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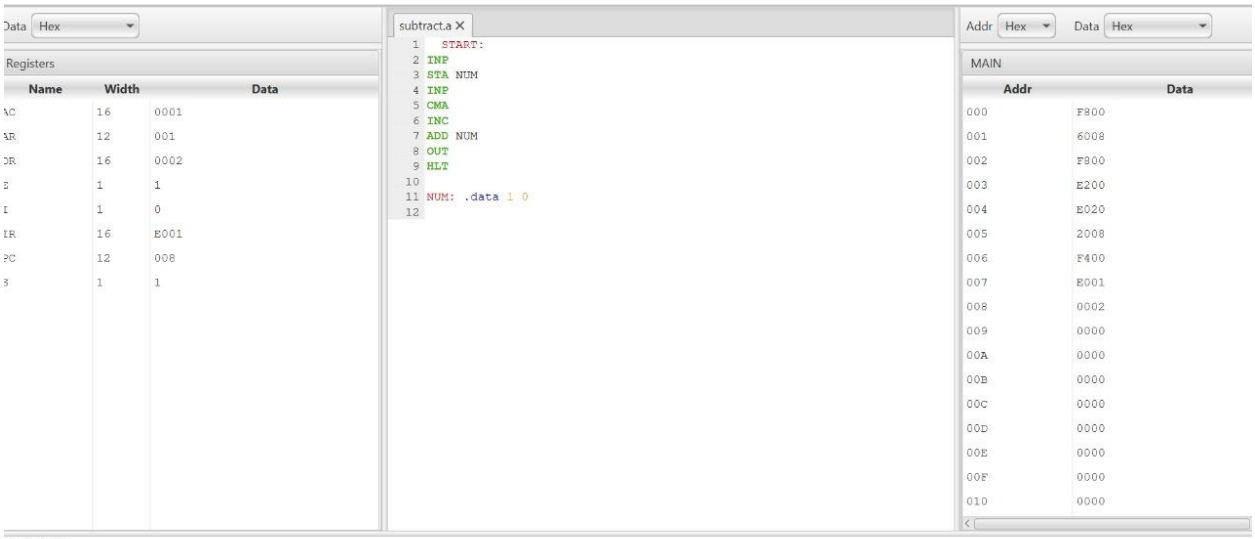
LAB 8: COMPUTER ARCHITECTURE

SUBMITTED TO : Ma'am Ayesha

CLASS WORK



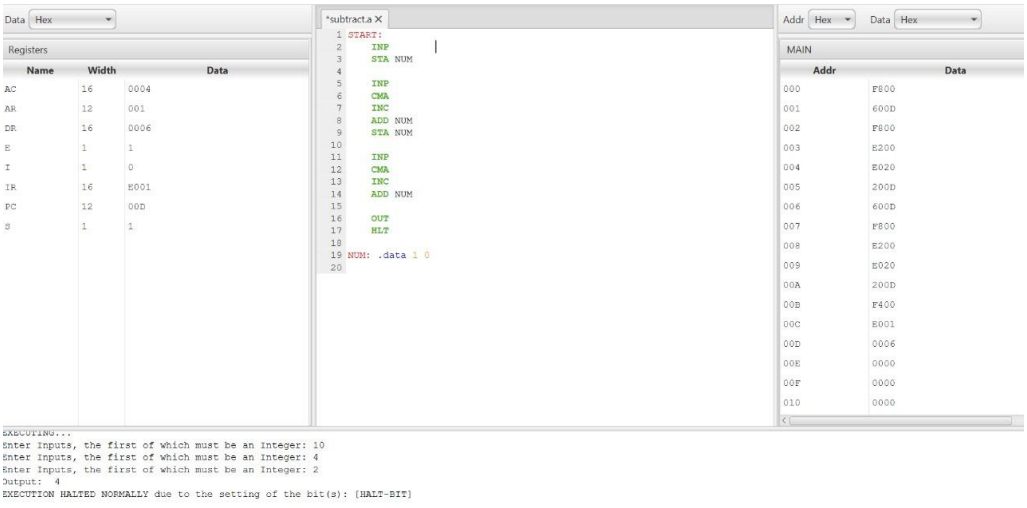
```
Data Hex
Registers
Name  Width  Data
AC    16     0001
AR    12     001
DR    16     0002
E     1      1
I     1      0
IR    16     E001
PC    12     008
S     1      1
```

```
subtract.a
1  START:
2  INP
3  STA NUM
4  INP
5  CMA
6  INC
7  ADD NUM
8  OUT
9  HLT
10
11 NUM: .data 1 0
12
```

```
Addr Hex  Data Hex
MAIN
Addr  Data
000   F800
001   6008
002   F800
003   E200
004   E020
005   2008
006   F400
007   E001
008   0002
009   0000
00A   0000
00B   0000
00C   0000
00D   0000
00E   0000
00F   0000
010   0000
```

```
XECUTING...
nter Inputs, the first of which must be an Integer: 2
nter Inputs, the first of which must be an Integer: 1
utput:  1
XECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]
```

LAB TASK1



```
Data Hex
Registers
Name  Width  Data
AC    16     0004
AR    12     001
DR    16     0006
E     1      1
I     1      0
IR    16     E001
PC    12     00D
S     1      1
```

```
*subtract.a
1  START:
2      INP
3      STA NUM
4
5      INP
6      CMA
7      INC
8      ADD NUM
9      STA NUM
10
11     INP
12     CMA
13     INC
14     ADD NUM
15
16     OUT
17     HLT
18
19 NUM: .data 1 0
20
```

```
Addr Hex  Data Hex
MAIN
Addr  Data
000   F800
001   600D
002   F800
003   E200
004   E020
005   200D
006   600D
007   F800
008   E200
009   E020
00A   200D
00B   F400
00C   E001
00D   0006
00E   0000
00F   0000
010   0000
```

```
EXECUTING...
Enter Inputs, the first of which must be an Integer: 10
Enter Inputs, the first of which must be an Integer: 4
Enter Inputs, the first of which must be an Integer: 2
Output:  4
EXECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]
```

LAB TASK2

LAB TASK3