


Strings in C++

Q => What is a String ??

→ We can define Strings as set of char

char ch = 'a';

→ single quotes

→ character

"abcdeabc"

→ double quotes

→ String

['a', 'b', 'c', 'd', 'e']

[product name
product desc] → string

Q ⇒ How to declare Strings in C++??

↳ There are multiple ways

(1) string <name> = "<value>";

(2) char[]

(3) char* → pointer to a string

^{const}
*. char * implementation

↳ it is a pointer to a (const) string literal

Q What is the use of above implementation?

↳ we don't need to give series of strings while

initializing

↳ it makes the string immutable. → we can't update it if we have const.

2 C → close of C++
★ String implementation

→ #include <string> } new use
→ #include <string.h> it with
string in C++

↳ Based on size of string if required it will allocate memory in heap as well.

↳ Mutable

↳ The String implementation give a lot of extra handy functions

* char [] implementati ✓

char

strcpy
strcpy

~~strcpy~~

↳ this always gets a space in stack

Str = "" → empty string

String str;

string
exists
in memory

function
str.push_back('g')

objects

It will append (add at last) the
character to the last index of
string.

We can access strings like arrays & the indexing
on strings is also 0 based

Q Can we also append elements in arrays ??

→ NO → Arrays cannot grow/shrink at runtime
like string

To achieve this functionality we have 2 ways.

① Custom Implementation

int arr[10];

↳ int temp[11];

Copy all elts from arr → temp
add new elt to temp
Replace temp with arr

② Vectors ←
↓
STL

Q. You have a string str; Print all substrings of str.

⇒ "abcd"

"a"	"b"	"c"	"d"
"ab"	"bc"	"cd"	" "
"abc"	"bcd"		
"abcd"			

→ Substring is a contiguous cross-section of char from a string.

We have a function in C++ for substrings

↳ `str.substr(pos)` ² → It will return the substring from under 'pos' to the very last index.

`str.substr(pos, size)` → It will return the substring from under 'pos' of the length 'size'
(pos, size) _x

How to take user input for strings?

"abc#def"
"abc" "def"

→ How to take input till End of file in C++??

Q.1) How to tokenize a string or

How to split strings in C++ based on any char??

↳ Clang++ → strtok (string, char)

Q₂ How we can compare strings in C++??

Q₃ You have a number n . Convert it into a string

$x = 12345$
or $x = "12345"$

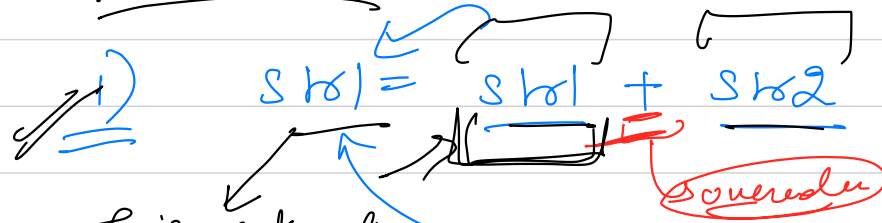
string fun (int x)

Qⁿ Given a string, check if it is a palindrome or not?

"I A M A I"
→
←

Concatenation → It means to join 2 strings

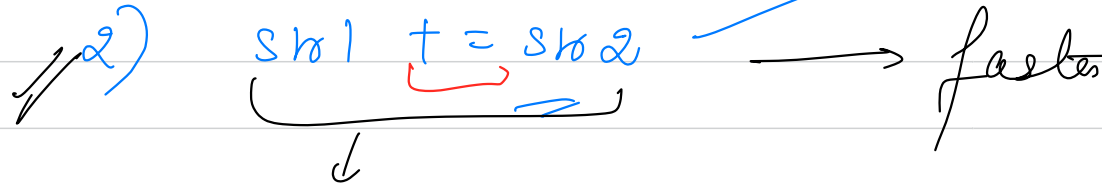
1) $str1 = str1 + str2$



this makes a new string in memory

"abc" + "def"
↓
"abcdef"

2) $str1 += str2$ → faster



Doesn't make a new string in the memory

Idk