**Bit Arrays (1)**

Bit can be 1 or 0.(on or off)

**Capacity**: 2n(number of bits)

**ASCII**: it is a character format that can be represented in 8 bits

**Basix operation:**

OR: and XOR NOT

1011 1011 1011 1011  
or and XOR NOT  
1001 1001 1001   
1011 1001 0010 0100

**Population**: how many positive values are in the bit array.

0**11**0**11**0 Population 4.it’s also called hamming weight.  
  
**dense representation:** when 50% or more that 50% bit’s are on it’s called dense representation in the array.

**Sparse representation:** when only 2% bit’s are on it’s called dense representation in the array.

**Feature Representation:** a group of bits that represent features of a population.

# SDR Capacity & Comparison (2)

SDR: Sparse distributed Representations

Sparsity/density:the percentage of bit’s on.

Overlap: it is just a simple binary and operation representation.

Overlap score: common bit’s amount.

They can be compressed simply by saving the indices of the on bits

**SDR Overlap Sets and Subsampling (3)**

Overlap: it is the number of sdrs total that have same n(random generated SDR) and a specific W(active SDR) with a specific number of bits overlap with X(given).

SDR subsampling: taking some selected bit’s from original SDR and compare with random bits.