

## ASSIGNMENT-6--POINTER

1. Write a program to find the length of string.

```
#include <iostream>

using namespace std;

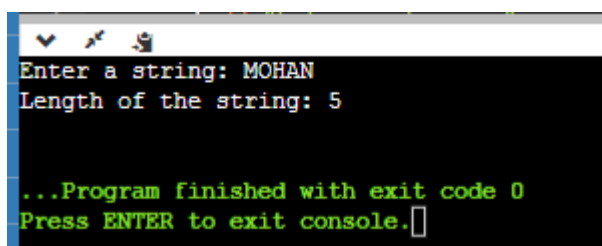
int main() {
    char str[100];
    cout << "Enter a string: ";
    cin >> str;

    char *ptr = str;
    int length = 0;

    while (*ptr != '\0') {
        length++;
        ptr++;
    }

    cout << "Length of the string: " << length << endl;

    return 0;
}
```

A screenshot of a terminal window with a black background and green text. The prompt 'Enter a string: MOHAN' is shown on the first line. The second line shows the output 'Length of the string: 5'. The third line shows the message '...Program finished with exit code 0' and the prompt 'Press ENTER to exit console.' followed by a cursor.

2. Write a program to display string from backward.

```
#include <iostream>

using namespace std;

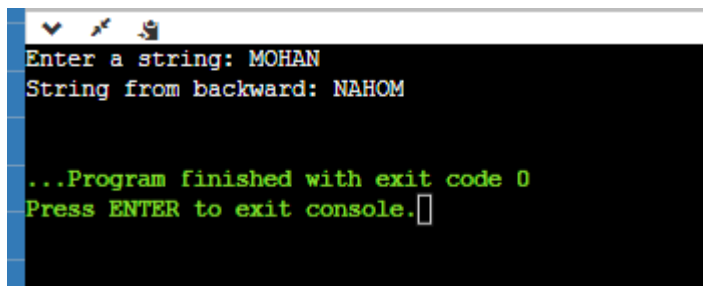
int main() {
    char str[100];
    cout << "Enter a string: ";
    cin >> str;

    char *ptr = str;
    int length = 0;

    while (*ptr != '\0') {
        length++;
        ptr++;
    }

    cout << "String from backward: ";
    for (int i = length - 1; i >= 0; i--) {
        cout << str[i];
    }
    cout << endl;

    return 0;
}
```

A screenshot of a Windows command prompt window with a black background and white text. The window title bar shows standard Windows icons. The text in the console reads: "Enter a string: MOHAN", "String from backward: NAHOM", and "...Program finished with exit code 0". The last line is followed by "Press ENTER to exit console." with a cursor at the end.

```
Enter a string: MOHAN
String from backward: NAHOM

...Program finished with exit code 0
Press ENTER to exit console.
```

3. Write a program to count number of words in string.

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    char str[100];
```

```
    cout << "Enter a string: ";
```

```
    char c;
```

```
    int i = 0;
```

```
    while (true) {
```

```
        c = cin.get();
```

```
        if (c == '\n' || c == '\0') {
```

```
            break;
```

```
        }
```

```
        str[i++] = c;
```

```
    }
```

```
    str[i] = '\0';
```

```
    char *ptr = str;
```

```
    int wordCount = 0;
```

```
    bool inWord = false;
```

```
    while (*ptr != '\0') {
```

```
        if (!isspace(*ptr)) {
```

```
            inWord = true;
```

```
        } else if (inWord) {
```

```
            wordCount++;
```

```
            inWord = false;
```

```
        }
```

```
        ptr++;
```

```
    }
```

```
    if (inWord) {
```

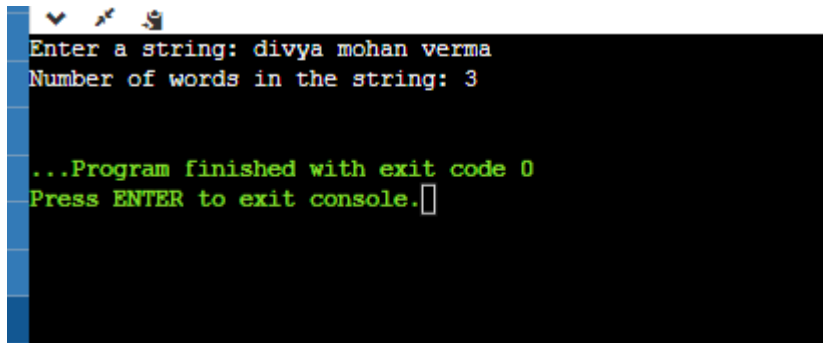
```
        wordCount++;
```

```
    }
```

```
    cout << "Number of words in the string: " << wordCount << endl;
```

```
    return 0;
```

```
}
```



```
Enter a string: divya mohan verma
Number of words in the string: 3

...Program finished with exit code 0
Press ENTER to exit console.
```

4. Write a program to concatenate one string contents to another.

