Experiment - V

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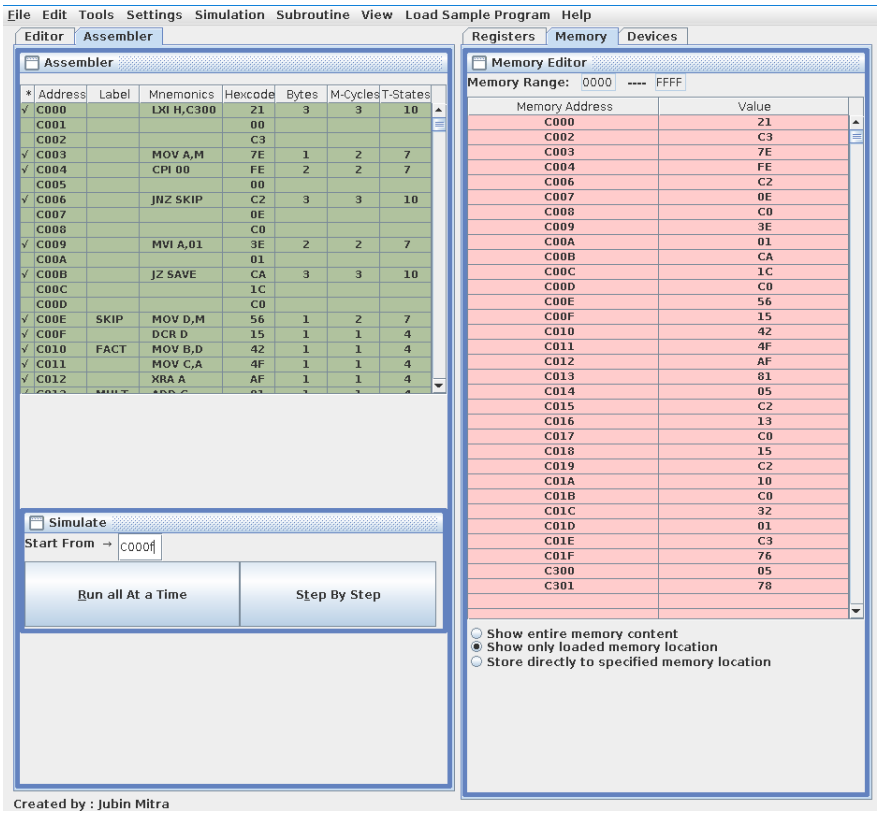
1 Aim:

Write an 8085 assembly language program to calculate factorial of a number stored at memory location C300H, store the result at C301H.

2 Code

```
# ORG C300H
# DB 05H
# ORG 0700H
            LXI H, C300H
            MOV A, M
            CPI 00H
            JNZ SKIP
            MVI A, 01H
            JZ SAVE

SKIP:       MOV D, M
            DCR D

FACT:       MOV B, D
            MOV C, A
            XRA A

MULT:       ADD C
            DCR B
            JNZ MULT
            DCR D
            JNZ FACT

SAVE:       STA C301H
            HLT
```

3 Observations:



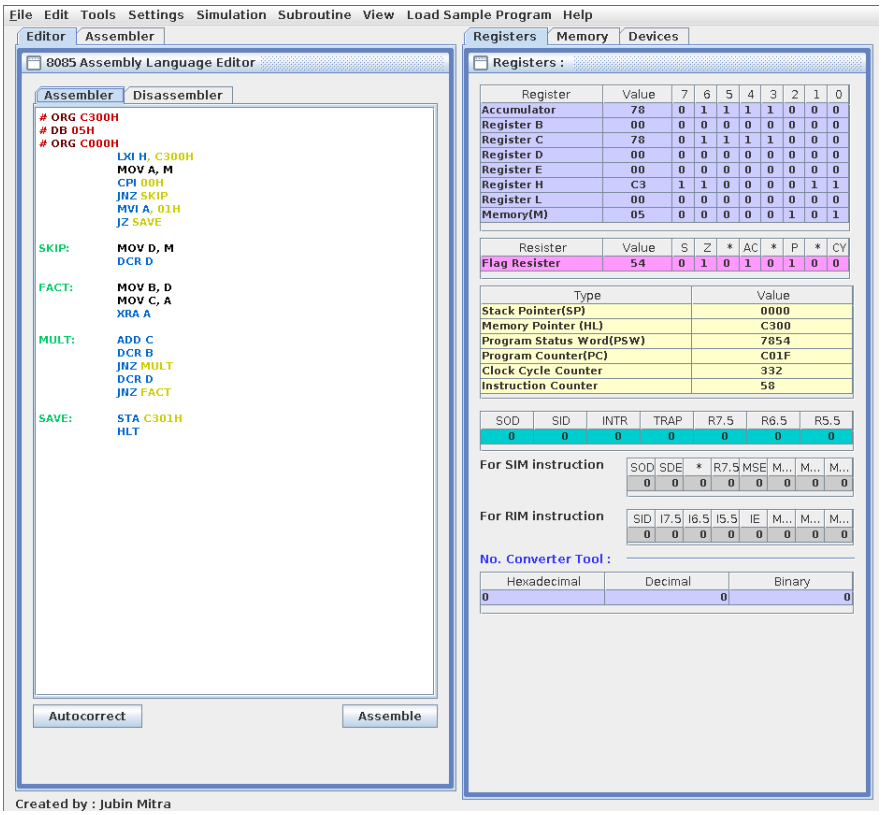


Figure 1: factorial

4 Conclusion:

Input: $C300H = 05H$
Output: $C301H = 78H$

Hence the program for factorial given in section 2 works as expected for 8085 microprocessor.