

Floating Point Representation

1. Convert the following decimal numbers into 6-bit floating point representations; round if necessary: (k = 3, n = 2)

a. -2.6

b. 7

c. 0.27

2. Fill in the following table with patterns (formulas, if any) for the types of floating points.

| | Description | exp | frac | E | M |
|---------------------|--------------|-----|------------|-----|-----------|
| Normalized | | | | | 1.xxx...x |
| Denormalized | | | | | |
| Special | 0 | | | n/a | n/a |
| | +/- infinity | | | n/a | n/a |
| | NaN | | != 000...0 | n/a | n/a |

3. What is the maximum nonnegative 8-bit floating point number ($k = 4$, $n = 3$)?
(Besides infinity...)