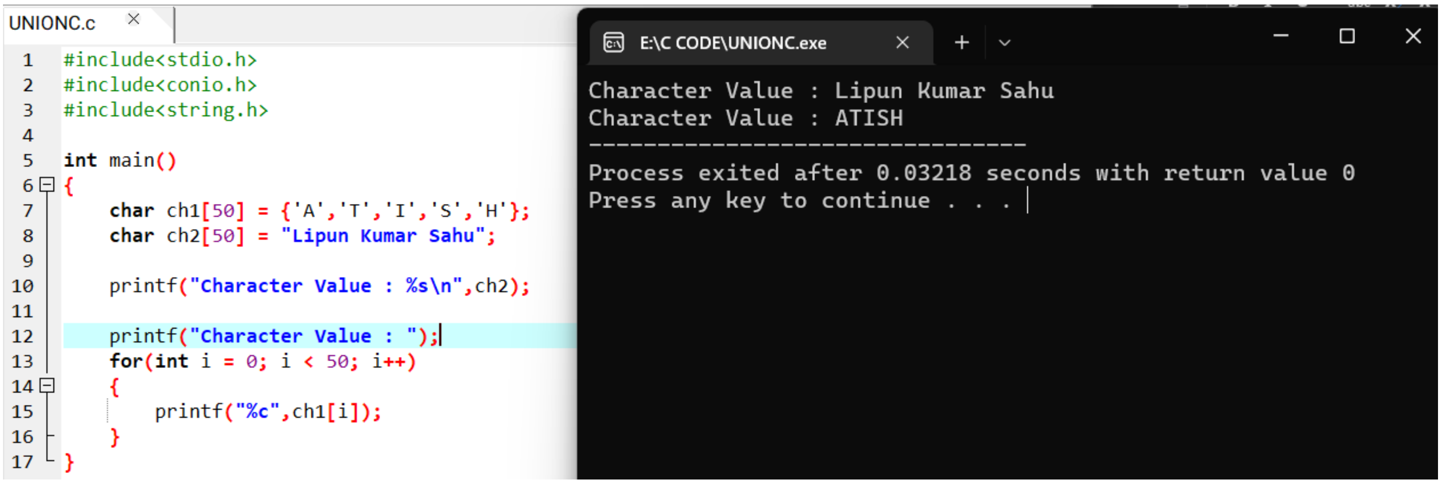
String In C Programming:

The string in c language is actually a one-dimensional array of character which is terminated by a null character. thus to define a string is a collection of characters terminated with a '\0' character. %s and %c is the format specifier for string.



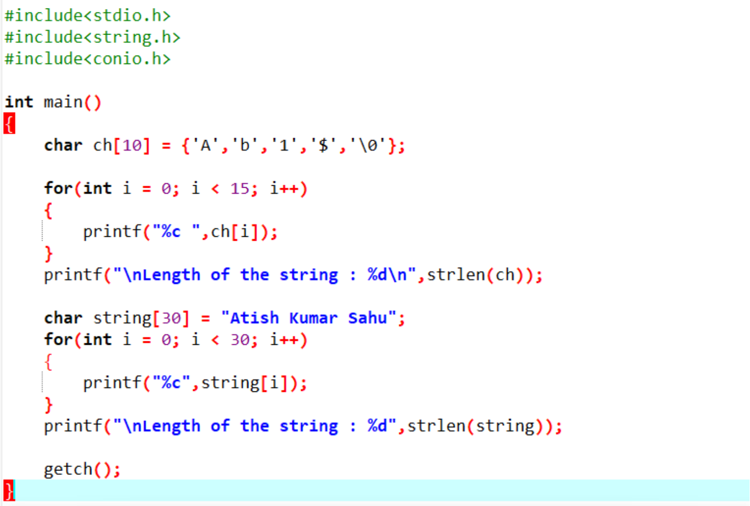
```
#include<stdio.h>
#include<conio.h>
#include<string.h>

int main()
{
    char ch1[50] = {'A','T','I','S','H'};
    char ch2[50] = "Lipun Kumar Sahu";

    printf("Character Value : %s\n",ch2);

    printf("Character Value : ");
    for(int i = 0; i < 50; i++)
    {
        printf("%c",ch1[i]);
    }
}
```

```
Character Value : Lipun Kumar Sahu
Character Value : ATISH
--------------------------------
Process exited after 0.03218 seconds with return value 0
Press any key to continue . . .
```

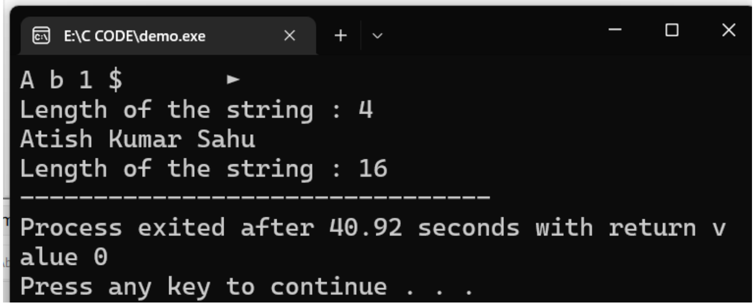
String Function:

Strlen() Function:

this function return the length of the given string. This function doesn’t count null character ‘\0’.



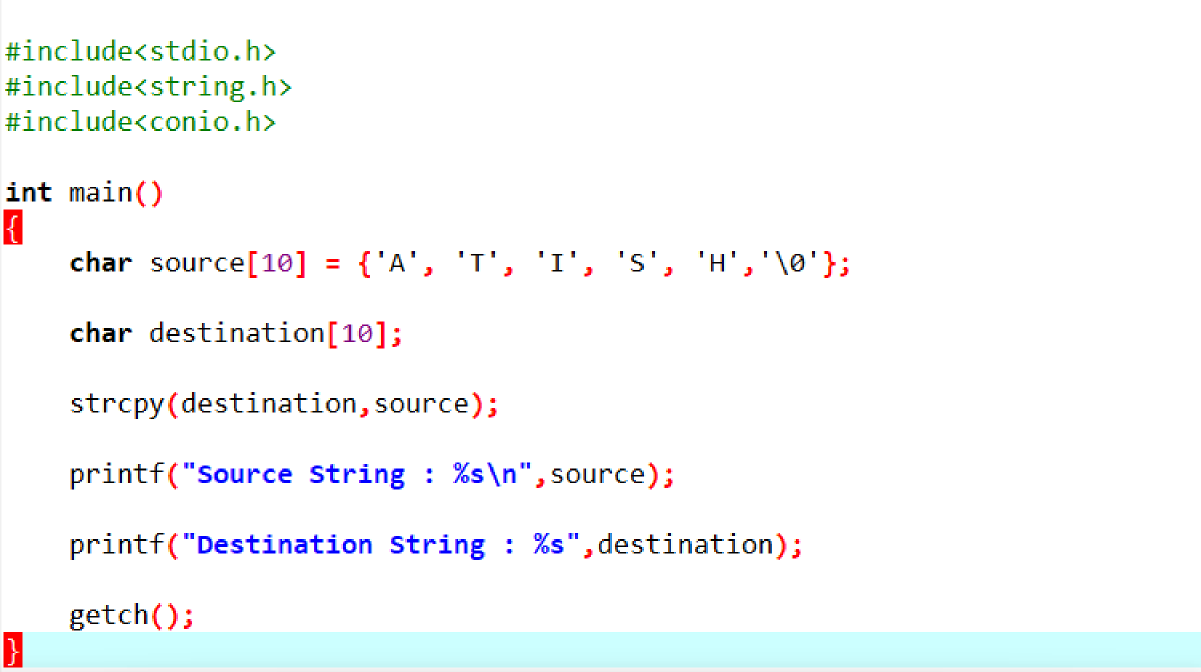
```
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char ch[10] = {'A','b','1','$','\0'};

    for(int i = 0; i < 15; i++)
    {
        printf("%c ",ch[i]);
    }
    printf("\nLength of the string : %d\n",strlen(ch));

    char string[30] = "Atish Kumar Sahu";
    for(int i = 0; i < 30; i++)
    {
        printf("%c",string[i]);
    }
    printf("\nLength of the string : %d",strlen(string));

    getch();
}
```



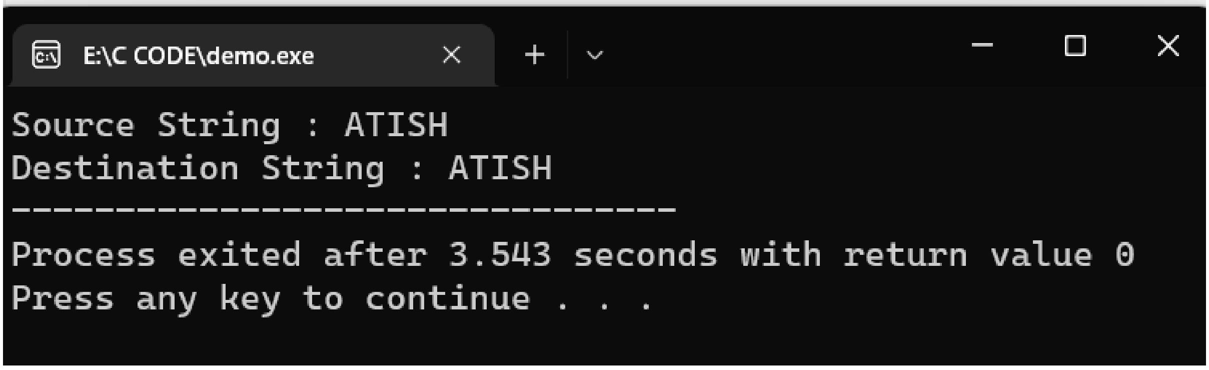
```
A b 1 $       ►
Length of the string : 4
Atish Kumar Sahu
Length of the string : 16
--------------------------------
Process exited after 40.92 seconds with return v
alue 0
Press any key to continue . . .
```

strcpy() Function In C Language:

strcpy(destination, source) function copies the source string in destination.



