



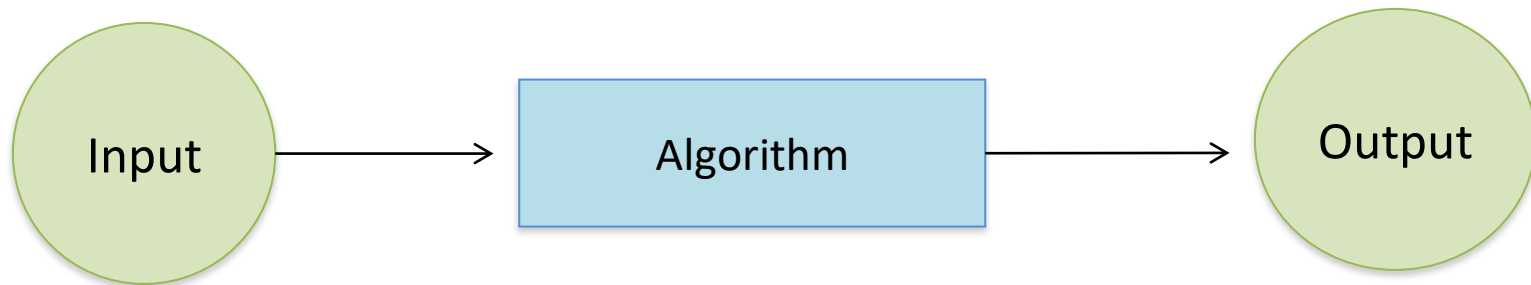
# CS 100 Scientific Computing

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## What is computer science (CS)?

E. Dijkstra: “The term *computer science* is like referring to surgery as *knife science*.”

- **Computer science** is the study of algorithms and how to solve problems.
- An **algorithm** is a step by step procedure for performing some task (example: sorting a set of integers) in a finite amount of time



# Where is computer science? Everywhere!

- Information sharing: google, word processors, presentations, image editing
- Social media
- Video games
- Mobile applications (GPS, calls, texting, pictures, etc.)
- Car
- Household appliances (fridge, washer/dryer, TV, home assistant)
- Wrist watch / smart watch
- Traffic light control
- Databases
- Banking
- Academic
- Employment
- Health & Medical devices
- Pacemakers
- MRI machines
- CAT scans

- Glucose monitoring

# How we'll study computer science

- Write many small to medium sized programs
- Programs solve a variety of (mainly scientific) problems
- Plotting functions and data
- Approximating Pi
- Encryption
- Statistics
- Create simulations to model complex behavior
- Image manipulation • Game development

- And many others!
- Tools
- Language: Python
- IDE (Integrated Development Environment): Thonny

## Administrative info

- Teams

- Course Website & Moodle
- Syllabus
- Thonny

