#1. Show the representation of $-398_{10}$ in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one’s-complement

c) two’s complement

#2. Convert $477_{10}$ into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

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

\[
\begin{array}{c}
11110110 \\
+ 11001001 \\
\hline
\end{array}
\quad
\begin{array}{c}
00101011 \\
+ 01110101 \\
\hline
\end{array}
\]

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

(over)
#4. Powers of 2

\[ 256\text{K} = 2^{18} \]

\[ 2^{36} = 2^{18} \times 2^{18} = 2^3 \times 2^{33} \]

(in terms of K, M, G, etc.)

#5. List the order of the stages of the compilation process discussed in class:

A - exe/a.out (Executable image)
B - ccomp (C Compiler)
C - ld (Linkage Editor)
D - as (Assembler)
E - cpp (C Preprocessor)

% cc/gcc file.c --&gt; _______ --&gt; _______ --&gt; _______ --&gt; _______ --&gt; _______