#1. Show the representation of $-42_{10}$ in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert $305_{10}$ into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

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

\[
\begin{array}{c}
11110110 \\
+ 00001010 \\
\hline
\end{array}
\quad
\begin{array}{c}
10101010 \\
+ 10011001 \\
\hline
\end{array}
\]

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

\[ 512K = 2^{\text{_____}} \]

\[ 2^{21} = \text{_______} \] (in terms of K, M, G, etc.)

#5. List two examples of systems/programs/devices that use a Stack Architecture (as discussed in class):

1) 

2) 

The SPARC Architecture is an example of a __________________ architecture. The only group of instructions that touch memory are ____________ and ____________.