COMP.2030 **HW 7**

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 (e.g. 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, 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 instructions in the same 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)

Repeat the five steps in Assignment a) above for the function `switch_eg` on the right.

```
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;
}
```

What to submit:

Merge two text files in Assignments a & b into a single file, and submit in BB.