COL100

sep 10, 2018

Last Class:- Strings [str.find("hi")]

str1 :- "COL 100"

str2 : "0200"

C- strings & c++ strings

string str = "hi" + "there"; X → c-style strings]

No Associated member functions

string str = string("hi") + string("there");

c++ style string

string str = "hi";
str = str + "there";

string str = "hi";

① str += '?'; ↔ ② ~~str += "?"~~;

cout << str; // hi?

~~st~~ int n=41; string(~~x~~);

② str ~~st~~ += n;

cout << str; // ① hi?41 ✓

② hi?) ✓

✓ int n = (int) "42"; ✗

← assigns to n memory address where "42" is stored

~~[illegible]~~

3.57

integerToString (int)   realToString (double)

stringToInteger (str)   stringToReal (str)

~~str~~ ↑↓

```
int   n=4;
str  = str + integerToString(n),
                                          ("Hello");
int n=  stringToInteger ~~(...)~~ ("4");
string str1 ~~double f~~ = realToString(3.42);
   str = str+ str1;  // hi?3.42
```

"hi?"

endsWith(str, suffix) → return bool

startsWith (str, suffix)

equalsIgnoreCase(s1, s2) → returns bool

s1 = "Hello";
s2 = "hello";

toLowerCase (str) → returns a string

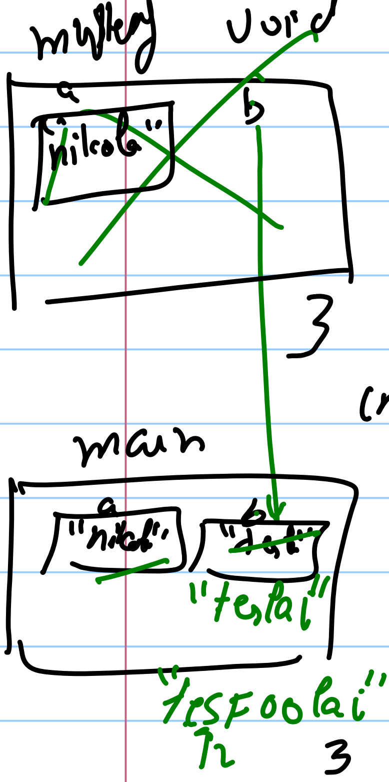
toUpperCase(str) → returns a string

trim(str); //   string str = " hi ";

removed

string str1 = trim(str) ; //

cout<< str1<<endl;   //hi



```
void mystery(string a, string &b) {
    a.erase(0, 1);
    b += a[0];
    b.insert(3, "FOO");
}

int main() {
    string a = "nikola";
    string b = "tesla";
    mystery(a, b);
    cout << a << " " << b << endl;
    return 0;
```

nikola tesFOOlai

```
string str="TESLA";
```

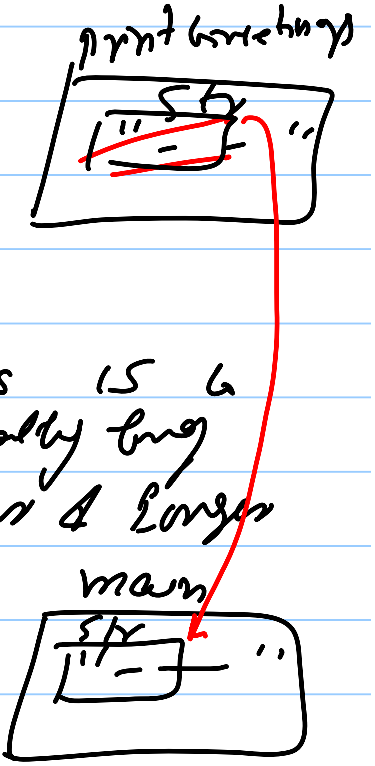
```
T
T E
T E S
T E S L
T E S L A
  E S L A
    S L A
      L A
        A
```

```
void printDiamond
   (string str) {
 int len = str.size();
 for(int i=0; i<len; i++)
 {
   cout<<str.substr
         (0, i+1);
      <<endl;

 } //bottom half
 for(int i=1; i<len; i++){
    for(int j = 1; j<=i; j++){
        cout<<" ";
    }
    cout<<str.substr
           (i)<<endl;
 }
}
```

```
void printGreeting( const string &str) {
        cout << str << endl;
    → str = "hi"; × Not allowed
}

 int main() {
        string str = "hello this is a
                      really really long
                      & even longer & longer
                      string";
        printGreeting(str);
   }
```



Next Topic :-

Vectors / Collections → data structure

↳ Abstract Data Type

~~Vec~~ Vector<int> nums; ✓

↓
type

int a = "Gir"; ✗

int a = 5.6; ✓

{5, 6, 7, 8, 9, 11}   Vector<int> nums{41, -71, 36, 0, 28};

C++:-

STL:- Standard template library

(us std: → namespace)

↳ Collections / Abstract Data types

↳ stores data/objects

↳ Abstract type

→ vector, map, list, —— - -

SPL:- Stanford C++ Library

↳ library of collections

Vector, Grid, Stack, Queue, Set, Map--

Vector (Lists)

#include "vector.h"

is a collection of elements with 0-based indices

```
Vector<int>            nums {42, 17, -6, 0, 28};
   syntax     type            0   1   - -    4

Vector<string> names; // { }
names.add("gayatri"); // {"gayatri"}
names.add("Piyush"); // {"gayatri", "piyush"}
names.insert(0, "raghu"); //
```