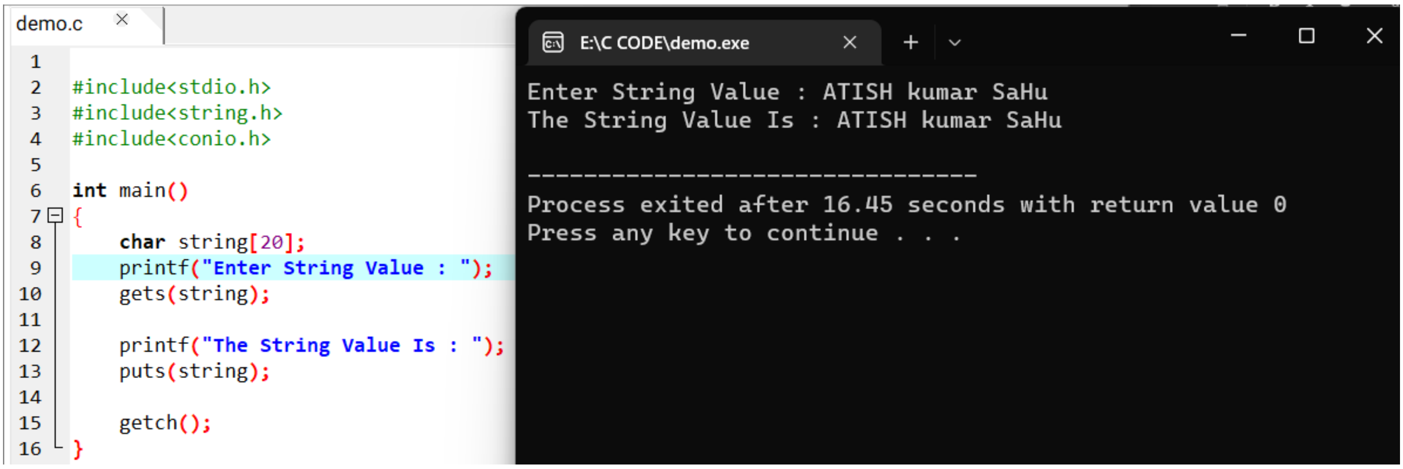
```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char source[10] = {'A', 'T', 'I', 'S', 'H','\0'};

    char destination[10];

    strcpy(destination,source);

    printf("Source String : %s\n",source);

    printf("Destination String : %s",destination);

    getch();
}
```



```
Source String : ATISH
Destination String : ATISH
--------------------------------
Process exited after 3.543 seconds with return value 0
Press any key to continue . . .
```

puts() and gets() Function In C Language:

puts() function is also one of the types of strings in C, is used for writing a line for the output screen. It is similar to the printf() function. gets() function, allows the ensure to enter characters followed by enter key. And it also enables the user to add spaced separated strings.

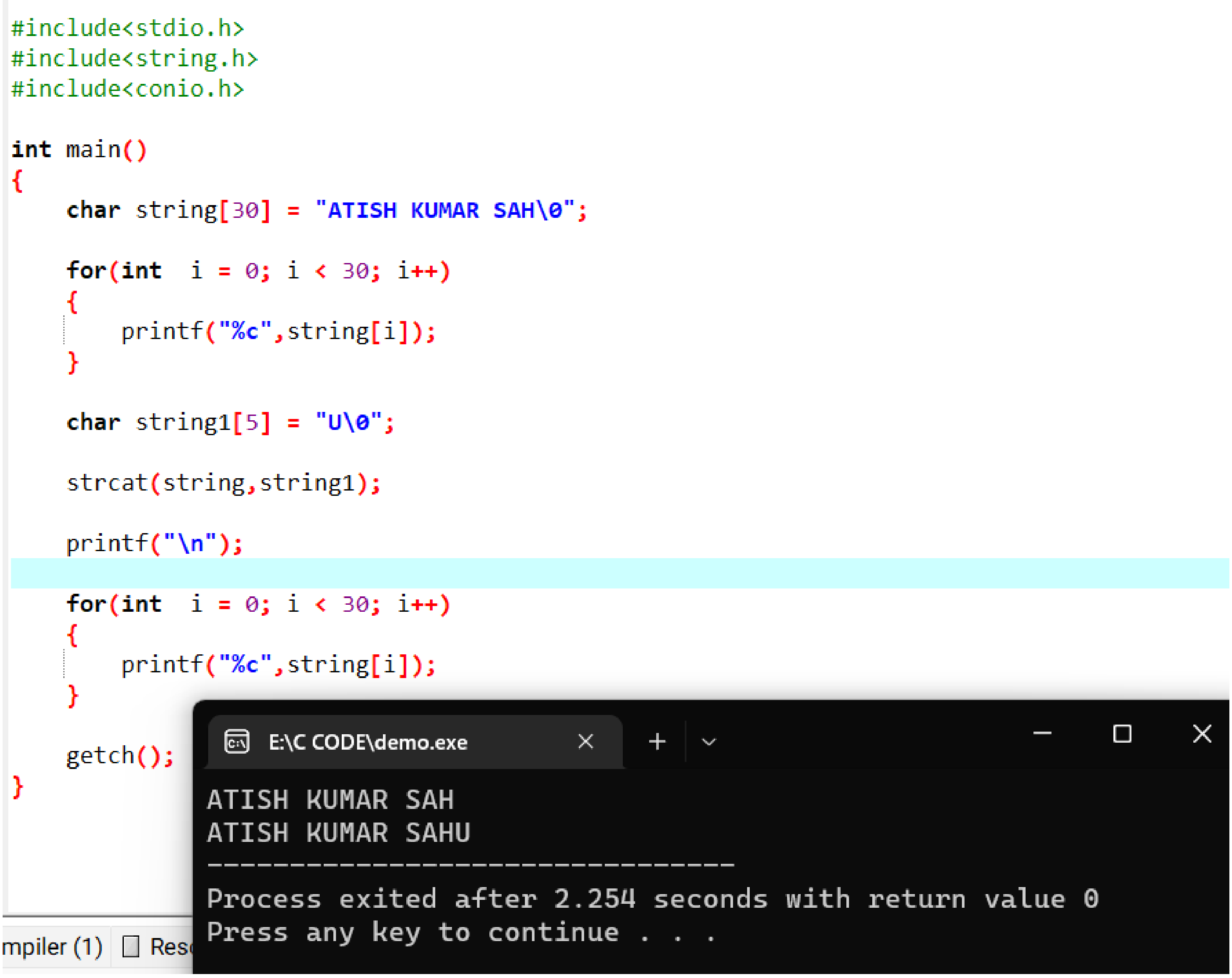


```c

#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string[20];
    printf("Enter String Value : ");
    gets(string);

    printf("The String Value Is : ");
    puts(string);

    getch();
}
```

```
Enter String Value : ATISH kumar SaHu
The String Value Is : ATISH kumar SaHu

--------------------------------
Process exited after 16.45 seconds with return value 0
Press any key to continue . . .
```

strcat() Function In C Language:

strcat(first_string, second_string) function concatenates two strings and result is returned to first_string.

