CMPE283 – Virtualization
Quiz 1

Due 20 Mar 2017 before midnight. No late submissions accepted.

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Consider the following sequence of guest VM instructions:

```
701 <mystery>:
    701: 55                           push    %rbp
    702: 41 54                        push    %r12
    704: 41 55                        push    %r13
    706: 49 89 fd                     mov     %rdi,%r13
    709: 65 48 8b 0c 25 08 00 00      mov     %gs:0x8,%rcx
    710: 4d 85 ed                     test    %r13,%r13
    713: 0f 22 d8                     mov     %rax,%cr3
    716: e7 32                        out     %eax,$0x32
    718: 0d 00 08 00 00               or      $0x800,%eax
    71d: 0f 30                        wrmsr
```

For each instruction, state if an exit is possible for any reason, and give the type of exit and reason if so. You may assume that the page containing the mystery function (eg, the page containing addresses 0x0 – 0x1000) is present in memory (with all page tables properly configured). The mystery function is running in CPL0. (1 point awarded for each correct instruction)

Instruction	Exit possible (Y/N)?	If exit possible, which exit, and under what circumstances would exit occur?
701	Yes	Exit 0, exception due to page fault or GP violation
702	Yes	Exit 0, exception due to page fault or GP violation
704	Yes	Exit 0, exception due to page fault or GP violation
706	No	
709	Yes	Exit 0, exception due to page fault or GP violation
710	No	
713	Yes	Exit 28, CR3 - target count = 0,
716	Yes	Exit 30, Unconditional I/O Exit Control = 1
718	No	
71d	Yes	Exit 32, Control bit 0

('use MSR bitmaps" VM-execution
                        Control is 0)