CS474-OOLE
Project 4

Assembly Language Interpreter for Simple Assembly Language using C++

1. Abstract

In this project, we are implementing an Assembly Language Interpreter(ALI) for simple assembly language.

2. Usage Manual

1) This project was done using Windows OS.

2) Provide your input instructions through the "input.sal" file and the give the command 'i' to load the instructions to the RAM. Please avoid giving blank spaces after the instruction.

3) Now either give command 'd' or 'e' to execute the program in debug and executemode respectively.

4) Command 's' is to save the contents of the registers and RAM to a file named "ouput.txt".A sample output file has been attached.

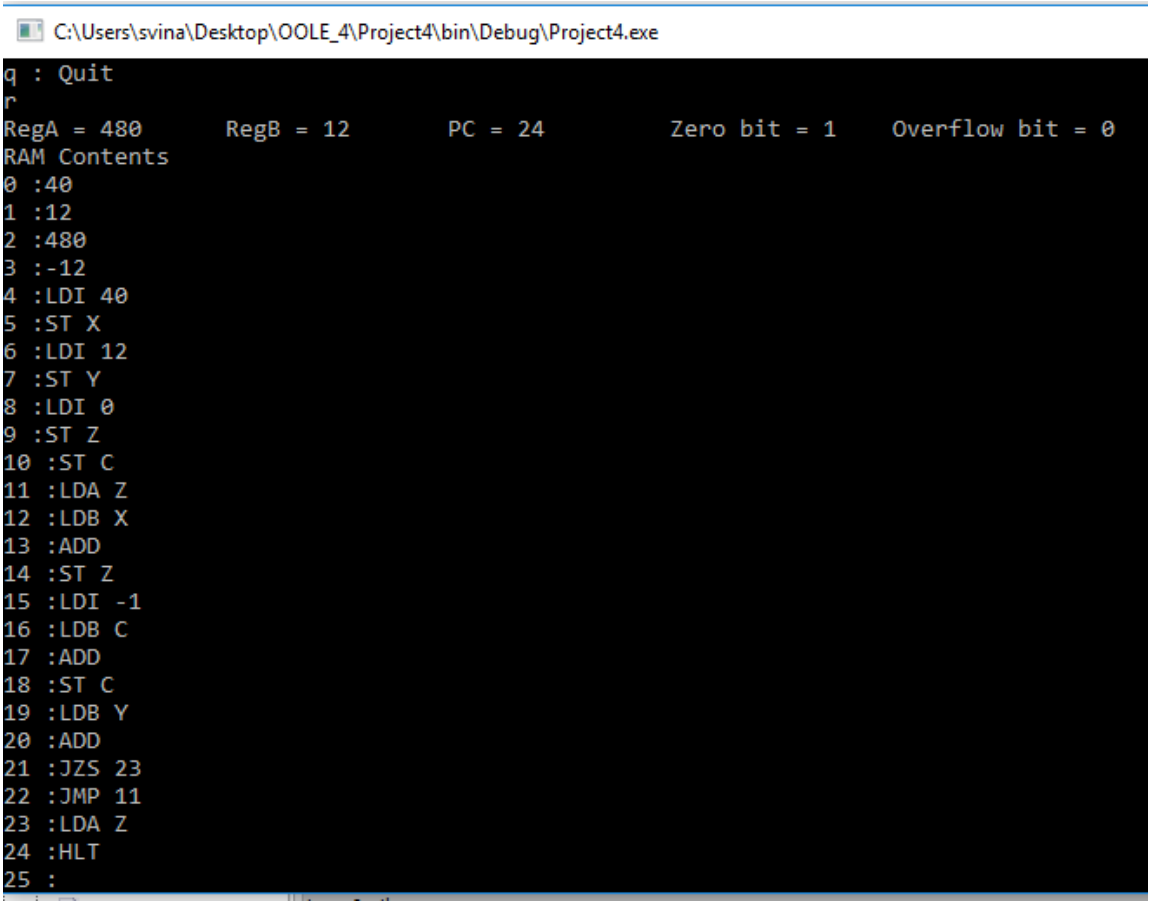
5) After Program termination please click on reset and write the new set of instructions again to execute.

   Note: Once the program is terminated(HLT statement is reached) in either debug or execute mode please give the command 'i' before re-running the code.

3. Input Sample:

```
DEC X
DEC Y
DEC Z
DEC C
LDI 40
ST X
LDI 12
ST Y
LDI 0
ST Z
ST C
LDA Z
LDB X
ADD
ST Z
LDI -1
LDB C
ADD
ST C
LDB Y
ADD
JZS 23
JMP 11
LDA Z
HLT
```

Output:


C:\Users\svina\Desktop\OOLE_4\Project4\bin\Debug\Project4.exe
q : Quit
r
RegA = 480 RegB = 12 PC = 24 Zero bit = 1 Overflow bit = 0
RAM Contents
0 :40
1 :12
2 :480
3 :-12
4 :LDI 40
5 :ST X
6 :LDI 12
7 :ST Y
8 :LDI 0
9 :ST Z
10 :ST C
11 :LDA Z
12 :LDB X
13 :ADD
14 :ST Z
15 :LDI -1
16 :LDB C
17 :ADD
18 :ST C
19 :LDB Y
20 :ADD
21 :JZS 23
22 :JMP 11
23 :LDA Z
24 :HLT
25 :