Assignment #4
coen210
2022 spring

Problem 1

Consider a 7-bit floating point representation based on the IEEE floating point format. There is 1 bit sign. 3-bit exponent, 3-bit fractional. Fill in the following encodings for some interesting numbers.

Description	Binary Encoding
Zero	0 000 000
Smallest Positive (nonzero)	
Largest denormalized	
Smallest positive normalized	
One	
Largest finite number	
NaN	
Infinity	

Problem 2

Consider a 8 bit floating point representation with a 3-bit significand, 4-bit exponent, a sign bit, and a bias value = 7. The implementation supports the IEEE-754 standard. Fill in the empty cells in the following table.

Description	Value	s	exponent	significand
zero	0.0			
closest positive to zero				
largest positive				
-5	−5.0			