter the string bahu balI
found 1 times
I found 1 times
a found 2 times
b found 2 times
h found 1 times
l found 1 times
u found 1 times



```
for(i=0; s[i]!='\0';i++)
```

```
{
  int x=s[i]; ==> x=65
  a[x]++;
}
```

```
for(i=0;i<256;i++)
```

```
if(a[i]!=0)p("%c found %d times\n", i ,a[i]);
```

$\frac{i}{6}$

$\frac{i}{0-1-2-3-4-5-6}$