

# SICP

God's Programming Book



Project-02 Cats



# Typing Cats

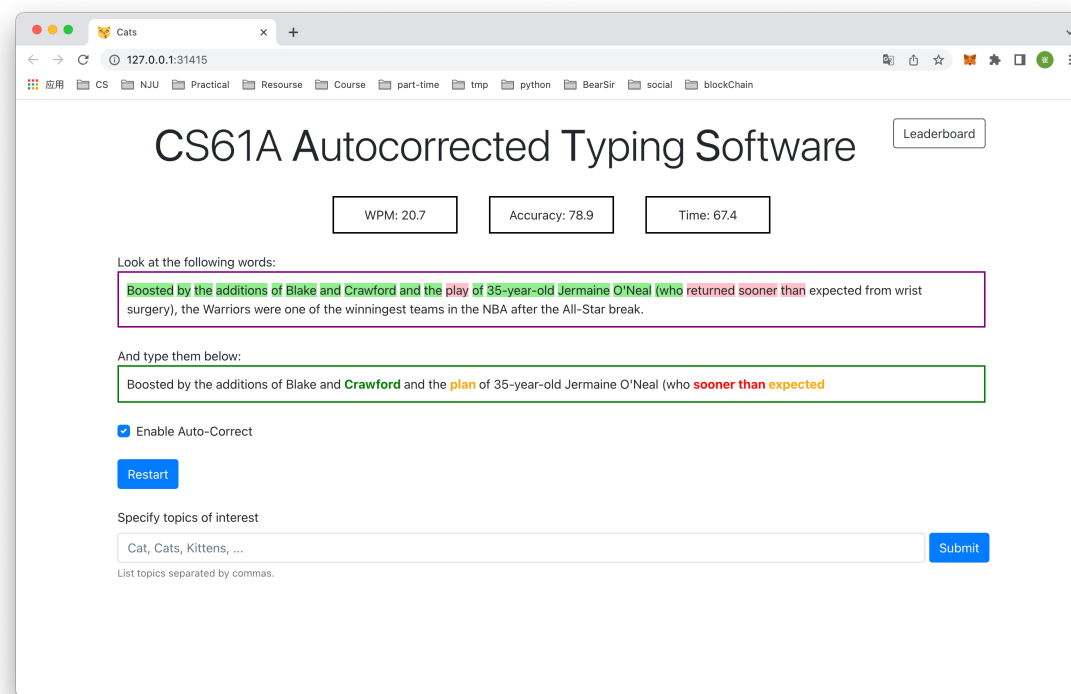
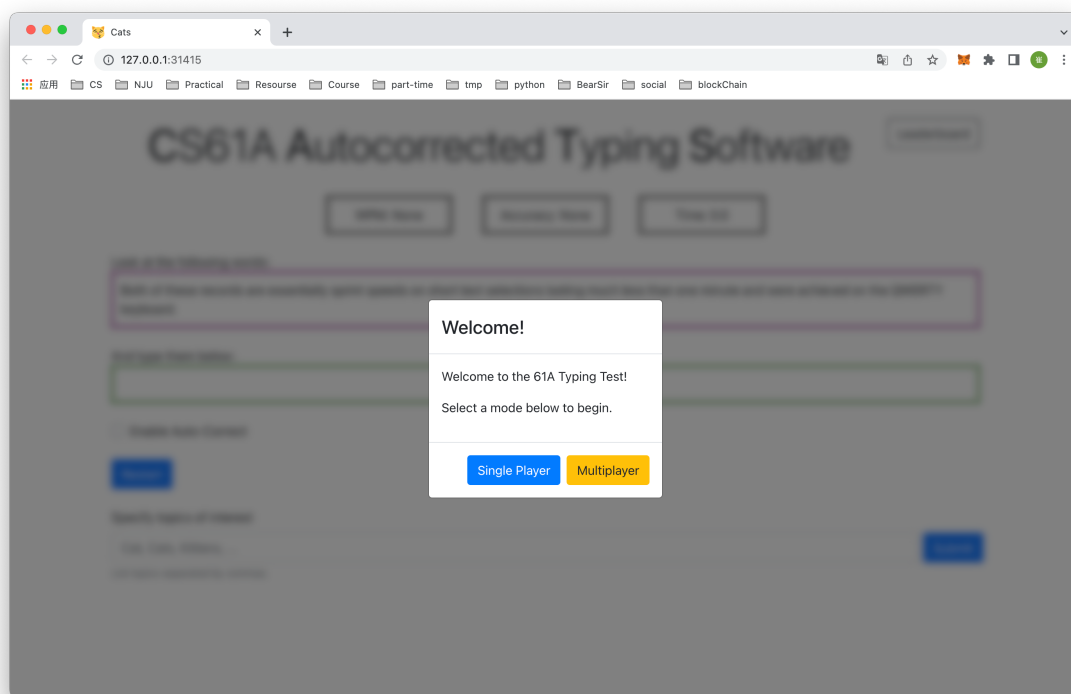
Project Adapted from cs61a of UC Berkeley



# Goal

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# What will you have after the project?



An Autocorrected Typing Software Supporting Multiplayer

# Materials

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# What have you got before the project?

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- Skeleton code of the project and an autograder ok
- A detailed handout covering everything about the project
- My version of solution

<https://github.com/JacyCui/sicp-proj02.git>

# Requirements

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# What do you need to finished this project?

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- Environments
  - Environments for Higher-Order Functions
  - Environments for Nested Definitions
  - Local Names
  - Lambda Expressions
  - Function Composition
  - Self-Reference
  - Currying



# What do you need to finished this project?

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- Design
  - Abstraction
  - Naming Tips

# What do you need to finished this project?

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- Recursion
  - Recursive Functions
  - Recursion in Environment Diagrams
  - Verifying Recursive Functions
  - Mutual Recursion
  - Recursion and Iteration

# What do you need to finished this project?

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- Tree Recursion
  - Order of Recursive Calls
  - Tree Recursion
  - Towers of Hanoi
  - Counting Partitions

# What do you need to finished this project?

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- Containers
  - Lists
  - Containers
  - For Statements
  - Ranges
  - List Comprehensions
  - Strings

# What do you need to finished this project?

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- Data Abstraction
  - Data Abstraction
  - Pairs
  - Abstraction Barriers
  - Data Representation
  - Dictionaries

# Tips

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# What you should keep in mind?

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- Always figure out what you need to do before writing codes.
- Keep it simple and elegant.
  - Normally no more than 20 lines for each problem.
- Be creative and show your talent in the optional autocorrect problem.

# Thanks for Listening

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