SICP

God's Programming Book

Lecture-01 Computer Science

Computer Science

Slides Adapted from cs61a of UC Berkeley

About the Course

Parts of the Course

- Lecture: What we are doing now

- Lab, Homework: More practice

- Project: The most important part of the project

  - There will be handouts of all the above parts (in English)

- Online textbook: http://composingprograms.com

Asking Questions

- Search the Friendly Web (STFW)

- Read the Friendly Manual (RTFM)

- Turn to the Friendly Python Tutor

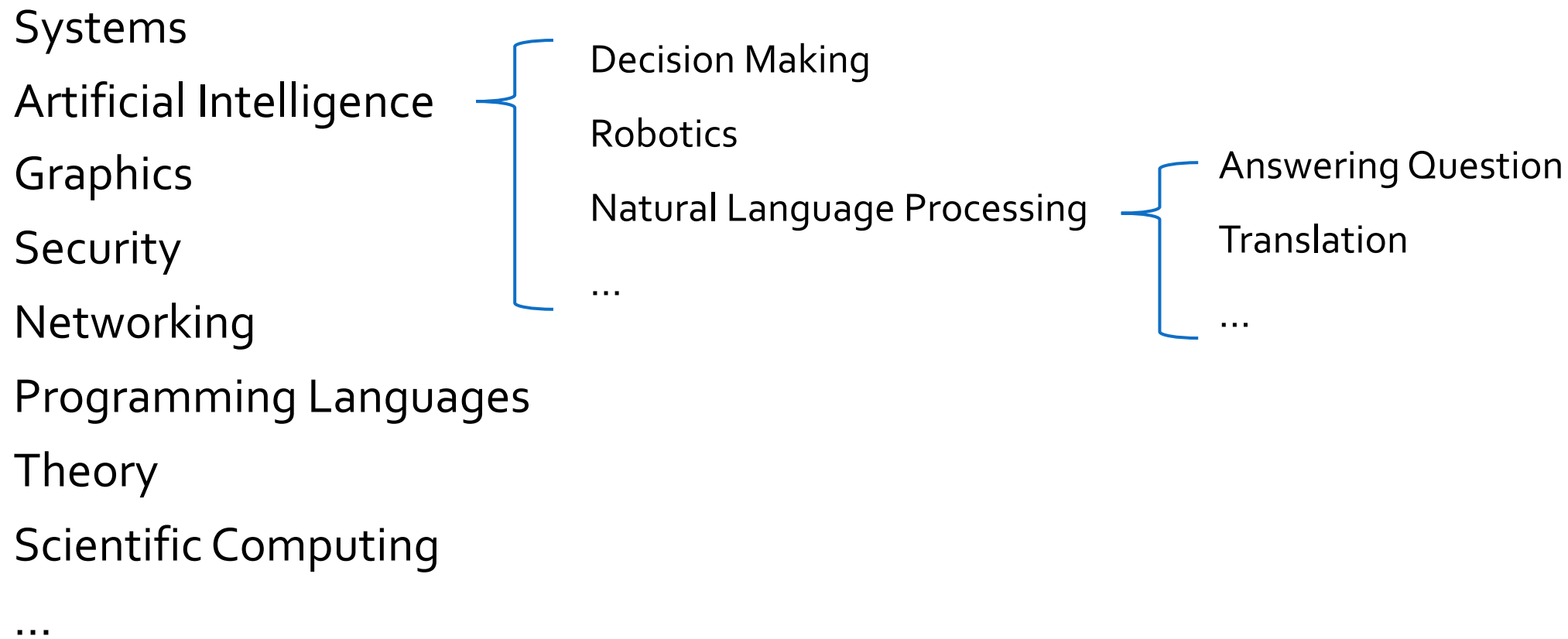 https://pythontutor.com/composingprograms.html#mode=edit

- Take Advantage of the Friendly Comment Section

An Introduction to Computer Science

What is Computer Science?

- The study of

  - What problems can be solved using computation,

  - How to solve those problems, and

  - What techniques lead to effective solutions

What is Computer Science?

Systems

Artificial Intelligence

Graphics

Security

Networking

Programming Languages

Theory

Scientific Computing

...

Decision Making

Robotics

Natural Language Processing

...

Answering Question

Translation

...

What is This Course About?

- A course about managing complexity

  - Mastering abstraction

  - Programming paradigms

- An introduction to programming

  - Full understanding of Python fundamentals

  - Combining multiple ideas in large projects

  - How computers interpret programming languages

What is This Course About?

- Different types of languages: Scheme & SQL

- A challenging course that will demand a lot of you

Functions, Values, Objects, Interpreters, and Data

(Demo)

Thanks for Listening