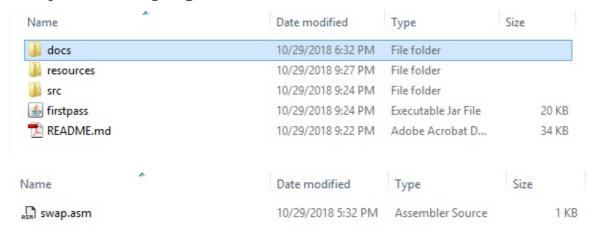
First Pass

This is an implementation of the first pass of a two-pass assembler for **Intel 8086 Microprocessor**. It builds the Symbol Table for a **.asm** file of an assembly program.

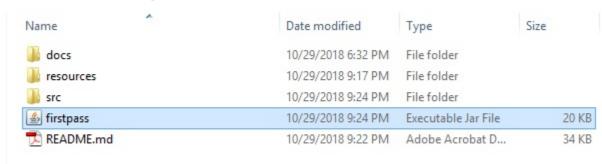
Getting Started

Follow these instructions to run the softwware:

1. Add your **.asm** program file in the folder named **docs**.



2. Open **firstpass.jar**.



3. Enter the name of your file. (eg. swap.asm)

(You can use the filename of files already present in docs folder)

Two Pass Assembler

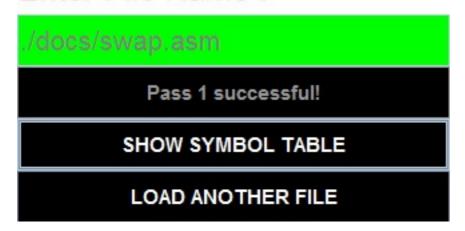
Enter File Name:



- 4. Click on **START PASS 1**.
- 5. If there are no errors, click on **SHOW SYMBOL TABLE**.

Two Pass Assembler

Enter File Name:



The symbol table gets displayed.

NAME	OFFSET	SIZE	TYPE	SEGMENT
DATA	0	-5	SEGMENT	(ITSELF)
MYARRAY	0	1	VAR	DATA
SIZE	5	1	VAR	DATA
SUM	6	1	VAR	DATA
CODE	1	-5	SEGMENT	(ITSELF)
REPEAT	11	-1	LABEL	CODE

Click on LOAD ANOTHER FILE to build symbol table for another file.

To view source code open folder named **src**.

It contains 6 files:

- Main.java
- Pass1.java
- AddressingModesHelper.java
- AssemblerDirectiveTable.java
- MachineInstructionTable.java
- SymbolTable.java

Prerequisites

• JAVA Runtime Environment

Supported Instructions

Programs that include one or more of the following instructions are supported.

- LDS
- LEA
- LES
- XCHG
- ADD
- ADC
- SUB
- SBB
- CMP
- INC
- DEC
- MUL
- IMUL
- DIV
- IDIV
- DAA
- DAS

Supported Directives

Programs that include one or more of the following directives are supported.

- DB
- DW
- DD
- ASSUME
- END

- ENDS
- SEGMENT
- HLT

Supported Addressing Modes

Programs that include one or more of the following addressing modes are supported.

- Immediate (eg. ADD AX, 100H)
- Direct (eg. MOV AX, [1592H])
- Register (eg. ADD BX, AX)
- Register Indirect (eg. MOV AX, [BX])
- Register Relative (eg. ADD AX, [BX + SI])
- Based Indexed (eg. MOV AX, [BX + 7])
- Relative Based Indexed (eg. ADD AX, [BX + SI + 7])