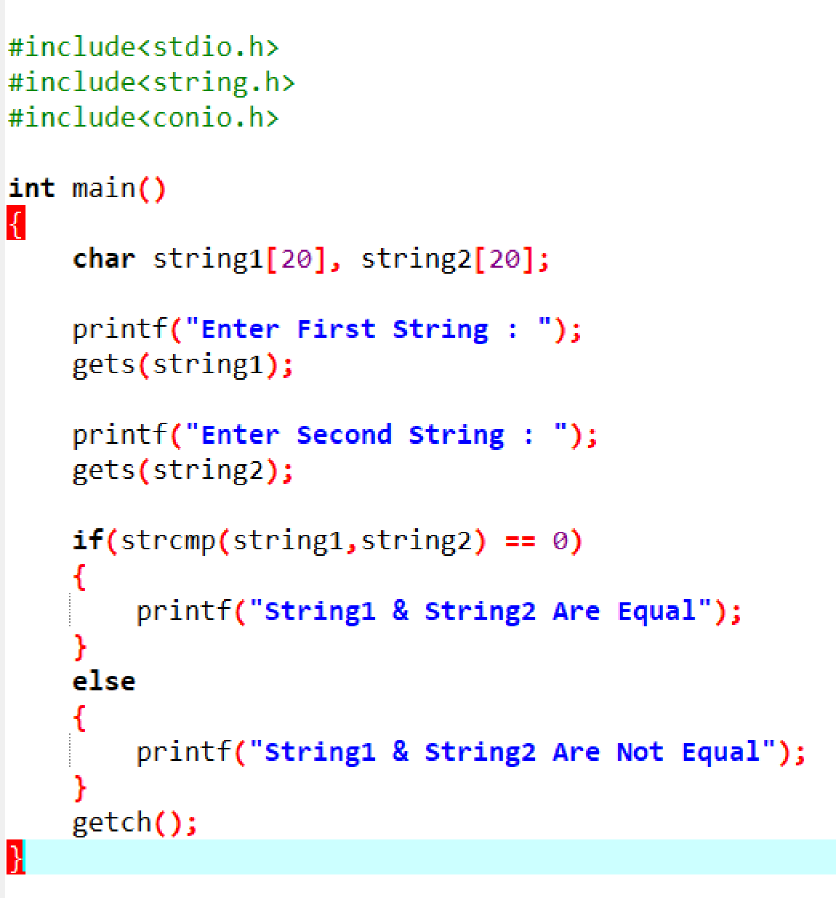


```
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string[30] = "ATISH KUMAR SAH\0";

    for(int  i = 0; i < 30; i++)
    {
        printf("%c",string[i]);
    }

    char string1[5] = "U\0";

    strcat(string,string1);

    printf("\n");

    for(int  i = 0; i < 30; i++)
    {
        printf("%c",string[i]);
    }

    getch();
}
```

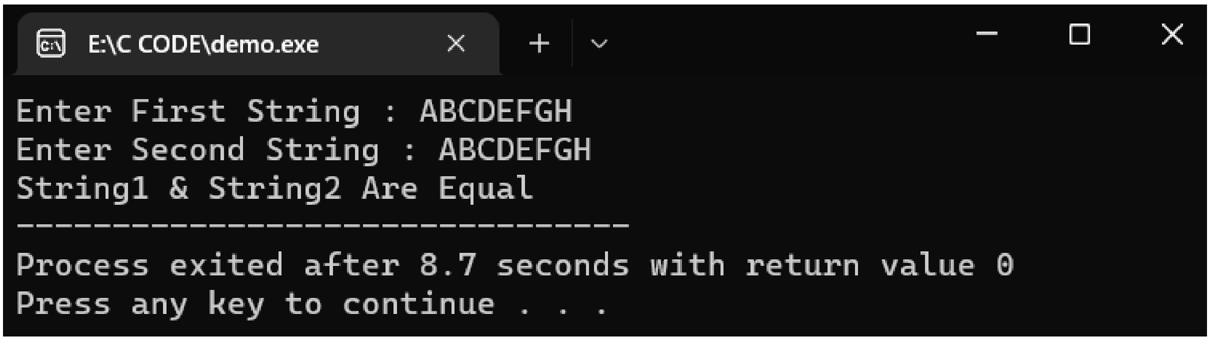
```
ATISH KUMAR SAH
ATISH KUMAR SAHU
--------------------------------
Process exited after 2.254 seconds with return value 0
Press any key to continue . . .
```

strcmp() Function In C Language:

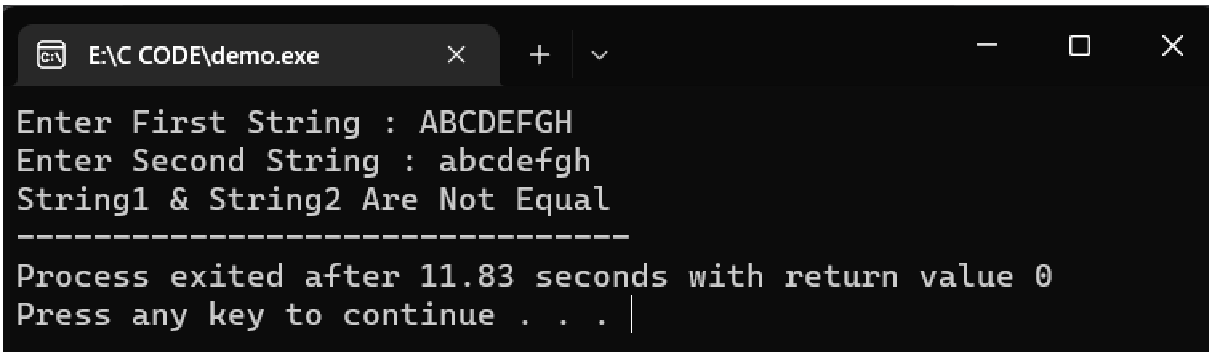
strcmp(first_string, second_string) function compares two string and returns 0 if both strings are equal. Otherwise both strings are not equal.



```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[20], string2[20];

    printf("Enter First String : ");
    gets(string1);

    printf("Enter Second String : ");
    gets(string2);

    if(strcmp(string1,string2) == 0)
    {
        printf("String1 & String2 Are Equal");
    }
    else
    {
        printf("String1 & String2 Are Not Equal");
    }
    getch();
}
```



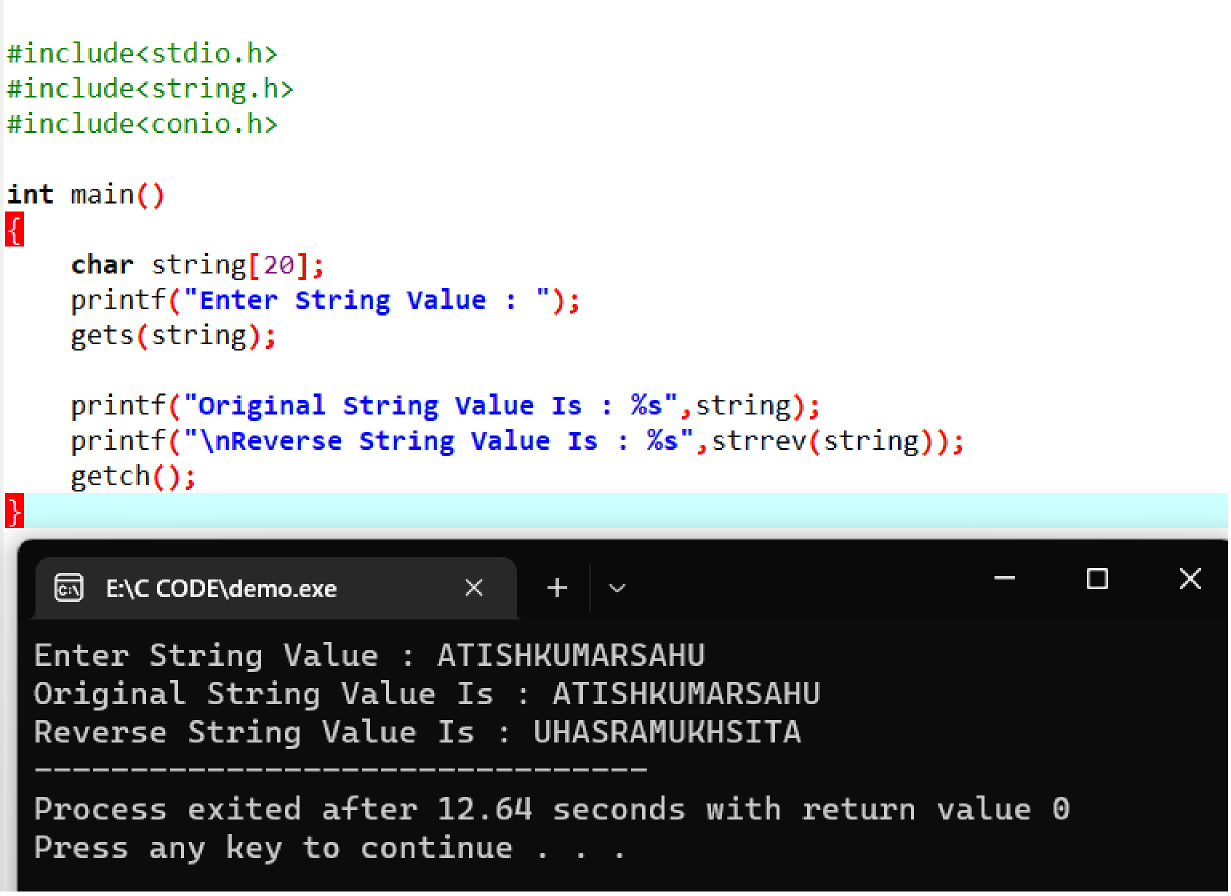
```
Enter First String : ABCDEFGH
Enter Second String : ABCDEFGH
String1 & String2 Are Equal
--------------------------------
Process exited after 8.7 seconds with return value 0
Press any key to continue . . .
```



```
Enter First String : ABCDEFGH
Enter Second String : abcdefgh
String1 & String2 Are Not Equal
--------------------------------
Process exited after 11.83 seconds with return value 0
Press any key to continue . . .
```

strrev() Function In C Language:

The strrev(string) function returns reverse of the given string. let's see a simple example of strrev() function.

