**COMP.2030 HW 7 Due 11/20 (Mon) Midnight**

For this assignment, which is a preparatory step to HW8 (binary bomb project), you need an account in the CS system. The CS account has the domain of cs.uml.edu, and looks like [yourCSusername@cs.uml.edu](mailto:yourCSusername@cs.uml.edu) (e.g. [kim@cs.uml.edu](mailto:kim@cs.uml.edu)).

Your UML account ??????@student.uml.edu would NOT work.

1. If you do not have a CS account, send an email to [help@cs.uml.edu](mailto:help@cs.uml.edu), indicating that you are in COMP.2030, or stop at DAN405 to sign up.
2. You can log into mercury server directly if you are on campus, but need to use a VPN if you access from home. The procedure for installing GlobalProtect is at <https://www.uml.edu/it/services/get-connected/remote-access/>.
3. Login to mercury by typing in Power Shell (or putty in Windows) or MAC Terminal

ssh -l yourCSusername **mercury.cs.uml.edu**

**Assignment a)**

1. Create a new file (emacs or vi) and enter the following function, and save it as **sum.c**.
2. Compile the file with ‘**gcc -S sum.c**’ command and check out if sum.s file is generated.
3. Copy the .s file into .txt file: ‘**cp sum.s sum.txt**’
4. In the sum.txt file, remove all directives and keep only x86 executable instructions.
5. In the sum.txt file, add comments after most x86 instructionsn **the pseudo-C style** as you did in MIPS programs.

int get\_sum(int X[], int n){

int sum = 0;

int i = 0;

while (i < n){

sum = sum + X[i];

i++;

}

return sum;

}

**Assignment b)**

long switch\_eg

(long x, long y, long z)

{

long w = 1;

switch(x) {

case 1:

w = y\*z;

break;

case 2:

w = y/z;

/\* Fall Through \*/

case 3:

w += z;

break;

case 5:

case 6:

w -= z;

break;

default:

w = 2;

}

return w;

}

Repeat the five steps in Assignment a) above for the function switch\_eg on the right.

**What to submit:**

Merge two text files in Assignments a & b into a single file,

and submit in BB.