Assignment 4

Binary-Hex-Decimal Conversions and Computer Basics

DUE: 10/17/15 @ 10:00AM

You can complete the homework on this document itself—and submit the assignment with your name and “Assignment 4” as the filename. Or you can complete it by hand turn in a hard copy when we next meet.

PART 1:

Complete the following table:

\*Remember 0b denotes binary, 0x denotes hex

\*Negative binary numbers start with 1 and Positive Binary Numbers start with 0.

\*Binary entries should be written in segments of 4 digits. So say you convert the number 52 to binary and obtain the result 110100. The correct way to write the answer would be 0b00110100. Two zeros are added at the beginning to make sure the rule of 4 digit segments is fulfilled.

\*If you need more hints, check the PDF in the Lessons folder in the master branch

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| **DECIMAL** | **BINARY** | **HEXADECIMAL** |
| 52 | 0b00110100 | 0x34 |
| 37 | **0b00100101** | **0x25** |
| -37 | **0b11011011** | 0xFFDB |
| -13642 | **0b0011010101001010** | **0x354A** |
| **-9676** | **0b0010010111001100** | 0xDA34 |
| **-182** | 0b10110110 | **0xB6** |
| **9717** | 0b0100101111010101 | **0x4BD5** |
| -33 | **0b00100001** | **0x21** |
| **65406** | **0b00001111111101111110** | 0xFF7E |
| **3924** | 0b0000111101010100 | **0xF54** |
| 4325 | **0b0001000011100101** | **010E5** |
| **16076** | **0b0011111011001100** | 0x3ECC |
| **53592** | 0b1101000101011000 | **0xD158** |
| 2109 | **0b100000111101** | **0x83D** |
| **3311** | **0b110011101111** | 0xCEF |
| -2134 | **0b100001010110** | **0x856** |
| **322490** | **0b01001110101110111010** | 0x4EBBA |
| **1012573** | 0b11110111001101011101 | **0xF735D** |
| **846250** | **0b11001110100110101010** | 0xCE9AA |
| 64 | **0b01000000** | **0x40** |

PART 2:

Look at the PowerPoint about Computer Basics and answer the following questions:

* Explain some differences between primary (short-term) and secondary (long-term) memory (you don’t need to write me a whole paragraph, just give me a list of the major differences).
* What is cache memory and its advantages and disadvantages (we didn’t discuss this in class, but it is important also)
* Watch this video about CPU’s: <http://study.com/academy/lesson/central-processing-unit-cpu-parts-definition-function.html#lesson>