Quiz 1
CSE 30
Winter 2002

#1. Show the representation of \(-550\)\(_{10}\) in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert \(315\)\(_{10}\) into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

#3. Fill in the CCR bits for the following addition instructions (8-bit two’s-complement numbers):

\[
\begin{array}{c}
00110111 \\
+ 01001010 \\
\hline
\end{array} \quad \begin{array}{c}
10110001 \\
+ 01010111 \\
\hline
\end{array}
\]

\[
\begin{array}{cccc}
N & Z & V & C \\
\hline
| | | | |
\end{array} \quad \begin{array}{cccc}
N & Z & V & C \\
\hline
| | | | |
\end{array}
\]

(over)
#4. Powers of 2

32K = 2 ——-

\[ 2^{25} = \text{_______} \] (in terms of K, M, G, etc.)

#5. List the sequence of operations in a typical instruction cycle and indicate which CPU component is responsible for handling that part of the instruction cycle as discussed in class

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<thead>
<tr>
<th>Instruction Cycle Operation</th>
<th>CPU Component</th>
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