**Pay attention to nested loops – if a variable’s value is changed in the outer loop, it’s ALSO changed in the inner loop!**

**-THE OUTER LOOP DOESN’T LOOP UNTIL THE ONE INSIDE FINISHES!**

**-JUST KEEP TRACK OF your variables if they’re used again INSIDE for loops**

**isalpha() =checks for an alphabetical character that is upper or lower case**

* **if this is && with a check like s[k]==’k’, this is ONLY checking for the**

**lower case k**

**.size() gives the ACTUAL number of the string size**

**123456.size() = 6**

**[] indexing will start at 0 – START YOUR INT AT -1 IF YOU NEED THE FIRST CHARACTER – LOOK AT LAST EXAMPLE**

**TO LOOP THROUGH A STRING:**

string s = "Hello";

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

cout << s[k] << endl;

**SUBSTRINGS (string of a string):**

// 012345678

string s = "duplicate"; // duplicate

cout << s.substr(5,3); // writes cat

//Gets 3 chars starting from 5(including 5)

**CLIPPING OFF characters:**

string t = "fingernail";

t = t.substr(6, t.size()-6); // t is now "nail"

**This code copies all non-letters in a string:**

string s = "#1 in 2015: Yeah!";

string t;

for (size\_t k = 0; k != s.size(); k++)

if (!isalpha(s[k])) // if not a letter

t += s[k]; // append it to t

// t is now "#1 2015: !"

**TO TURN CAPS INTO LOWERCASE:**

string s = "Don't SHOUT!";

string t;

for (size\_t k = 0; k != s.size(); k++)

t += tolower(s[k]);

cout << t;

//OUTPUTS shout

//**THIS IS ALSO HOW YOU ADD CHARS TO AN EMPTY STRING**

**SWITCH STATEMENT FORMAT:**

int statement; // HAS TO BE AN INT

switch(statement){

case 1:

// DON’T FORGET BREAKS ON ALL CASES AND DEFAULT MAYBE

// **ALL CASES’ CODE ARE RAN IF THEY ARE BEFORE THE BREAK**

int m = 5.6 outputs 5!

Arrays CANT have a size of 0, but their first char is 0

WATCH OUT FOR VOID FUNCTIONS, THEY CANT RETURN ANYTHING! JUST RETURN; OR RUN ITS PROGRAM

**ALSO, IF YOU HAVE AN IF IN A FOR LOOP IN A FUNCTION, RETURN FALSE OUTSIDE THE FOR LOOP – ALWAYS RETURN THE END OF FUNCTION OUTSIDE A LOOP**

**REFERENCES:**

Int x;

Int& ref = x;

**//Setting ref = 5 sets x = 5**

**VARIABLES USED IN IF STATEMENTS HAVE TO BE DECLARED OUTSIDE OF THEM**

**const = constant value**

**DE MORGANS LAWS**

**not (A or B) ~> not A AND not B**

**not (A and B) ~> not A or not B**

**!= ‘E’ && !=’e’ ~> not E or e!**

**SET PRECISION**

cout.setf(ios::fixed);

cout.precision(2);

**Ignore last 10000 things:**

cin.ignore(10000, '\n');

put this after an int and before a string because when you enter an int, you enter a new line too by pressing enter.

**First Lowercase Letter:**

int i;

string str;

cin >> str;

i = -1;

do {

i++;

}while( i != str.size() && !islower(str[i]) );

if ( i == str.size() )

cout << "No lowercase character" << endl;

else

cout << str[i] << endl;