#1. Show the representation of $-705_{10}$ in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert $216_{10}$ 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):

\[
\begin{array}{cccc}
01001011 & + & 01010101 & \hline
\end{array}
\]

\[
\begin{array}{cccc}
10101100 & + & 11111011 & \hline
\end{array}
\]

<table>
<thead>
<tr>
<th>N</th>
<th>Z</th>
<th>V</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(over)
#4. Powers of 2

\[ 512G = 2^{17} \]  
\[ 2^{17} = \text{_______} \]  
(in terms of K, M, G, etc.)

#5. List the five C/C++ Runtime Environment areas in the order as discussed in class that a typical Unix system will lay them out, and in particular the SPARC architecture lays them out:

A - Stack  
B - Text  
C - BSS  
D - Heap  
E - Data

_______  
_______  
_______  
_______  
_______  
_______  
_______  

low memory  
high memory