

Name: \_\_\_\_\_ Email: \_\_\_\_\_

1a. Given the recurrent equation  $t_n = 2t_{n-1} + n$  and  $t_0 = 0$ , give the values for  $t(0), t(1), \dots, t(7)$ .

1b. Translate the recurrent equation into C statements, where variable  $n$  using register R3, and variable  $t$  using register R4.

1c. Translate 1b into 8051 assembler and run it using as31. **Hand-in** the output listing with comments showing the C statements related to the assembler code.

1d. Run your code in the J51 simulator for  $t(7)$ . **Hand-in** a screen print of the simulator showing the final register values.