String operations

Research:

Strings are a fundamental part of programming and represent sequences of characters such as words, names, and sentences. String operations allow programmers to manipulate text in various ways copying, comparing, finding length, and concatenating.Concatenation is one of the most common string operations. It means joining two strings together to form a new, longer string.

Importance:

Creating sentences dynamically

Building file paths

Generating usernames and IDs

Constructing SQL queries

Analyse:

Problem Analysis:

In programming, a string is a sequence of characters stored in memory. Many applications require combining (concatenating) two or more strings for example, merging names, creating messages, generating file paths, or preparing formatted output.

Manually writing characters again and again is inefficient. Therefore, a string concatenation mechanism is needed to automate merging two strings into one.

Ideate:

This program can help in many ways that a person can combine 2 strings using this where in many apps and websites they are the name of person and his surname in different columns. By this project we can combine them in an easy way.

Build:

```c
#include <stdio.h>

#include <string.h>


int main() {

  char str1[20] = "Hello ";

  char str2[] = "World!";


  // Concatenate str2 to str1 (the result is stored in str1)

  strcat(str1, str2);


  // Print str1

  printf("%s", str1);


  return 0;

}
```

Testing:
Hello World!

=== Code Execution Successful ===