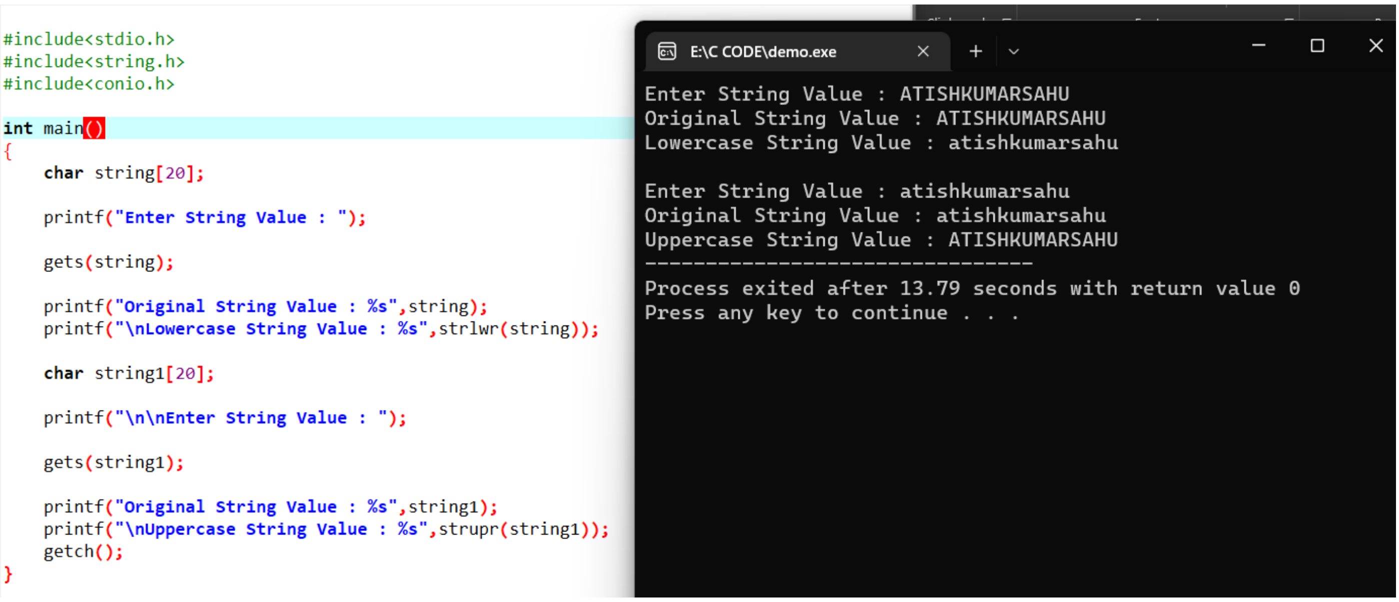


```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string[20];
    printf("Enter String Value : ");
    gets(string);

    printf("Original String Value Is : %s",string);
    printf("\nReverse String Value Is : %s",strrev(string));
    getch();
}
```

```
Enter String Value : ATISHKUMARSAHU
Original String Value Is : ATISHKUMARSAHU
Reverse String Value Is : UHASRAMUKHSITA
--------------------------------
Process exited after 12.64 seconds with return value 0
Press any key to continue . . .
```

strlwr() strupr() Function In C Language:

strlwr(string) function return the string characters in lowercase. strupr() function return the string character in uppercase.

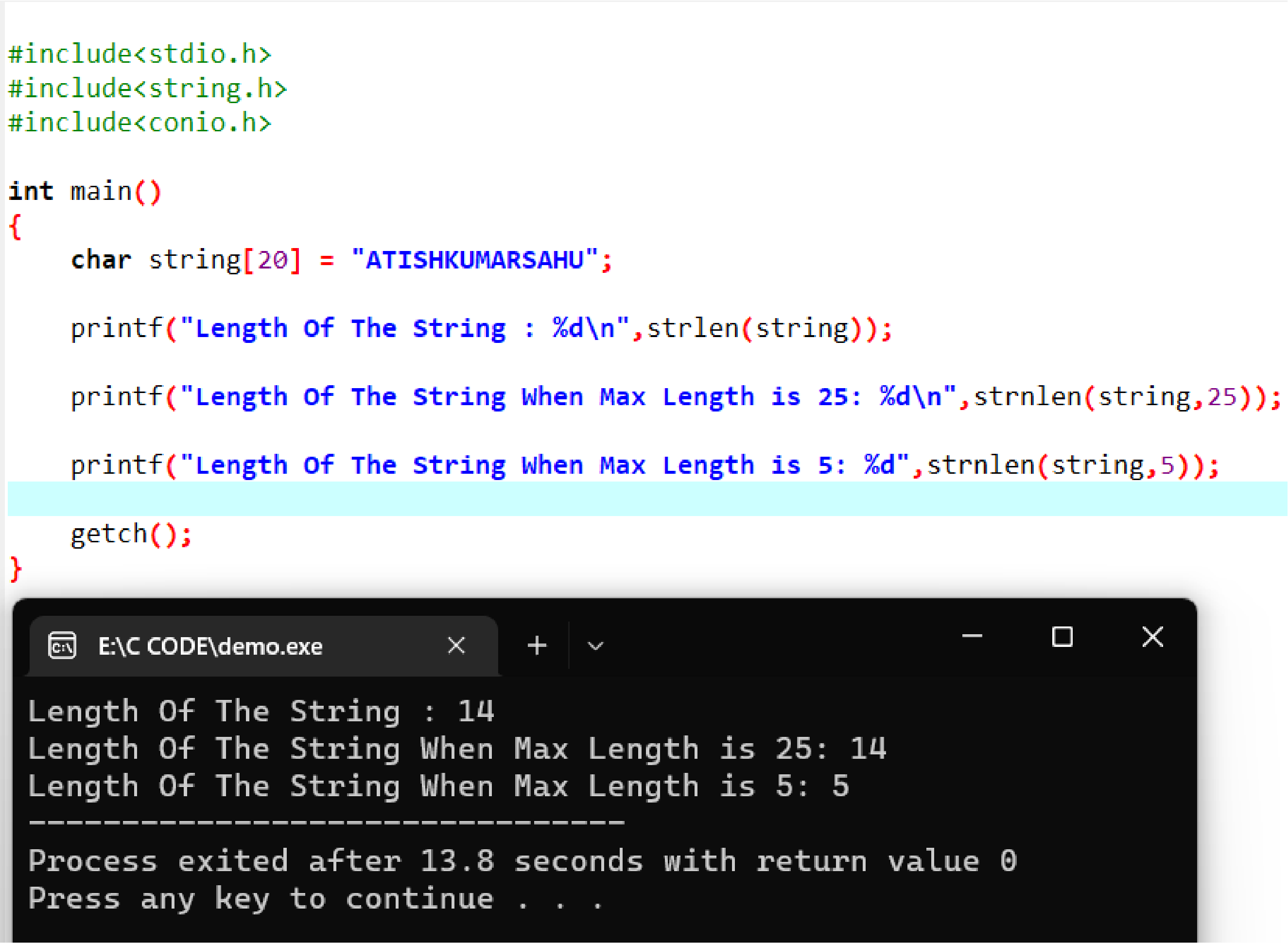


```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string[20];

    printf("Enter String Value : ");

    gets(string);

    printf("Original String Value : %s",string);
    printf("\nLowercase String Value : %s",strlwr(string));

    char string1[20];

    printf("\n\nEnter String Value : ");

    gets(string1);

    printf("Original String Value : %s",string1);
    printf("\nUppercase String Value : %s",strupr(string1));
    getch();
}
```

```
Enter String Value : ATISHKUMARSAHU
Original String Value : ATISHKUMARSAHU
Lowercase String Value : atishkumarsahu

Enter String Value : atishkumarsahu
Original String Value : atishkumarsahu
Uppercase String Value : ATISHKUMARSAHU
--------------------------------
Process exited after 13.79 seconds with return value 0
Press any key to continue . . .
```

strnlen() function in C programming:

strnlen() take a string and a positive integer maxlen as input and return the length of the string if maxlen is greater than the size of the string otherwise, always return maxlen which means it only counts the characters till str[maxlen -1].

