

**EEEN 3449**

**Lab # 4 Bit Testing**

**Fall 2009**

- a) With reference to Example 2.23 in your text, write a program to count the number of 1s contained in memory locations \$1500~\$1501 and save the result in memory location \$1505.
- b) With reference to Example 2.15 in your text, write a program to sort out the even number and the odd number. Assume the starting address of your program is at \$2000, the first even number will be stored at memory location at \$1500, the second even number will be at \$1501 and etc. The first odd number will be stored at memory location at \$1520, the second odd number will be at \$1521 and etc. You can keep the same 20 numbers in Example 2.15 as the array elements.
- c) With reference to Example 2.15 in your text, write a program to sort out the negative even number, the negative odd number, the positive even number and the positive odd number.. Assume the starting address of your program is at \$2000, the first positive even number will be stored at memory location at \$1500, the second positive even number will be at \$1501 and etc. The first positive odd number will be stored at memory location at \$1510, the second positive odd number will be at \$1511 and etc. The first negative even number will be at \$1520, the second negative even number will be at \$1521 and etc. The first negative odd number will be stored at \$1530, the second negative odd number will at \$1531 and etc. You can define the array as the following:

```
array      db      1, 3, -5, 6, 19, -41, 53, -28, -13, 42, -76, 14, -20,
              54, 64, -74, -29, 33, 41, 45
```

Provide a schematic flowchart for each program in your lab report.  
You also need to print out the memory display of your output data.

**You have to demonstrate how your program works to your TA.**