OpcodeX Assembler Report

OpcodeX Assembler

Mohamed Abdallah Eldairouty - 221001719 | Youssef Waleed - 221000928

1. Program Description

OpcodeX is a two-pass SIC/XE Assembler built with a sleek GUI using Windows Forms in C#. The application supports all major SIC/XE features including format 1-4 instructions, addressing modes, PC-relative and base-relative addressing, M records for format 4 modifications, and buffer-based memory management. Users can edit, clean, run Pass 1 and Pass 2, and view generated files through an intuitive interface.

2. Usage Instructions

The user interacts with the program via a step-by-step GUI interface:

- 1. Input Editor Edit your assembly code.
- 2. Clean Code Reformats and verifies the code.
- 3. Run Pass 1 Generates intermediate files.
- 4. View LOCCTR and Symbol Table Displays results from Pass 1.
- 5. Run Pass 2 Generates object code and HTME records.
- 6. View Final Outputs View and save the assembled outputs.

Example:

The program reads from: AppData\Roaming\OpcodeX\input\in.txt

Outputs are saved to: AppData\Roaming\OpcodeX\output\

Executable: Just double-click the OpcodeX.exe from the published Application folder.

3. Design Highlights

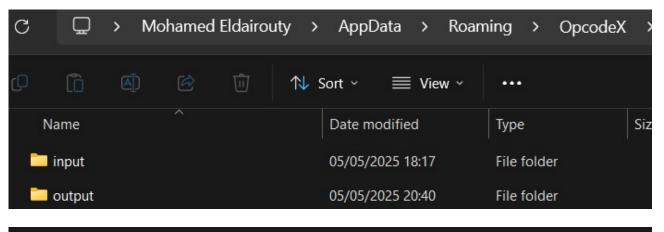
- Modular structure separating GUI, assembler logic, and IO.
- Robust error handling for duplicate symbols and unresolvable references.
- GUI navigation flows smoothly from start to end.

OpcodeX Assembler Report

- Rich visual design for all forms (input, intermediate, symbol table, output, HTME, etc.).

4. Sample Run Screenshots

D3DCompiler_47_cor3.dll	21/02/2024 14:59	Application extens	4,802 KB
OpcodeX	05/05/2025 21:34	Application	170,094 KB
♠ OpcodeX.pdb	05/05/2025 21:33	Program Debug D	20 KB
PenImc_cor3.dll	17/03/2025 22:19	Application extens	155 KB
PresentationNative_cor3.dll	16/07/2024 09:38	Application extens	1,209 KB
SICXEAssembler.dll.config	04/05/2025 21:55	CONFIG File	1 KB
SICXEAssembler.pdb	05/05/2025 21:33	Program Debug D	15 KB
vcruntime140_cor3.dll	03/03/2025 06:06	Application extens	118 KB
wpfgfx_cor3.dll	17/03/2025 22:20	Application extens	1,915 KB



HTME	05/05/2025 22:07	Text Document	1 KB
intermediate	05/05/2025 22:07	Text Document	1 KB
out_pass1	05/05/2025 22:07	Text Document	1 KB
out_pass2	05/05/2025 22:07	Text Document	1 KB
symbtable	05/05/2025 22:07	Text Document	1 KB