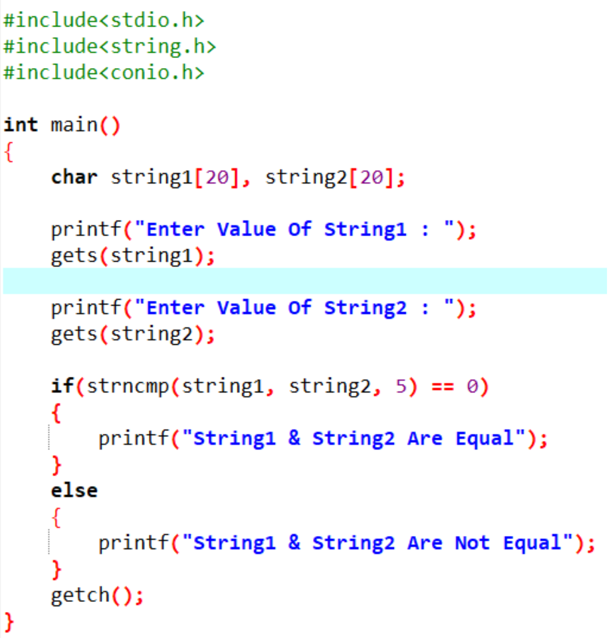


```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string[20] = "ATISHKUMARSAHU";

    printf("Length Of The String : %d\n",strlen(string));

    printf("Length Of The String When Max Length is 25: %d\n",strnlen(string,25));

    printf("Length Of The String When Max Length is 5: %d",strnlen(string,5));

    getch();
}
```

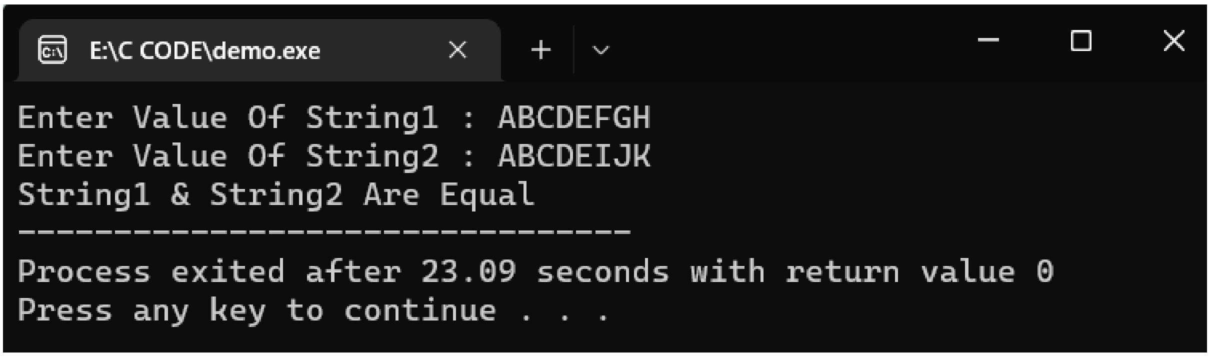
```
Length Of The String : 14
Length Of The String When Max Length is 25: 14
Length Of The String When Max Length is 5: 5
--------------------------------
Process exited after 13.8 seconds with return value 0
Press any key to continue . . .
```

strncmp() function in C programming:

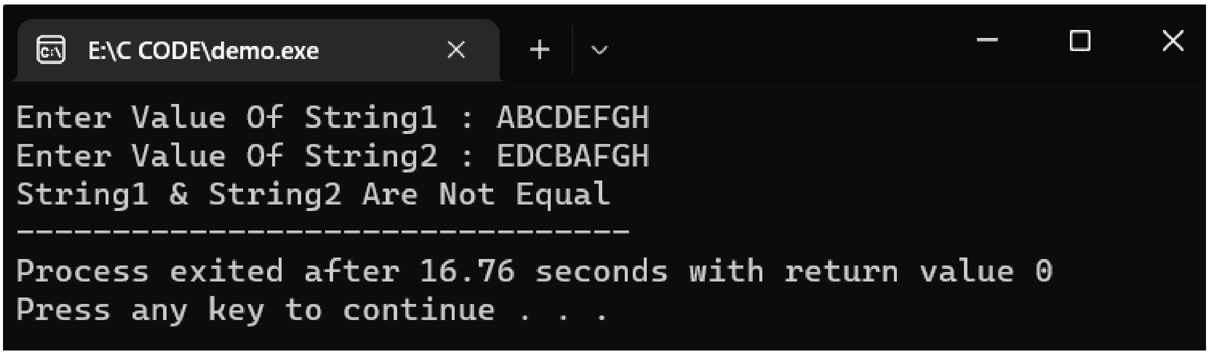
It compares only the first n characters of both the strings and returns an integer value accordingly.



```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[20], string2[20];

    printf("Enter Value Of String1 : ");
    gets(string1);

    printf("Enter Value Of String2 : ");
    gets(string2);

    if(strncmp(string1, string2, 5) == 0)
    {
        printf("String1 & String2 Are Equal");
    }
    else
    {
        printf("String1 & String2 Are Not Equal");
    }
    getch();
}
```



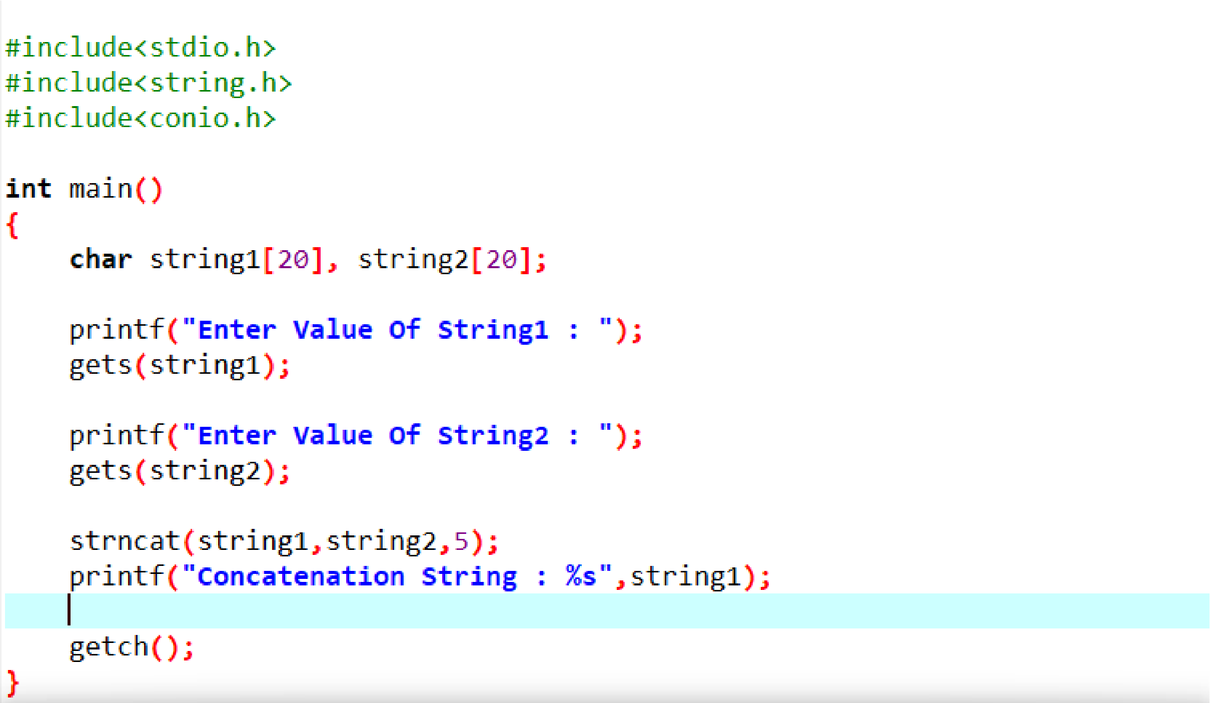
```
Enter Value Of String1 : ABCDEFGH
Enter Value Of String2 : ABCDEIJK
String1 & String2 Are Equal
--------------------------------
Process exited after 23.09 seconds with return value 0
Press any key to continue . . .
```