```
#include <iostream>
using namespace std;

int main() {
    char str1[100], str2[100];
    cout << "Enter the first string: ";
    cin >> str1;

    cout << "Enter the second string: ";
    cin >> str2;

    char *ptr1 = str1;
    char *ptr2 = str2;

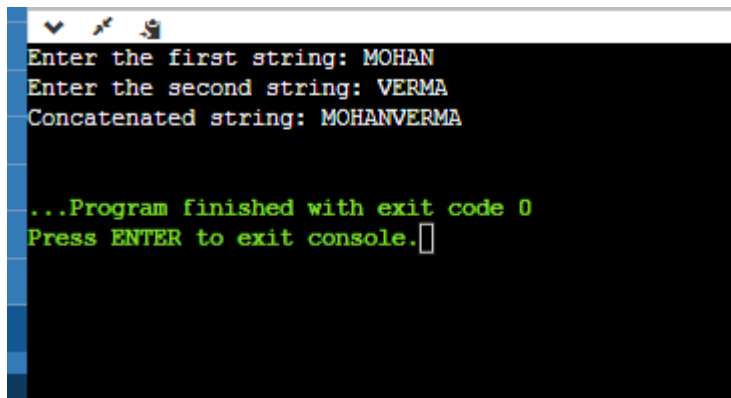
    while (*ptr1 != '\0') {
        ptr1++;
    }

    while (*ptr2 != '\0') {
        *ptr1 = *ptr2;
        ptr1++;
        ptr2++;
    }

    *ptr1 = '\0';

    cout << "Concatenated string: " << str1 << endl;

    return 0;
}
```

A screenshot of a terminal window showing a C++ program. The program prompts the user to enter two strings: "MOHAN" and "VERMA". It then displays the concatenated string "MOHANVERMA". The program finishes with exit code 0 and prompts the user to press ENTER to exit the console.

```
Enter the first string: MOHAN
Enter the second string: VERMA
Concatenated string: MOHANVERMA

...Program finished with exit code 0
Press ENTER to exit console.
```

5. Write a program to compare two strings they are exact equal or not.

```
#include <iostream>
using namespace std;
```

```
int main() {
    char str1[100], str2[100];
    cout << "Enter the first string: ";
    cin >> str1;

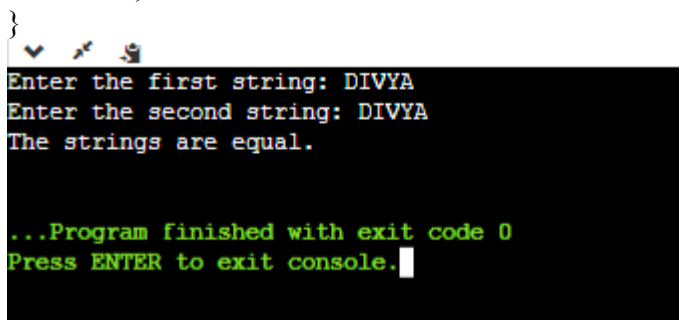
    cout << "Enter the second string: ";
    cin >> str2;

    char *ptr1 = str1;
    char *ptr2 = str2;

    while (*ptr1 == *ptr2) {
        if (*ptr1 == '\0') {
            cout << "The strings are equal." << endl;
            return 0;
        }
        ptr1++;
        ptr2++;
    }

    cout << "The strings are not equal." << endl;

    return 0;
}
```

A screenshot of a terminal window showing a C++ program. The program prompts the user to enter two strings: "DIVYA" and "DIVYA". It then displays the message "The strings are equal.". The program finishes with exit code 0 and prompts the user to press ENTER to exit the console.

```
Enter the first string: DIVYA
Enter the second string: DIVYA
The strings are equal.

...Program finished with exit code 0
Press ENTER to exit console.
```

6. Write a program to check a string is palindrome or not.

