

Algorithms

Muchang Bahng

Spring 2024

Contents

Definition 0.1 (Algorithm)

An **algorithm** is a procedure for solving a mathematical problem in a *finite* number of steps. It should be

1. finite,
2. correct,
3. efficient

Example 0.1 (GCD of Two Numbers)

Take a look at the following algorithm.

```
1 def gcd(a, b):  
2     if a == b:  
3         return a  
4     elif a > b:  
5         return gcd(a - b, b)  
6     else:  
7         return gcd(a, b - a)  
8  
9 print(gcd(63, 210))
```