

# Homework 11-1, 2, 3, 4

Prof. Jonathan Lee (李允中)

Department of CSIE

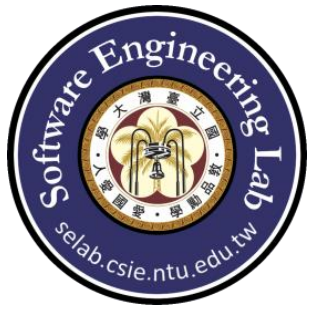
National Taiwan University



# Homework 11-1: Requirements Statement

---

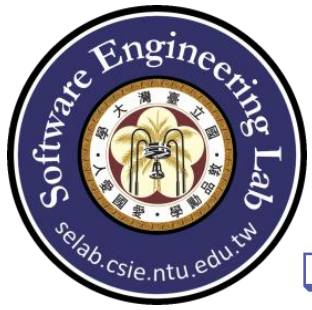
- ☐ A compiler subsystem contains classes such as Scanner, Parser, ProgramNode, and BytecodeStream.
- ☐ The client classes need to use Scanner, Parser, ProgramNode, and BytecodeStream to compile some code.



# Homework 11-2: Requirements Statement

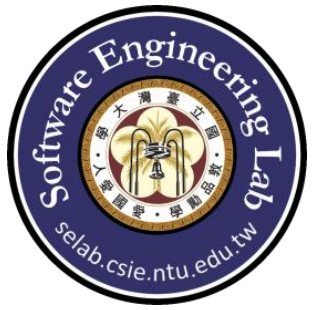
---

- ☐ An editor application carries a document.
- ☐ A menu in the editor application contains several menu items performing three specific operations: cut, copy and paste on a document when clicked.



# Homework 11-3: Requirements Statement

- ❑ In order to open a text document, a text application will:
  - Check if the text document can be opened
  - Create a text document object and hold a reference of the text document object.
  - Add the text document object to the Application.
  - Read text document.
- ❑ There is another new requirement.
- ❑ Opening a spreadsheet document with a spreadsheet application carries the same steps in the algorithm (process) as the text document.
  - Check if the spreadsheet document can be opened.
  - Create a spreadsheet document object and hold a reference of the spreadsheet document object.
  - Add the spreadsheet document object to the Application.
  - Read spreadsheet document.



# Homework 11-4: Requirements Statement

- ❑ There are several nodes in an abstract syntax tree (AST), such as VariableRefNode and AssignmentNode, which represent respective parts in source code and keep the code information.
- ❑ Each node currently provides three interfaces for the compiler to use in order to check its type, generate code and print out the content.