Foundations of Computer Science Comp109

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Part 4. Function

Comp109 Foundations of Computer Science

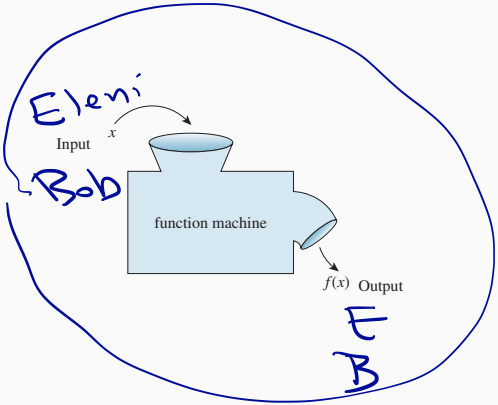
Reading

- Discrete Mathematics and Its Applications K. Rosen, Section 2.3.
- Discrete Mathematics with Applications S. Epp, Chapter 7.

Contents

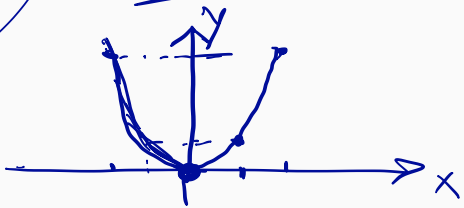
- Functions: definitions and examples
- Domain, codomain, and range
- Injective, surjective, and bijective functions
- Invertible functions
- Compositions of functions
- Functions and cardinality
- Pigeon hole principle
- Cardinality of infinite sets

Functions



Examples:

- $y = x^2$
- $y = \sin(x)$
- first letter of your name



$f(x) = x^2$