**2016 Spring EEE212 Microprocessors Quiz 1 – Section 3 (13:40 – 14:05)**

For the following 8051 program, determine the contents of the RAM given below after the execution of the NOP (No Operation Instruction) assuming that the system is just powered up, i.e., register bank 0 is active and SP=07h. Note that empty bit-or byte locations will be assumed to be zero at the beginning. **Note: The first table will have a hex number in each box if modified and the second one will have a 1 if modified. Byte table (60/100 pts) Bit Table (40/100 pts)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| ORG 0H  MOV R4,#10H  MOV R5,#10  ACALL DELAY  MOV R2,#56H  SETB 10  SETB 42h  SETB PSW.4  MOV R0,#90H  MOV R1,#78H  MOV R4,#56H  MOV A,16  PUSH 4  PUSH 40  LCALL DELAY  PUSH 1  POP 20H  POP 29  POP 12H  MOV R0,#21h  MOV @R0,#0FFh  Bit location 07h  CPL 120  MOV C,120  MOV 0,C  CPL 10  **NOP**  HERE: SJMP HERE  ORG 0555h  DELAY: PUSH ACC  MOV 5,#1  BACK5: MOV 4,#1  BACK4: NOP  NOP  NOP  CPL 10  DJNZ 4,BACK4  DJNZ 5,BACK5  POP ACC  RET  END | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **00** |  |  |  |  |  |  |  |  | | **08** |  |  |  |  |  |  |  |  | | **10** |  |  |  |  |  |  |  |  | | **18** |  |  |  |  |  |  |  |  | | **20** |  |  |  |  |  |  |  |  | | **28** |  |  |  |  |  |  |  |  | | **30** |  |  |  |  |  |  |  |  | | **38** |  |  |  |  |  |  |  |  | | **40** |  |  |  |  |  |  |  |  | | **48** |  |  |  |  |  |  |  |  | | **50** |  |  |  |  |  |  |  |  | | **58** |  |  |  |  |  |  |  |  | | **60** |  |  |  |  |  |  |  |  | | **68** |  |  |  |  |  |  |  |  | | **70** |  |  |  |  |  |  |  |  | | **78** |  |  |  |  |  |  |  |  |   Byte  Address (hex)  Byte Map:  RAM in the 8051 (In Hex)  Bit location 00h  Bit address (hex)   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  | 10 | 10h |  | 56h |  |  | **00** | |  |  |  |  |  | 1 |  |  | **08** | |  |  |  |  |  |  |  |  | **10** | |  |  |  |  |  |  |  |  | **18** | |  |  |  |  |  |  |  |  | **20** | |  |  |  |  |  |  |  |  | **28** | |  |  |  |  |  |  |  |  | **30** | |  |  |  |  |  |  |  |  | **38** | |  |  |  |  |  | 1 |  |  | **40** | |  |  |  |  |  |  |  |  | **48** | |  |  |  |  |  |  |  |  | **50** | |  |  |  |  |  |  |  |  | **58** | |  |  |  |  |  |  |  |  | **60** | |  |  |  |  |  |  |  |  | **68** | |  |  |  |  |  |  |  |  | **70** | |  |  |  |  |  |  |  |  | **78** | |