Show all binary answers in groups of 4 bits with a space between. For example: 0101 1010 0001 1111

#0. Show the binary representation of \(-461_{10}\) in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#1. Convert \(358_{10}\) into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

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

\[
\begin{array}{c}
01110110 \\
+ 01001011 \\
\hline
\end{array}
\quad
\begin{array}{c}
11001010 \\
+ 10110110 \\
\hline
\end{array}
\]

\[
\begin{array}{cccc|c|c|c|c|c}
N & Z & V & C & | & | & | & | \\
\hline
| & | & | & | & | & | \\
\hline
(over)
\end{array}
\]
#3. Powers of 2

128K = 2——

\[ 2^{35} = \underline{\hphantom{0000}} \] (in terms of K, M, G, etc.)

#4. In a Big-Endian architecture, show how the bytes are laid out in memory for the following statement (write the hexadecimal values of the bytes in the appropriate memory locations):

```c
int errrupt = 0xCAFEBABE;
```

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What is the hex value of the least significant byte?  

#5. What does BSS stand for?  

__________________________________________