System programing Project

Architecture

main.py: Solve the argument input and output

This is the program entry point, it will be responsbility to slove argument input and output path and file. You also can use -h argument to show the help.

class-Assembler: Slove preproscessing data, split control section and IO control

A class in assembler.py, it will split the control section to Section class, and control all section processing such as assmebler and write. Besides, it will processing the input file and make the text to Instruciton class and push to section.

class-Section: Solve all instrucitons and change instructions to obj code

A class in assembler.py, it will process the instruction to object code, it will do following work flow.

- solve_literal
- sorting_block
- set_symbol
- set_location
- set_exdef_location
- sorting_index
- generate_object_code

The result object will be save at Instruction class.

class-Modification_record: Store modification record

class-Instruction: Store each instruciton

Learned and Experienced

Great architecture can help you write great code. Remember to commit the code.

More than the Required

Basic requirement
Literals
Symbol-defining Statements
Program Blocks
Control Sections

Information

Lang: python
Version: 3.9.6

Testing Environment: macOS M1

Usage:

```
python3 main.py [-h] [-o O] inputfile
```

e.g. `python3 main.py input -o my_output` output: myoutput-1

positional arguments:

inputfile: input file path

options:

-h, --help show this help message and exit
-o O output file path

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