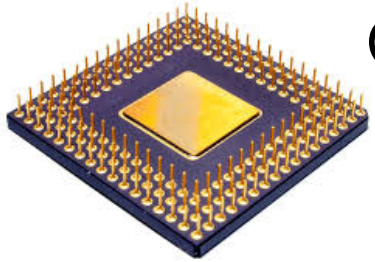


Summary for
Programming in Biology
(MCDB 170)

What is programming?

- Writing instructions for computers to perform tasks



CPU

Execute instructions

Instructions

- operators
- for loops
- if-else conditionals
- functions

...

Object manipulation

$\dot{() =}$

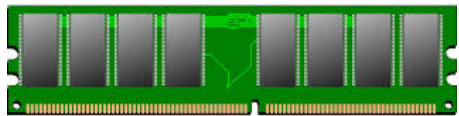
Classes

Data

- lists
- tuples
- dictionaries
- sets

...

Scripts Modules, Packages, Libraries



Memory

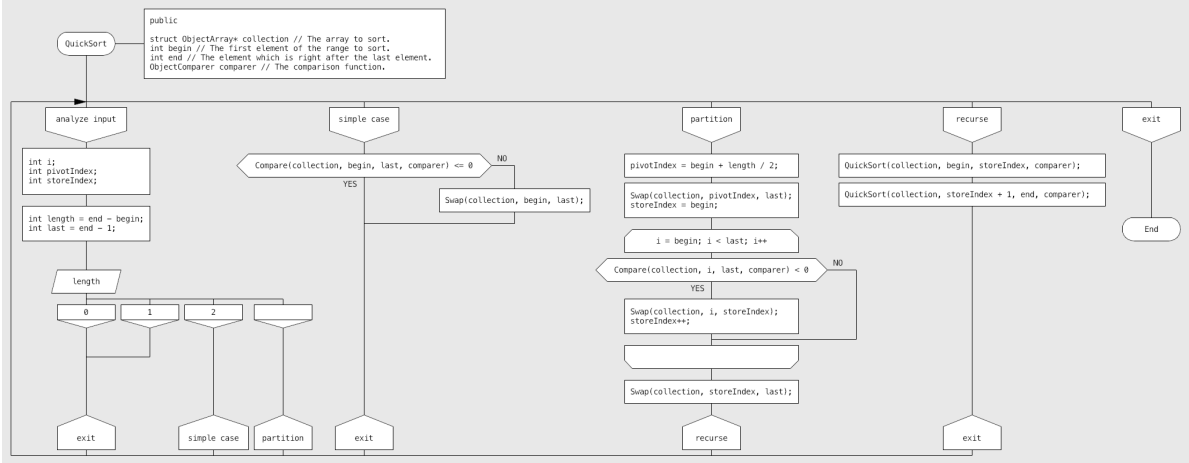
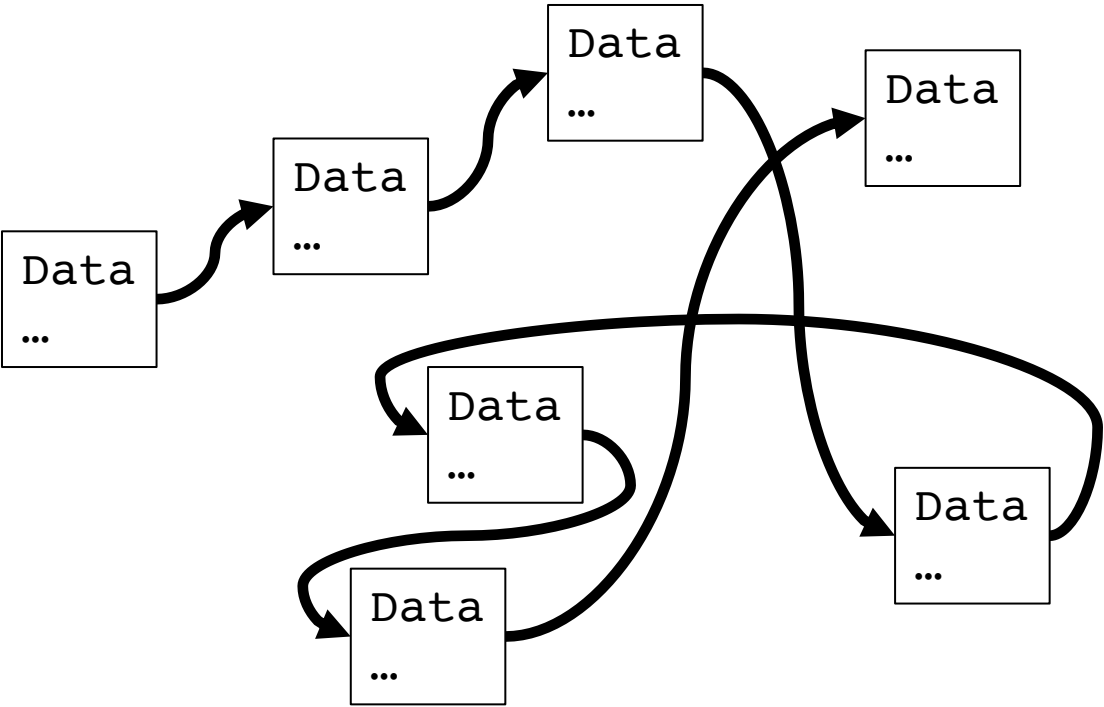
Data
Instructions

Data Structures



Algorithms

VS



Qualitative biological question

Not well-defined
Hard to answer



Quantitative question



How to learn a new package?

1. Learn how to initialize the data structures (or objects)
2. Methods to access and manipulate the data
3. See if there is any syntactic sugar
4. Learn other functions specific to the package

End of the course