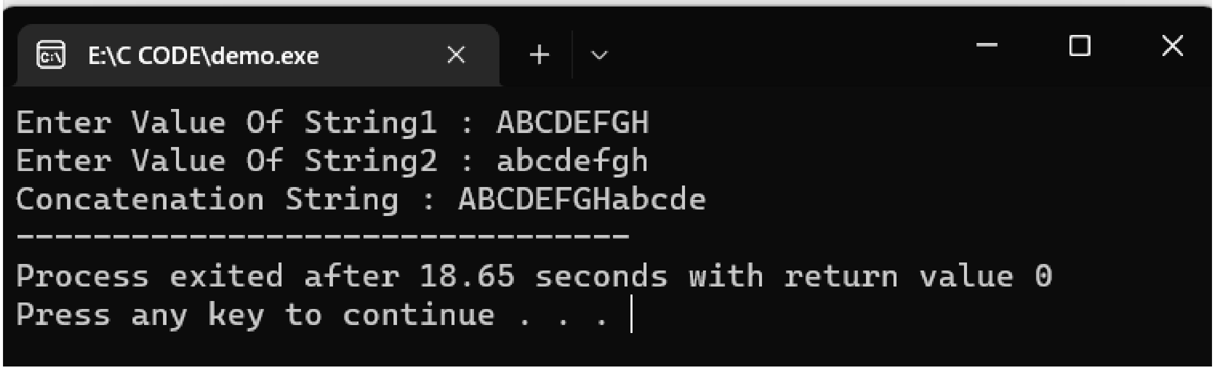
```
Enter Value Of String1 : ABCDEFGH
Enter Value Of String2 : EDCBAFGH
String1 & String2 Are Not Equal
--------------------------------
Process exited after 16.76 seconds with return value 0
Press any key to continue . . .
```

strncat() Function In C Language:

It takes two strings as input and attaches only the first n characters of the second string to the end of the first string.



```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[20], string2[20];

    printf("Enter Value Of String1 : ");
    gets(string1);

    printf("Enter Value Of String2 : ");
    gets(string2);

    strncat(string1,string2,5);
    printf("Concatenation String : %s",string1);

    getch();
}
```

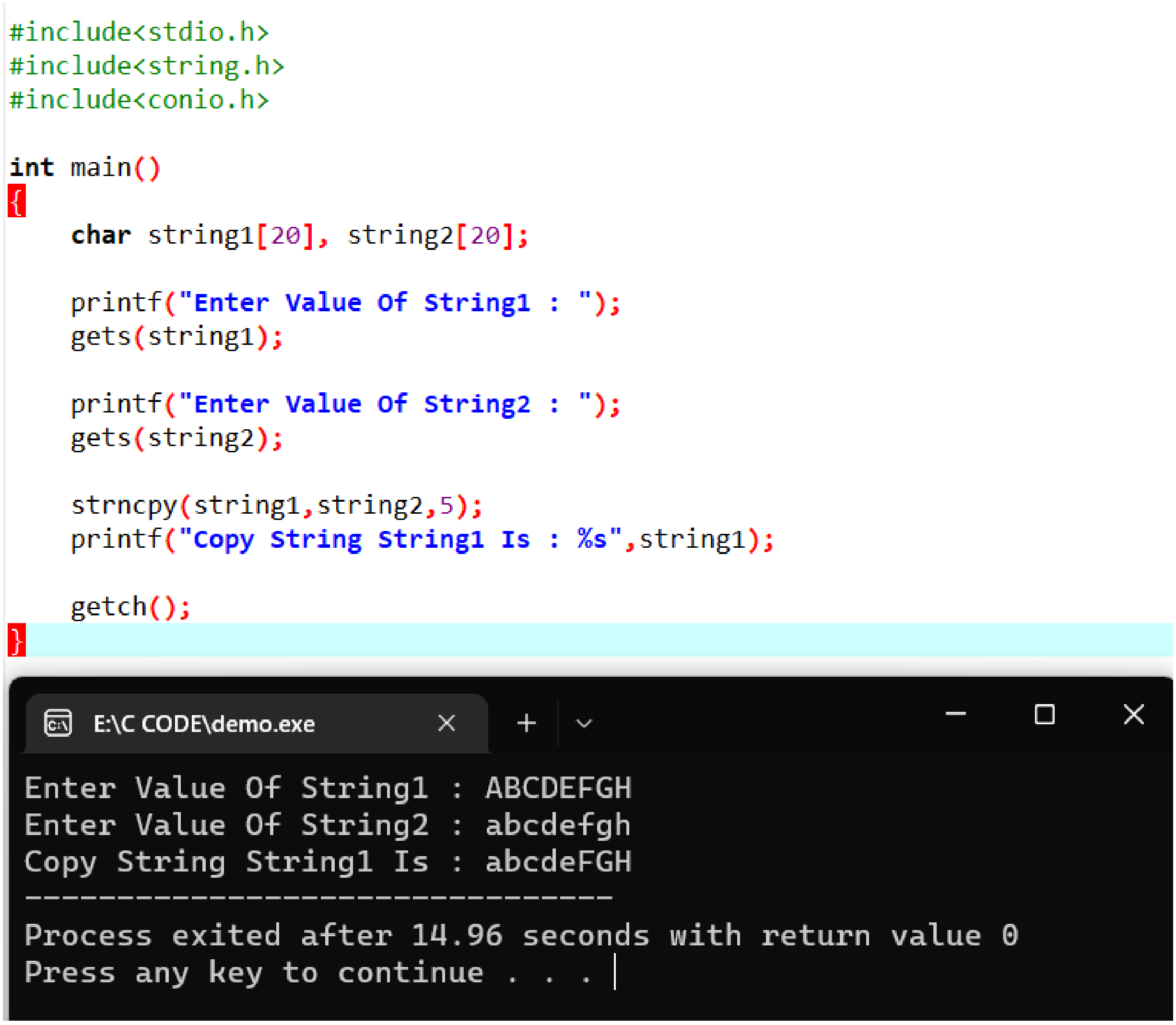


```
Enter Value Of String1 : ABCDEFGH
Enter Value Of String2 : abcdefgh
Concatenation String : ABCDEFGHabcde
--------------------------------
Process exited after 18.65 seconds with return value 0
Press any key to continue . . .
```

strncpy() Function In C Language:

It takes two strings as input and overwrites the data of the first string by the second string based on specific conditions:

If the length of string2 is greater than n, it copies only the first n characters of string2 to string1; otherwise, it copies the entire string2 to string1.

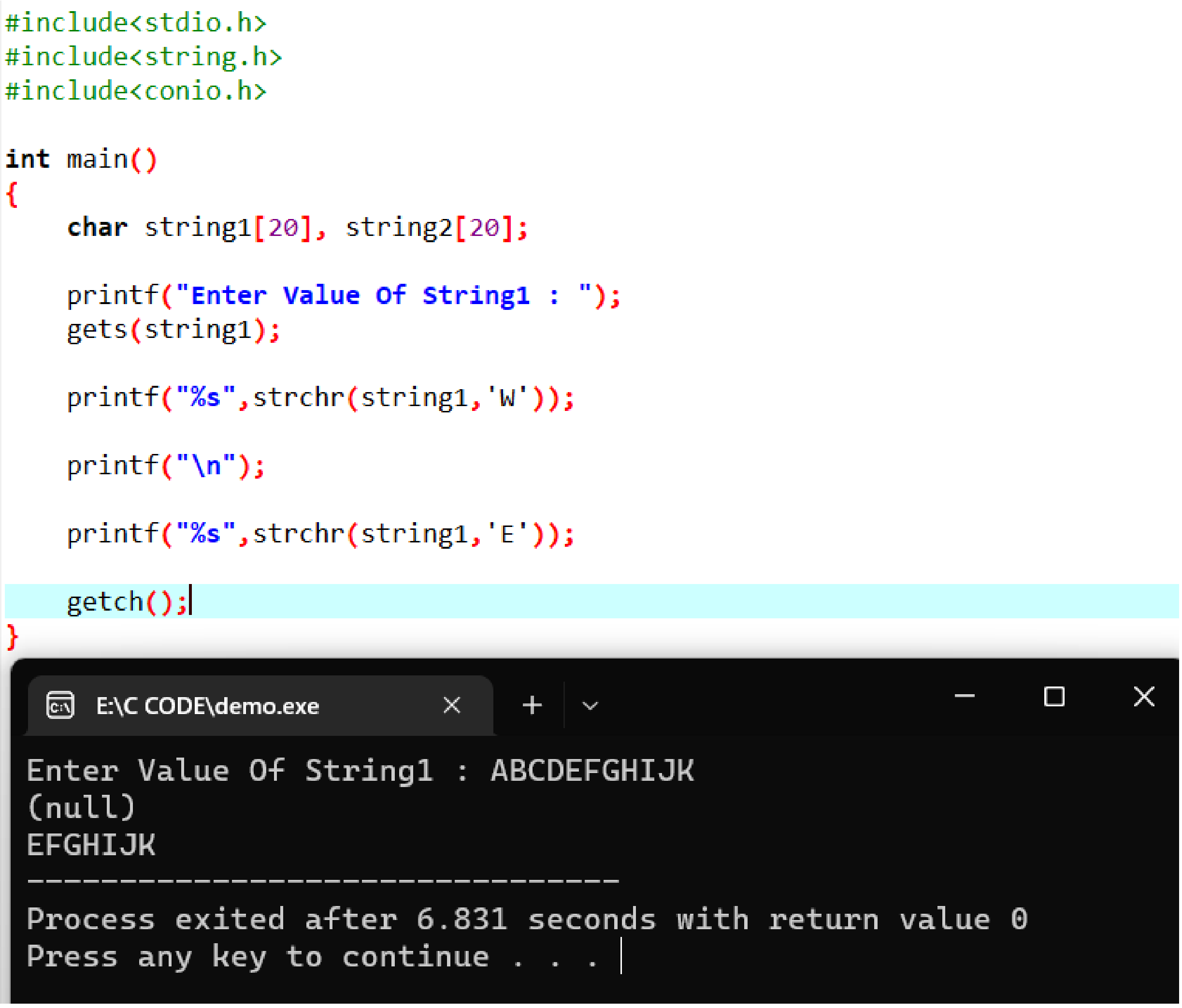


```
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[20], string2[20];

    printf("Enter Value Of String1 : ");
    gets(string1);

    printf("Enter Value Of String2 : ");
    gets(string2);

    strncpy(string1,string2,5);
    printf("Copy String String1 Is : %s",string1);

    getch();
}
```

```
Enter Value Of String1 : ABCDEFGH
Enter Value Of String2 : abcdefgh
Copy String String1 Is : abcdeFGH
--------------------------------
Process exited after 14.96 seconds with return value 0
Press any key to continue . . .
```

strchr() Function In C Language:

It takes a string and a character as input and finds out the first occurrence of the given character in that string. It will return the pointer to the first occurrence of that character; if found otherwise, return Null.

