String in C++

What is String?

The sequence of character enclosed within double quote is called as string. There are two way we can implement string concept in C++.

1. **By using C- Style character string:**
   In this we can implement string using array of type char. This way we can already learn in c language.

2. **By using string class:**
   A C++ string is an object that is a part of the C++ standard library. It is an instance of a "class" data type, used for convenient manipulation of sequences of characters. To use the string class in your program, the <string> header must be included. The standard library string class can be accessed through the std namespace.

   Syntax to declare string object: string objectname;

   Example: string s1;

Reading string from console:
1) Reading one word string:
Example 1: String variable of type character array.

```
#include<iostream>
#include<string>
using namespace std;
int main()
{
    char s1[20];
    cout<<"Enter String:";
    cin>>s1;
    cout<<endl<<"Your Entered String:"<<s1;
}
```

Example 2: String variable/object of type string class.

```
#include<iostream>
using namespace std;
int main()
```

```
{
    string s1;
    cout<<"Enter String:";
    cin>>s1;
    cout<<endl<<"Your Entered String:"<<s1;
}
```

2) Reading one line string:
Example 1: String variable of type character array.
```
#include<iostream>
#include<string>
using namespace std;
int main()
{
    char s1[20];
    cout<<"Enter String:";
    cin.getline(s1,20);
    cout<<endl<<"Your Entered String:"<<s1;
}
```

Example 2: String variable/object of type string class.
```
#include<iostream>
#include<string>
using namespace std;
int main()
{
    string s1;
    cout<<"Enter String:";
    getline(cin, s1);
    cout<<endl<<"Your Entered String:"<<s1;
}
```

3) Reading multiline string:
Example 1: String variable/object of type string class.
```
#include<iostream>
#include<string>
using namespace std;
int main()
{
    string s1;
    cout<<"Enter String:";
    getline(cin, s1, '$');
    cout<<endl<<"Your Entered String:"<<s1;
}
```

String Class Inbuilt Functions

Function	Description
int compare(const string& str)	It is used to compare two string objects.
int length()	It is used to find the length of the string.
void swap(string& str)	It is used to swap the values of two string objects.
string substr(int pos,int n)	It creates a new string object of n characters.
int size()	It returns the length of the string in terms of bytes.
void resize(int n)	It is used to resize the length of the string up to n characters.
string& replace(int pos,int len,string& str)	It replaces portion of the string that begins at character position pos and spans len characters.
string& append(const string& str)	It adds new characters at the end of another string object.
char& at(int pos)	It is used to access an individual character at specified position pos.