Strings in C++

Strings in C++

- *A string is a sequence of characters.*
  - ❑The char type represents only one character. To represent a string of characters, use the data type called string. For example, the following code declares that message to be a string with the value Programming is fun.

```
string message = "Programming is fun";
```

- string is a predefined class in the <string> header file.

```
#include<string>;
```

Strings in C++

- By default, a string is initialized to an *empty string,* i.e., a string containing no characters. An empty string literal can be written as "". Therefore, the following two statements have the same effect:

```
string s;
string s = “”;
```

String Index and Subscript Operator

- string message = “Welcome to C++”;

indices	0	1	2	3	4	5	6	7	8	9	10	11	12	13
	W	e	l	c	o	m	e		t	o		C	+	+

  - The characters in a string can be accessed using its index.
- cout<<message[12];
- This statement will display: +
- cout<<message.length();
- This statement will print 14 that is length of the string

Reading Strings

```
1  string city;
2  cout << "Enter a city: ";
3  cin >> city; // Read to string city
4  cout << "You entered " << city << endl;
```

- This approach is easy but the space ends with a white space character
- For example if you enter New York for city it will store only New.
- C++ provides the getline function in the string header file, which reads a string from the keyboard using the following syntax:

```
getline(cin, s, delimitCharacter)
```

Reading Strings using getline function

- The following code uses the getline function to read a string.

```
1  string city;
2  cout << "Enter a city: ";
3  getline(cin, city, '\n'); // Same as getline(cin, city)
4  cout << "You entered " << city << endl;
```