* Quiz 1 20/2/2020
* In the Hypothetical Machine the contents of memory was as shown. And PC contents is 300. Show the contents of memory and PC , AC , IR after execute three instructions (three fetch cycle and there execute cycle)



* Show the contents of PC , AC and IR and memory after the execution of each instruction of the following program on the Hypothetical Machine:
* 300 LOAD 550
* 301 ADD 551
* 302 STORE 600
* Where the contents of memory at 550 is 3 and at 551 is 4.
* The following figure provide the main characteristics of Hypothetical Machine.
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The hypothetical machine also has two I/O instructions:

0011 = load AC from I/O

0111 =store AC to I/O

In these case, the 12-bi address identifies a particular I/O device. Show the program execution for the following program:

1. Load AC from device 5.

2. Add contents of memory location 940.

3. Store AC to device 6.

Assume that the next value retrieved from device 5 is 3 and that location 940 contains a value of 2.

* **Answer**
* First Instruction:
* • Fetching: AC: 0000 IR: 1940 PC: 300
* 940: 0003 941: 0002
* • Execution: AC: 0003 IR: 1940 PC: 300
* 940: 0003 941: 0002
* Second Instruction:
* • Fetching: AC: 0003 IR: 5941 PC: 301
* 940: 0003 941: 0002
* • Execution: AC: 0005 IR: 5941 PC: 301
* 940: 0003 941: 0002
* Third Instruction:
* • Fetching: AC: 0005 IR: 2941 PC: 302
* 940: 0003 941: 0002
* • Execution: Ac: 0000 IR: 2941 PC: 302
* 940: 0003 941: 0005
* First Instruction:
* • Fetching: AC: 0000 IR: 1550 PC: 300
* 550: 0003 551: 0004 600: 0000
* • Execution: AC: 0003 IR: 1550 PC: 300
* 550: 0003 551: 0004 600: 0000
* Second Instruction: • Fetching: AC: 0003 IR: 5551 PC: 301 550: 0003 551: 0004 600: 0000
* • Execution: AC: 0007 IR: 5551 PC: 301 550: 0003 551: 0004 600: 0000
* Third Instruction: • Fetching: AC: 0007 IR: 2600 PC: 302 550: 0003 551: 0004 600: 0000
* • Execution: AC: 0000 IR: 2600 PC: 302
* 550: 0003 551: 0004 600: 0007
* **Memory**

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| * 3005 | * 300 |
| * 5940 | * 301 |
| * 7006 | * 302 |

* After executing the three instructions:
* device 5: 0003
* 940: 2
* device 6: 0005