

Please submit this assignment no later than 11:00am on Tuesday, December 6, 2016

1. [20 points] Convert the following decimal values into **8-bit** two's complement. In the first column list the positive value, in the second column list the negative value.

| | Decimal | Positive | Negative |
|-----|---------|----------|----------|
| 1. | 0 | | |
| 2. | 1 | | |
| 3. | 2 | | |
| 4. | 17 | | |
| 5. | 49 | | |
| 6. | 85 | | |
| 7. | 99 | | |
| 8. | 108 | | |
| 9. | 127 | | |
| 10. | 128 | | |

2. [20 points] Convert the following 8-bit two's complement numbers into decimal values.

| | Two's Complement | Decimal |
|-----|------------------|---------|
| 11. | 00001100 | |
| 12. | 10101010 | |
| 13. | 10000000 | |
| 14. | 11111111 | |
| 15. | 01010101 | |
| 16. | 01111111 | |
| 17. | 10000000 | |
| 18. | 11101101 | |
| 19. | 00010010 | |
| 20. | 00000000 | |

3. [20 points] Convert the following decimal values into **16-bit** two's complement. In the first column list the positive value, in the second column list the negative value.

| | Decimal | Positive | Negative |
|-----|---------|----------|----------|
| 21. | 1 | | |
| 22. | 256 | | |
| 23. | 3089 | | |
| 24. | 8051 | | |
| 25. | 8878 | | |
| 26. | 9359 | | |
| 27. | 15277 | | |
| 28. | 28724 | | |
| 29. | 32767 | | |
| 30. | 32768 | | |

Submission: Please submit your answers electronically via Blackboard no later than 11:00am on Tuesday, December 6, 2016.