

CSA Lab Assingnment

Harsh Bamotra

AC-1216

Q. Simulate the machine for the following indirect memory refrence instruction with I=1 and address part stores 070. The instruction to be stored at address 011 in RAM . Initialize The memory word at address 070 with the operand C8F3 and AC with B158 . Determine the contents of AC , DR , PC , AR and IR in hexadecimal after the execution.

- 1. AND_I**
- 2. ADD_I**
- 3. LDA_I**
- 4. STA_I**
- 5. BUN_I**
- 6. BSA_I**
- 7. ISZ_I**

1. AND I

Text

AND_I

HLT

Memory data

Add	Data
11	1050
12	E001
50	70
70	C8F3

Register data before execution

Name	Data
AC	B158
AR	0
DR	0
E	0
IR	0
PC	11

Register data after execution [HALT]

Name	Data
AC	8050
AR	1
DR	C8F3
E	0
IR	E001
PC	13

2. ADD I

Text

ADD_I

HLT

Memory data

Add	Data
11	3050
12	E001
50	70
70	C8F3

Register data before execution

Name	Data
AC	B158
AR	0
DR	0
E	0
IR	0
PC	11

Register data after execution [HALT]

Name	Data
AC	7A4B
AR	1
DR	C8F3
E	1
IR	E001
PC	13

3. LDA I

Text

LDA_I

HLT

Memory data

Add	Data
11	5050
12	E001
50	70
70	C8F3

Register data before execution

Name	Data
AC	B158
AR	0
DR	0
E	0
IR	0
PC	11

Register data after execution [HALT]

Name	Data
AC	C8F3
AR	1
DR	C8F3
E	0
IR	E001
PC	13

4. STA I

Text

STA_I

HLT

Memory data

Add	Data
11	7050
12	E001
50	70
70	C8F3

Register data before execution

Name	Data
AC	B158
AR	0
DR	0
E	0
IR	0
PC	11

Register data after execution [HALT]

Name	Data
AC	B158
AR	1
DR	C8F3
E	0
IR	E001
PC	13

5. BUN I

Text

BUN_I

HLT

Memory data

Add	Data
11	1050
12	E001
50	70
70	C8F3

Register data before execution

Name	Data
AC	B158
AR	0
DR	0
E	0
IR	0
PC	11

Register data after execution [HALT]

Name	Data
AC	B158
AR	1
DR	C8F3
E	0
IR	E001
PC	13

6. BSA I

Text

BSA_I

HLT

Memory data

Add	Data
11	1050
12	E001
50	70
70	C8F3

Register data before execution

Name	Data
AC	B158
AR	0
DR	0
E	0
IR	0
PC	11

Register data after execution [HALT]

Name	Data
AC	B158
AR	1
DR	C8F3
E	0
IR	E001
PC	13

7. ISZ I

Text

ISZ_I

HLT

Memory data

Add	Data
11	1050
12	E001
50	70
70	C8F3

Register data before execution

Name	Data
AC	B158
AR	0
DR	0
E	0
IR	0
PC	11

REGISTER DATA After Execution [HALT]

Name	Data
AC	B158
AR	1
DR	C8F3
E	0
IR	E001
PC	13