

## CSCI 2330 – Integer Representation Exercises

Fill in the requested values for each of the indicated representations in the specified format (**bin** = binary, **dec** = decimal). For the representations in **n** bits, your answer should be an expression in terms of **n**.

### 1. Unsigned, 4 bits

- a. Largest (bin)
- b. Largest (dec)
- c. Smallest (bin)
- d. Smallest (dec)

### 2. Signed Magnitude, 4 bits

- a. Largest (bin)
- b. Largest (dec)
- c. Smallest (bin)
- d. Smallest (dec)

### 3. One's Complement, 4 bits

- a. Largest (bin)
- b. Largest (dec)
- c. Smallest (bin)
- d. Smallest (dec)

### 4. Two's Complement, 4 bits

- a. Largest (bin)
- b. Largest (dec)
- c. Smallest (bin)
- d. Smallest (dec)

### 5. Unsigned, n bits

- a. Largest (dec)
- b. Smallest (dec)

### 6. Signed Magnitude, n bits

- a. Largest (dec)
- b. Smallest (dec)

### 7. One's Complement, n bits

- a. Largest (dec)
- b. Smallest (dec)

### 8. Two's Complement, n bits

- a. Largest (dec)
- b. Smallest (dec)