```
#include <iostream>
using namespace std;
```

```
int main() {
```

```

char str[100];
cout << "Enter a string: ";
cin >> str;

char *start = str;
char *end = str;

while (*end != '\0') {
    end++;
}
end--;

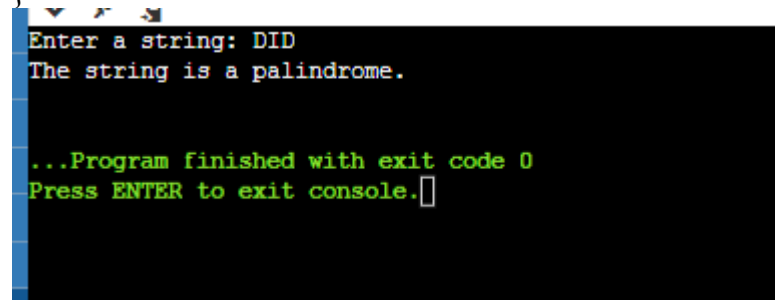
bool isPalindrome = true;

while (start < end) {
    if (*start != *end) {
        isPalindrome = false;
        break;
    }
    start++;
    end--;
}

if (isPalindrome) {
    cout << "The string is a palindrome." << endl;
} else {
    cout << "The string is not a palindrome." << endl;
}

return 0;
}

```



```

Enter a string: DID
The string is a palindrome.

...Program finished with exit code 0
Press ENTER to exit console.

```

7. Write a program to find a substring within a string. If found display its starting position.

```

#include <iostream>
using namespace std;

int main() {
    char str[100], substring[100];
    cout << "Enter a string: ";
    cin >> str;

    cout << "Enter a substring to find: ";
    cin >> substring;
}

```

```

char *strPtr = str;
char *subPtr = substring;

int position = -1;

while (*strPtr != '\0') {
    char *tempStrPtr = strPtr;
    subPtr = substring;

    while (*tempStrPtr == *subPtr && *tempStrPtr != '\0' && *subPtr != '\0') {
        tempStrPtr++;
        subPtr++;
    }

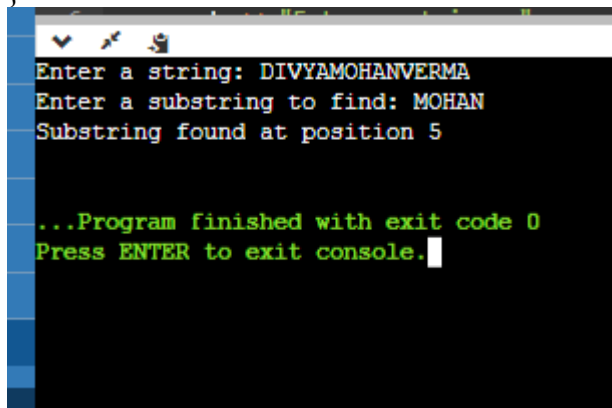
    if (*subPtr == '\0') {
        position = strPtr - str;
        break;
    }

    strPtr++;
}

if (position != -1) {
    cout << "Substring found at position " << position << endl;
} else {
    cout << "Substring not found." << endl;
}

return 0;
}

```



```

Enter a string: DIVYAMOHANVERMA
Enter a substring to find: MOHAN
Substring found at position 5

...Program finished with exit code 0
Press ENTER to exit console.

```

8. Write a program to reverse a string.

```

#include <iostream>
using namespace std;

```

```

int main() {
    char str[100];
    cout << "Enter a string: ";
    cin >> str;

```

```

    char *ptr = str;
    int length = 0;

```

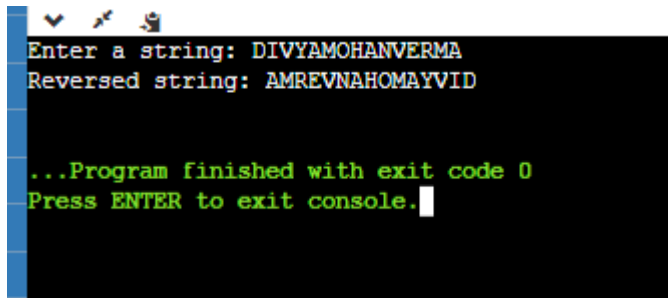
```

while (*ptr != '\0') {
    length++;
    ptr++;
}

cout << "Reversed string: ";
for (int i = length - 1; i >= 0; i--) {
    cout << str[i];
}
cout << endl;

return 0;
}

```



```

Enter a string: DIVYAMOHANVERMA
Reversed string: AMREVNAHOMAYVID

...Program finished with exit code 0
Press ENTER to exit console.

```

9. Write a program to convert a string in lowercase.

