# What are algorithms?

## Algorithm Characteristics

* Classification
  + Serial/parallel, exact/approximate, deterministic/non-deterministic

# Common algorithms in programming

## Common Algorithms

* **Search algorithms**
  + Find specific data in a structure (for example, a substring within a string)
* **Sorting algorithms**
  + Take a dataset and apply a sort order to it
* **Computational algorithms**
  + Given one set of data, calculate another (is a given number prime?)
* **Collection algorithms**
  + Work with collections of data (count specific items, navigate among data elements, filter out unwanted data, etc.)

Example: Euclid’s Algorithm

Find the greatest common denominator(GCD) of two integers.

Example: GCD of 20 and 8 is 4