



NAME: MOMNA KHURRAM QURESHI

SAP_ID: 55430

LAB 10: COMPUTER ARCHITECTURE

SUBMITTED TO: MA'AM AYESHA

TASK 1

The screenshot displays a simulator window with a menu bar (File, Edit, Modify, Execute, Help) and a toolbar. The interface is divided into several panels:

- Registers Panel:** A table showing the state of various registers.
- Assembly Code Panel:** A list of instructions with line numbers.
- Memory Panel:** A table showing memory addresses and their corresponding data.
- Execution Log:** A text area at the bottom showing the execution process.

Registers Table:

Name	Width	Data
AC	16	0007
SP	12	001
DR	16	0000
E	1	0
I	1	0
IR	16	E001
PC	12	005
S	1	1

Assembly Code:

```
1 START:
2 INP
3 STA NUM
4 LDA NUM
5 OUT
6 HLT
7 NUM: .data 1 0
```

Memory Table (MAIN):

Addr	Data
000	F800
001	6005
002	3005
003	F400
004	E001
005	0007
006	0000
007	0000
008	0000
009	0000
00A	0000
00B	0000
00C	0000
00D	0000
00E	0000
00F	0000
010	0000

Execution Log:

```
EXECUTING...
Enter inputs, the first of which must be an Integer: 7
Output: 7
EXECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]
```