```

#include <iostream>
using namespace std;

void toLowercase(char* str) {
    while (*str != '\0') {
        if (*str >= 'A' && *str <= 'Z') {
            *str = *str + 32;
        }
        str++;
    }
}

int main() {
    char str[100];

    cout << "Enter a string: ";
    cin >> str;

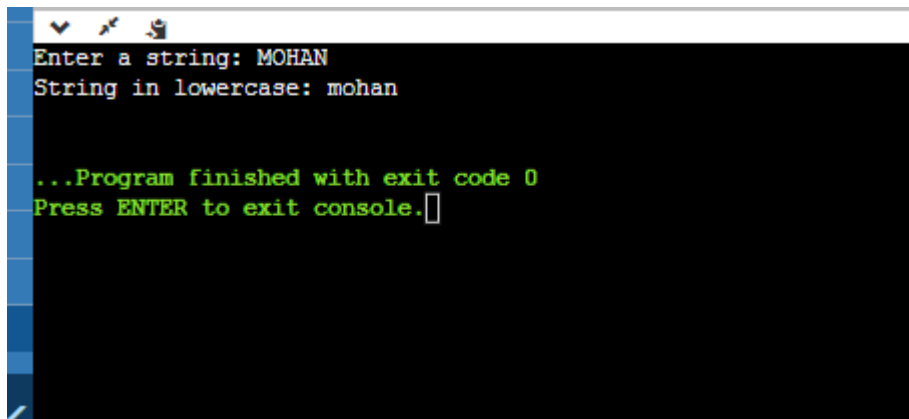
    char* ptrToLower = str;
    toLowercase(ptrToLower);

    cout << "String in lowercase: " << str << endl;

    return 0;
}

```



A screenshot of a C++ console application. The window has a title bar with standard icons. The console output shows: "Enter a string: MOHAN", "String in lowercase: mohan", "...Program finished with exit code 0", and "Press ENTER to exit console." with a cursor. The text is displayed in a monospaced font with some color coding (green for status messages).

```
Enter a string: MOHAN
String in lowercase: mohan

...Program finished with exit code 0
Press ENTER to exit console.
```

10. Write a program to convert a string in uppercase.

```
#include <iostream>
```

```
using namespace std;
```

```
void toUppercase(char* str) {
```

```
    while (*str != '\0') {
```

```
        if (*str >= 'a' && *str <= 'z') {
```

```
            *str = *str - 32;
```

```
        }
```

```
        str++;
```

```
    }
```

```
}
```

```
int main() {
```

```
    char str[100];
```

```
    cout << "Enter a string: ";
```

```
    cin >> str;
```

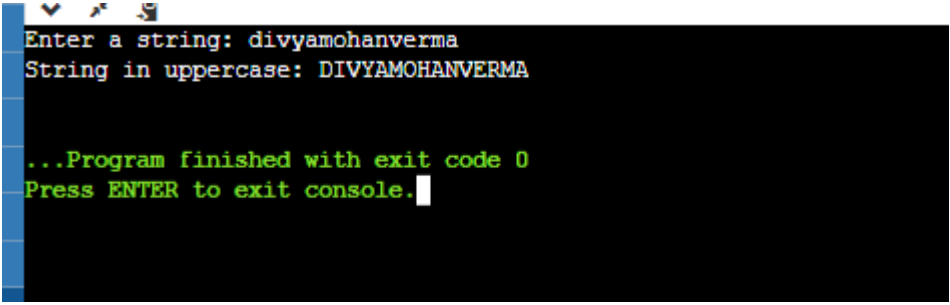
```
    char* ptrToUpper = str;
```

```
    toUppercase(ptrToUpper);
```

```
    cout << "String in uppercase: " << str << endl;
```

```
return 0;
```

```
}
```

A terminal window with a black background and a blue vertical bar on the left. It shows the execution of a program. The first line is a prompt 'Enter a string:' followed by the input 'divyamohanverma'. The second line shows the output 'String in uppcase: DIVYAMOHANVERMA'. The third line is a green message '...Program finished with exit code 0'. The fourth line is a green prompt 'Press ENTER to exit console.' followed by a cursor.

```
Enter a string: divyamohanverma  
String in uppcase: DIVYAMOHANVERMA  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```