CS21

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**Base Number System**

Base number systems tells you two things

1. Cardinality of the set of digits in the system
2. The value of any place in the system, which will always be an integer power of the base

**Digits vs Number**

Digits

* Is a symbol that is said or set at a place or location inside a representation on the number when written out
* Also tells you how many times to include that place value in the magnitude of the number

Number

* Abstraction of a quantity

How to write cardinality in a set of digits in system

Ex.

Base 10

| { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 } | = 10

| | 🡨 cardinality operator