**CS 31**

**May 6th, 2020**

**Week 6**

**Lecture #12 : Strings**

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| double computeMean(const int a[], int n); void setAll(int a[], int n, int value);  int main(){  const int MAX\_NUMBER\_OF\_SCORES = 10000;  int scores[MAX\_NUMBER\_OF\_SCORES];  int nScores =0;  ... fill up the array (perhaps partially) ..  double m = computeMean(scores, nScores);  ...  int stuff[100];  ...fill up all 100 elements of stuff  double m2 = computeMean(stuff, 100);  ...  const int daysInMonth[12] = {31, 28, ..., 31};  cout << computeMean(daysInMonth, 12);  set(stuff, 50, -42);   set(daysInMonth, 12, 30); //Error! Won't compile! }  double computeMean(const int a[], int n){  if(n<=0)  return 0;  int total = 0;  for(int k=0; k<n; k++)  total += a[k];  return static\_cast<double>(total) / n; }  void setAll(int a[], int n, int value){  for(int k=0; k<n; k++){  a[k]=value;  } } |

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| const int NWEEKS = 5; const int NDAYS = 7; const int FIRST\_WEEKEND\_DAY = 4;  for(int w=0; w< NWEEKS; w++){  int total = 0;  for(int d = 0; d<NDAYS; d++)  total+= attendance [w][d];  cout << "The total for week " << w << " is " << total << endl; }  const string dayNames[NDAYS] = { "Monday", "Tuesday", ..., "Sunday" };  int grandTotal = 0; for (int d = FIRST\_WEEKEND\_DAY; d<NDAYS; d++){  int total = 0;  for(int w = 0; w<NWEEKS; w++)  total+=attendance[w][d];  cout << " The total for " << dayNames[d] << " was " << total << endl;  grandTotal+= total; } cout << "Over the course of "<< NWEEKS << " weeks, the weekend attendance was " << grandTotal << endl; const int NSCREENS = 16;  int multiplexAttendance[NWEEKS][NDAYS][NSCREENS]; |

C++ strings

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code for ‘0’ is one less than the code for ‘1’, which is one less than ‘2’, ... , ‘9’

code for ‘A’ is less than ‘B’, which is less than ‘C’, ... , ‘Z’

code for ‘a’ is less than ‘b’, which is less than ‘c’, ... , ‘z’

code for ‘ ’ is less than the code for any printable character

string s1 = “hello”;

string s2 = “help”;

string s3 = “helping”;

string s4 = “hElp”;

if(s1<s2) //true

if(s2<s3) //true

if(s2<s4) //false if ASCII (‘e’ > ‘E’)

O’Hara

O’Reilly

Ohara

#include <string>

#include <iostream>

using namespace std;

string t = “Hello”;

string s; //empty string

for(int k=0; k!=t.size(); k++)

cout << t.at(k) << endl; //cout << t[k] << endl;

cout << t << endl;

getline(cin, s);

s=t; //s has the value Hello

s+= “!!!”; // s now has the value Hello!!!

if(t==”Hello”)

if(t<s)

C strings

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char s[40];

‘\0’ --the character whose encoding is 0

“null byte”