

### Exercise 1: Calculate Length of a String (Manually)

**Problem Statement:** Write a program that returns the length of the string without using any library functions.

- **Sample Input/Output:**

Sample Input	Sample Output
<code>str = "Hello"</code>	Length: 5

### Exercise 2: Convert to Uppercase

**Problem Statement:** Write a program that converts all lowercase letters in the string to uppercase.

- **Sample Input/Output:**

Sample Input	Sample Output
<code>str = "hello"</code>	Uppercase: "HELLO"

### Exercise 3: Replace Spaces with Underscores

**Problem Statement:** Write a program that replaces all spaces in the string with underscores.

- **Sample Input/Output:**

Sample Input	Sample Output
<code>str = "hello world"</code>	"hello_world"

### Exercise 4: Compare Two Strings

**Problem Statement:** Write a function `int compareStrings(char str1[], char str2[])` that returns 1 if two strings are identical, otherwise returns 0.

Sample Input	Sample Output
<code>str1 = "hello", str2 = "hello"</code>	Result: 1 (Equal)
<code>str1 = "hello", str2 = "world"</code>	Result: 0 (Not Equal)

### Exercise 5: Find First Occurrence of a Character

**Problem Statement:** Write a function `int findChar(char str[], char ch)` that returns the index of the first occurrence of `ch` in `str`, or -1 if `ch` is not found.

- **Sample Input/Output:**

Sample Input	Sample Output
<code>str = "hello world", ch = 'o'</code>	Index: 4
<code>str = "hello world", ch = 'z'</code>	Index: -1

### Exercise 6: Count Vowels in a String

**Problem Statement:** Write a program that counts the number of vowels in the string.

- **Sample Input/Output:**

Sample Input	Sample Output
<code>str = "hello"</code>	Vowels: 2

### Exercise 7: Count Consonants in a String

**Problem Statement:** Write a function `int countConsonants(char str[])` that counts the number of consonants in the string.

- **Sample Input/Output:**

Sample Input	Sample Output
<code>str = "hello"</code>	Consonants: 3
<code>str = "world"</code>	Consonants: 4

### Exercise 8: Count Words in a String

**Problem Statement:** Write a function `int countWords(char str[])` that counts the number of words in a string (words are separated by spaces).

Sample Input	Sample Output
<code>str = "hello world"</code>	Words: 2
<code>str = "C programming is fun"</code>	Words: 4

### Exercise 9: Find the Last Occurrence of a Character

**Problem Statement:** Write a function `int findLastOccurrence(char str[], char ch)` that returns the index of the last occurrence of `ch` in `str`, or `-1` if `ch` is not found.

Sample Input	Sample Output
<code>str = "hello world", ch = 'o'</code>	Last Index: <code>7</code>
<code>str = "hello world", ch = 'z'</code>	Last Index: <code>-1</code>