C++ String Functions Cheat Sheet

Length & Access

length()/size(): Gives length of string
```
string s = "hello";
cout << s.length(); // 5
```

empty(): Checks if string is empty
```
string s = "";
if (s.empty()) cout << "Empty";
```

at(index): Character at index (safe)
```
string s = "abc";
cout << s.at(1); // b
```

s[index]: Character at index (unsafe)
```
string s = "abc";
cout << s[1]; // b
```

front(): Returns first character
```
string s = "abc";
cout << s.front(); // a
```

back(): Returns last character
```
string s = "abc";
cout << s.back(); // c
```

Modification

append(str): Adds string at end
```
string s = "love";
s.append("babbar"); // lovebabbar
```

push_back(char): Adds character at end
```
string s = "abc";
s.push_back('d'); // abcd
```

pop_back(): Removes last character
```
string s = "abcd";
s.pop_back(); // abc
```

insert(pos, str): Insert at position
```
string s = "hlo";
s.insert(1, "el"); // hello
```

erase(pos, len): Remove from position
```
string s = "hello";
s.erase(1, 2); // hlo
```

replace(start, len, str): Replace part of string
```
string s = "abcde";
s.replace(1, 2, "XX"); // aXXde
```

Substring & Find

substr(pos, len): Extracts substring
```
string s = "babbar";
cout << s.substr(2, 3); // bba
```

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find(str): Finds first occurrence

```
string s = "hello world";
cout << s.find("world"); // 6
```

rfind(str): Finds from end

```
string s = "abcabc";
cout << s.rfind("a"); // 3
```

Comparison

compare(str): Compares strings

```
string a = "abc", b = "abc";
cout << a.compare(b); // 0
```

==, !=, <, >: Operators to compare strings

```
if (a == b) cout << "Equal";
```

Conversion

to_string(num): Converts number to string

```
int x = 123;
string s = to_string(x); // "123"
```

stoi(str): Converts string to int

```
string s = "456";
int x = stoi(s); // 456
```

Utilities (<algorithm>)

reverse(): Reverses string

```
string s = "abcd";
reverse(s.begin(), s.end()); // dcba
```

sort(): Sorts characters

```
string s = "dcba";
sort(s.begin(), s.end()); // abcd
```

transform(): Changes case

```
transform(s.begin(), s.end(), s.begin(), ::toupper);
```