**CS 31**

**April 22nd, 2020**

**Week 4**

**Lecture #8 : Functions for Strings and Chars**

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| cout << "Enter yes or no: "; string response; getline(cin, response); while (response !="yes" && response != "no"){  cout << "Please respond yes or no: " << endl;  getline(cin, response); } cout << "Thank you" << endl; |

same code, but more efficient

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| cout << "Enter yes or no: "; string response; for ( ; ; ){ //this for loop will always be true  getline(cin, response);  if(response == "yes" || response == "no)  break; //breaks out of the loop immediately  cout << "Please respond yes or no: " << endl; } cout << "Thank you" << endl; |

string s = “Hello” //s is a string; “Hello” is a string literal

char c = s.at(1); //c is char (initialized to lowercase e)

// ‘e’ is a character constant

char c = ‘x’; //OK

char c = “x”; ///Error! Won’t compile

string s = “x”; //OK

string s = ‘x’; //Error! Won’t compile

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012345678900

s: Hello there!

string s;

getline(cin, s); //Hello there!

if(s!=””) //or if(s.size!=0)

s.at(0) = tolower(s.at(0));

‘H’

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‘h’

char c = tolower(s.at(0));

if(tolower(t.at(k)) == 'e')

tolower()

* If I call tolower with ‘H’, it gives me ‘h’
* If I call tolower with ‘e’, it gives me ‘e’
* If I call tolower with ‘$’, it gives me ‘$’
* If I call tolower with ‘ ’, it gives me ‘ ’

toupper()

* If I call toupper with ‘h’, it gives me ‘H’
* If I call toupper with ‘E’, it gives me ‘E’
* If I call toupper with ‘$’, it gives me ‘$’
* If I call toupper with ‘ ’, it gives me ‘ ’

toupper(s.at(0)); //Mistake : It doesn’t do anything useful

toupper(s); //Error if s is a string; toupper takes a char, not a string.

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| void greet(int nTimes, string msg); //function prototype, void means function doesn’t return a value  int main(){  ...  ...  ...  greet(3, "Hello");  ...  ...  int n;  cin >>n; // suppose user types 5  greet(n+2, "Ni hao"); //call greet(7);  ...  ...  string s;  getline(cin,s);  greet(1, s);  ...  .... }  void greet(int nTimes, string msg){ //nTimes, msg are parameters  for(int k=0; k<nTimes; k++)  cout << "msg" << endl; } |

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| int absoluteValue(int x); int square(int k);  int main(){  int n=3;  cout << square(n) <<endl;  int m = square(n+1)\*3;  cout << absoluteValue(m-50) << endl;  int w = greet(3, "Hello"); //Error! Won't compile   square(5); //Does nothing interesting  …  return 0; //Not necessary for main function  }  int square (int k){  return k\*k; } int absoluteValue(int x){  if(x>=0)  return x;  else  return -x; } |