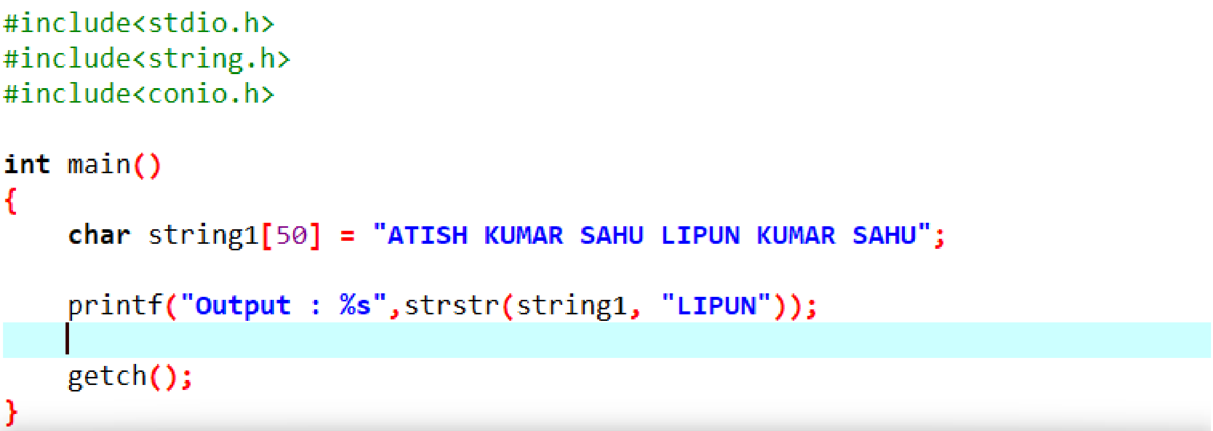


```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[20], string2[20];

    printf("Enter Value Of String1 : ");
    gets(string1);

    printf("%s",strchr(string1,'W'));

    printf("\n");

    printf("%s",strchr(string1,'E'));

    getch();
}
```

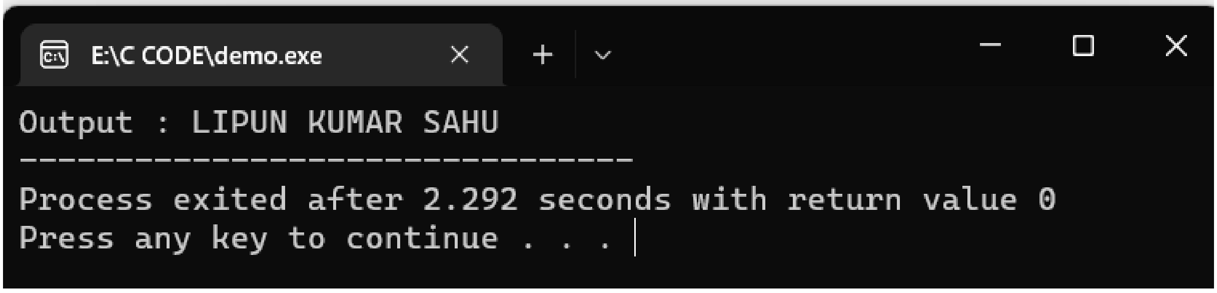
```
Enter Value Of String1 : ABCDEFGHIJK
(null)
EFGHIJK
--------------------------------
Process exited after 6.831 seconds with return value 0
Press any key to continue . . .
```

strstr() Function In C Language:

It takes two strings as input and finds out the first occurrence of the second string in the first string. It will return a pointer that points to the start of the first occurrence of the second string in the first string and a Null if the second string is not present in the first string.



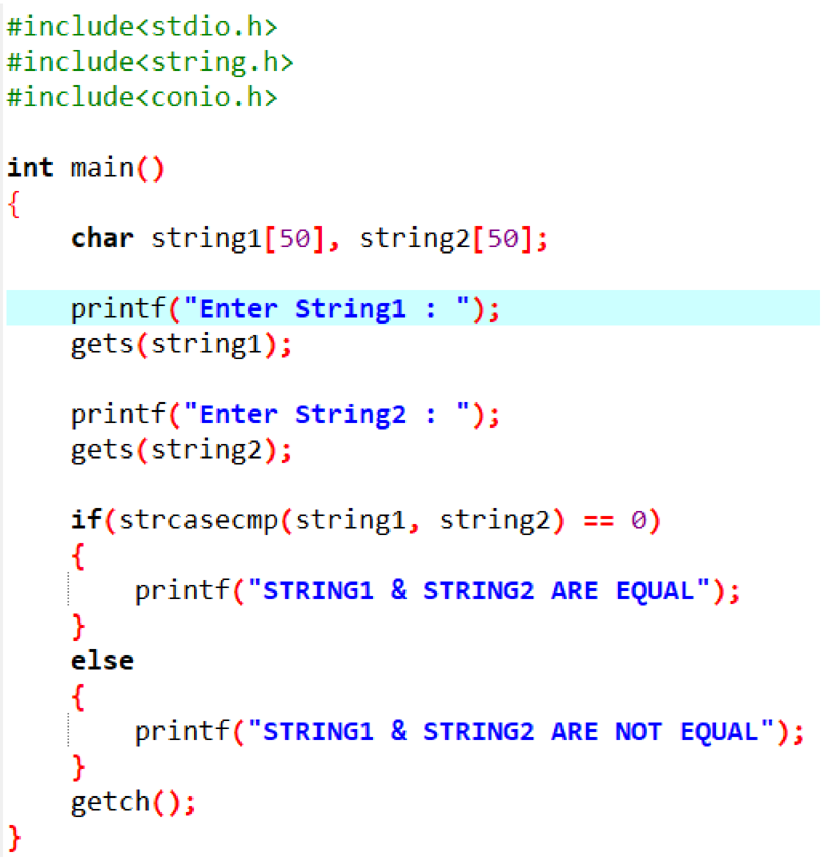
```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[50] = "ATISH KUMAR SAHU LIPUN KUMAR SAHU";

    printf("Output : %s",strstr(string1, "LIPUN"));

    getch();
}
```



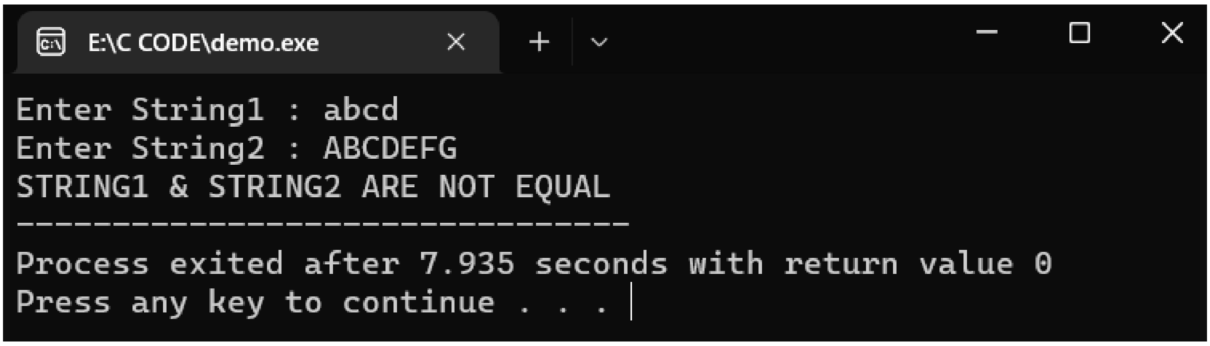
```
Output : LIPUN KUMAR SAHU
--------------------------------
Process exited after 2.292 seconds with return value 0
Press any key to continue . . .
```

strcasecmp() Function In C Language:

