Note: Late HW is **not** accepted!

**Instructions**

*Please write on only one side of each page. Place your name (last name first), due date, and the HW number in the upper right-hand-corner of each page. Staple all pages together in the upper-left-corner. Do **not** fold your homework. Attach all program listings (if any), i.e., list files. Verify your program solutions on the simulator when possible.*

1. **M & M Problems:**
   - Assembly and Debugging: 5.1, 5.3, 5.5, 5.6, 5.8, 5.9, 5.13, 5.15

2. **S&HE Problems:**
   - Assembler: 3.1 show two ways for a. & c., 3.3, 3.4, 3.5, 3.6, 3.8, 3.9
   - 6812 Instructions: 4.1, 4.2, 4.3, 4.5a, 4.5c, 4.6b, 4.6d, 4.7c, 4.9c, 4.10a, 4.10e, 4.12f, 4.13d, 4.16, 4.20
   - Parallel I/O: 7.2 – 7.5

3. **6812 Program:**
   You are given a string of characters beginning at address $4000 where the last character in the string is the NUL character. Create a program starting at $5000 that counts the number of 'X' characters in the string. Code & data should be easily re-locatable. Hand in a list file & simulate with dummy data to make sure it executes correctly.