1) (10pts) Multiply these IEEE SP FP numbers together. Put your result back in HEX.

\[ \begin{align*}
0xC9F4 &\ 0000 \\
\times &\ 0x484F &\ 0000
\end{align*} \]

2) (20 pts) What would the memory look like for this .data section? Assume the data starts at address 0x3C and this is on a Big Endian machine like the MIPS. Some addresses are filled in for you, you will want to put the byte of data in each box in HEX.

```
Memory 32-bits wide
```

```
.data
name:    .asciiz     "MAL is cool!"
money:   .word       23
MI:      .byte       "E"
balance: .word       -13
Char1:   .byte       "C"
Char2:   .byte       "a"
```

3) (5 pts) Declare in MAL the following array types.

- a) 12 integers initialized to -3.
- b) 13 bytes initialize to “a”.
4) (10 pts) What is the decimal value 45.5 in single precision floating point format? Show your work.

5) (10pts) Declare the following data types in MAL.
   A) (2pts) A queue of 100 bytes
   B) (2 pts) A stack of 32 words
   C) (3 pts) A 4x5 array of bytes
   D) (3 pts) A 10x3 array of words

6) (10pts) Add these IEEE SP FP numbers together.

   0xD4F80000 and 0x56B00000

7) (10 pts) Now multiply the above two IEEE SP FP numbers.