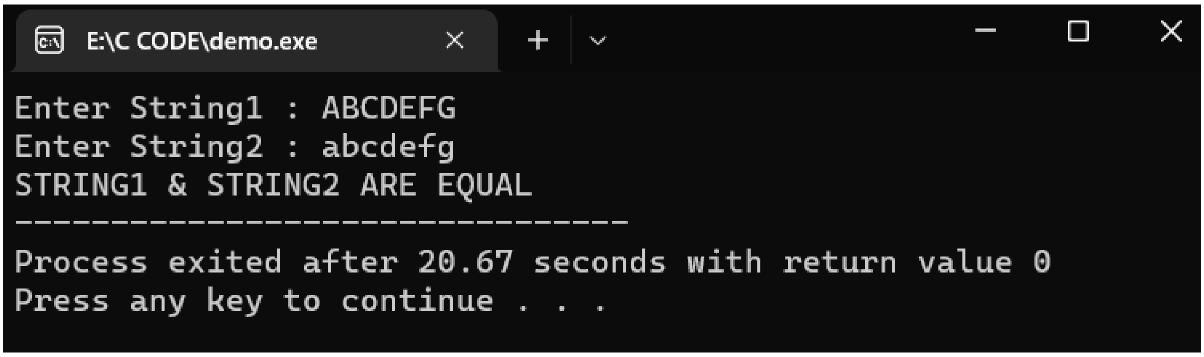
It takes two strings as input and compares them irrespective of their case sensitivity.



```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[50], string2[50];

    printf("Enter String1 : ");
    gets(string1);

    printf("Enter String2 : ");
    gets(string2);

    if(strcasecmp(string1, string2) == 0)
    {
        printf("STRING1 & STRING2 ARE EQUAL");
    }
    else
    {
        printf("STRING1 & STRING2 ARE NOT EQUAL");
    }
    getch();
}
```



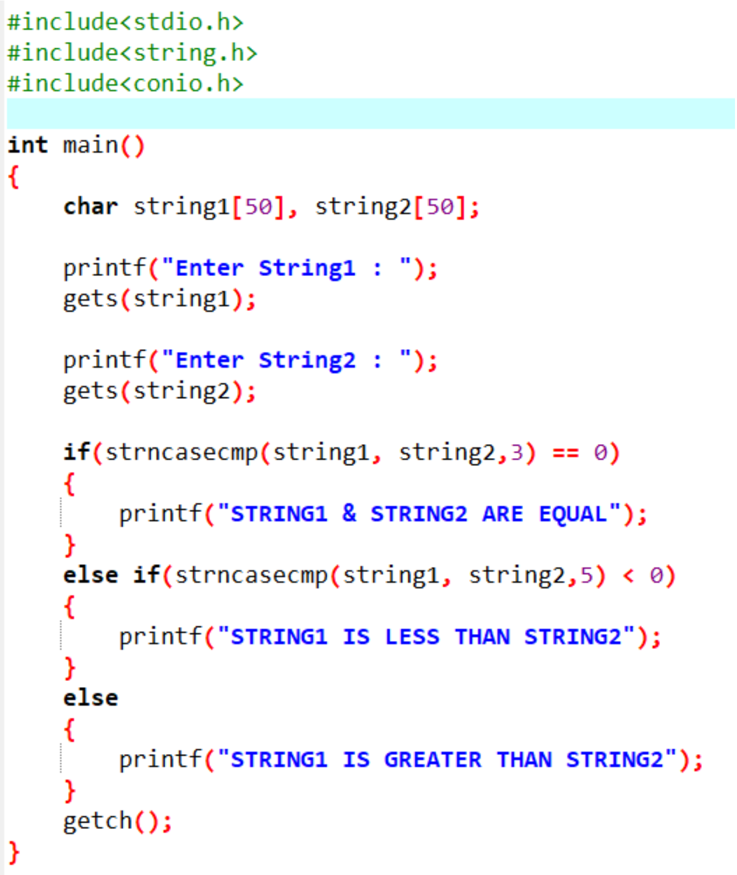
```
Enter String1 : abcd
Enter String2 : ABCDEFG
STRING1 & STRING2 ARE NOT EQUAL
--------------------------------
Process exited after 7.935 seconds with return value 0
Press any key to continue . . .
```



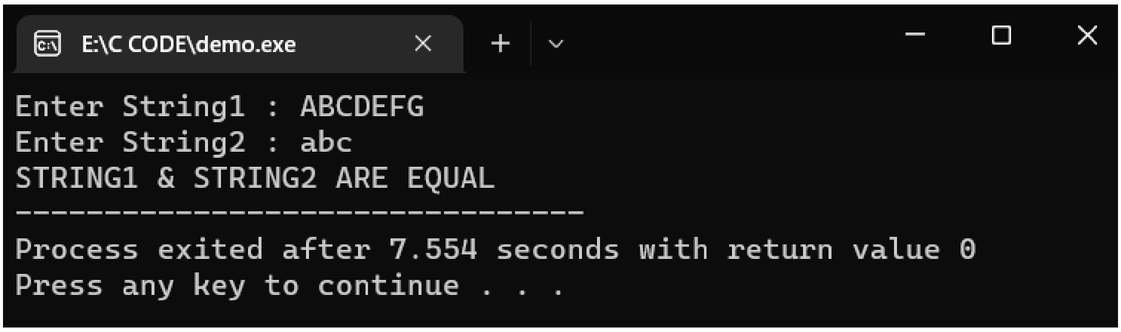
```
Enter String1 : ABCDEFG
Enter String2 : abcdefg
STRING1 & STRING2 ARE EQUAL
--------------------------------
Process exited after 20.67 seconds with return value 0
Press any key to continue . . .
```

strncasecmp() Function In C Language:

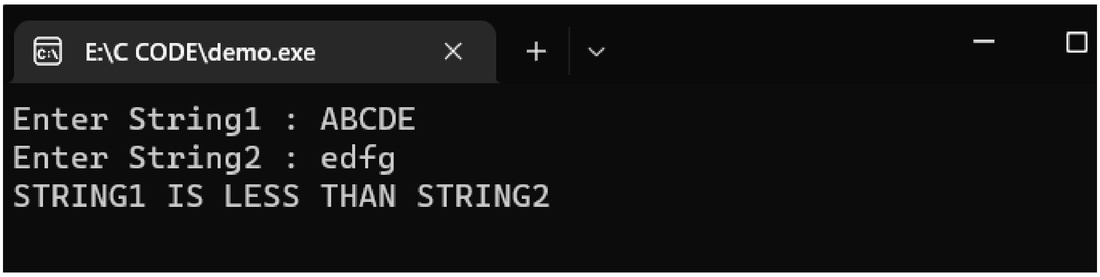
It takes two strings as input and compares them till n characters irrespective of their case sensitivity.



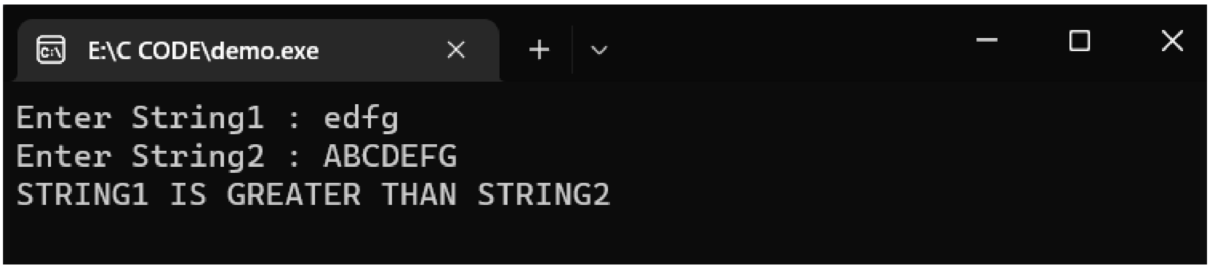
```c
#include<stdio.h>
#include<string.h>
#include<conio.h>

int main()
{
    char string1[50], string2[50];

    printf("Enter String1 : ");
    gets(string1);

    printf("Enter String2 : ");
    gets(string2);

    if(strncasecmp(string1, string2,3) == 0)
    {
        printf("STRING1 & STRING2 ARE EQUAL");
    }
    else if(strncasecmp(string1, string2,5) < 0)
    {
        printf("STRING1 IS LESS THAN STRING2");
    }
    else
    {
        printf("STRING1 IS GREATER THAN STRING2");
    }
    getch();
}
```



```
Enter String1 : ABCDEFG
Enter String2 : abc
STRING1 & STRING2 ARE EQUAL
--------------------------------
Process exited after 7.554 seconds with return value 0
Press any key to continue . . .
```



```
Enter String1 : ABCDE
Enter String2 : edfg
STRING1 IS LESS THAN STRING2
```



```
Enter String1 : edfg
Enter String2 : ABCDEFG
STRING1 IS GREATER THAN STRING2
```