**Computer Organization and Assembly Language**

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| **Lab 4** | |
| **Topic** | 1. Mov instruction 2. Add,sub 3. Memory Addressing modes 4. Flag register |

**PART 2**

Q3: Write short programs such that sets the value of respective flags. You can use variables, registers with add or sub instructions to get these values of register. NOTE: if multiple flags are ‘1’ then they should be set to ‘1’ at same instruction not one by one.

|  |
| --- |
| mov al,0xF1  add al,0x40 |

|  |  |
| --- | --- |
| **CF** | **1** |
| **SF** | **0** |
| **ZF** | **0** |
| **OF** | **0** |
| **AF** | **0** |
| **PF** | **0** |

|  |
| --- |
| mov al,0xC0  add al,0x40  It is not possible that ZF=1 and PF=0 so, PF will be 1 when ZF is 1. |

|  |  |
| --- | --- |
| **CF** | **1** |
| **SF** | **0** |
| **ZF** | **1** |
| **OF** | **0** |
| **AF** | **0** |
| **PF** | **0** |

|  |
| --- |
| mov al,0x41  sub al,0x80 |

|  |  |
| --- | --- |
| **CF** | **1** |
| **SF** | **1** |
| **ZF** | **0** |
| **OF** | **1** |
| **AF** | **0** |
| **PF** | **0** |

|  |
| --- |
| mov al,0xC0  add al,0xC0 |

|  |  |
| --- | --- |
| **CF** | **1** |
| **SF** | **1** |
| **ZF** | **0** |
| **OF** | **0** |
| **AF** | **0** |
| **PF** | **0** |