DSA SERIES

- Learn Coding

Topic to be Covered today

Strings

LETS START TODAY'S LECTURE

Strings

- **A string is a sequence or collection of characters.**

- **Strings are part of the standard library and are represented using std::string class.**

```
#include<iostream
#include<string>
using namespace std;

int main(){
    string name = "LearnCoding";
    cout << name << endl;
    return 0;
}
```

Declaration and Initializations of the strings in C++

string s;
s = "LearnCoding"

string s = "LearnCoding";

char ch [] = "ankit"

Copy the Strings

string s1 = "Learn";

string s2 = s1;

Useful string Functions

➢ **length(), size()**   -   To calculate the length of the string

➢ **empty()**   - To check whether the string is empty or not.

➢ **push_back(char)**   - To insert character in the last of the string

➢ **pop_back()**   - To delete the last character of the string

➢ **append(str)**   - To add a string in the end of the string

➢ **substr(index,length)**   -- Extract a substring from a string.

➢ **find(str)**   - Finds the first occurrence of the "str" in the string

Traversing a string

1. For Loop

```
For(int i =0;i<s.length();i++) {
    cout << s[i];
}
```

2. Range based for loop

```
For(char ch : s) {
    cout << s[ch];
}
```

3. While loop

```
int i  = 0;
while(s[i] != '\0') {
    cout<<s[i];
    i++;
}
```

Reverse String (344)

```cpp
class Solution {
public:
    void reverseString(vector<char>& s) {
        int n = s.size();

        int i = 0,j=n-1;
        while(i<j){
            swap(s[i],s[j]);
            i++;
            j--;
        }
    }
};
```

Find the index of the first occurrence in a string (28)

```cpp
class Solution {
public:
    int strStr(string haystack, string needle)
    {
        int n = haystack.find(needle);

        if(n == string::npos){
            return -1;
        } else{
            return n;
        }
    }
};
```

Learn coding

THANK YOU