

16.317: Microprocessor Systems Design I

Fall 2013

Lecture 21: Key Questions

October 25, 2013

1. What are the major differences between real mode and protected mode?
2. What are the benefits offered by protected mode operation on the 80386?

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5. Explain the general memory address calculation used in protected mode.

6. Explain the purpose and format of selectors.

7. Describe the descriptor tables used in the x86 architecture.

8. Describe the global descriptor table register (GDTR).

9. GDTR questions:

a. What is the GDT base address and limit if

- GDTR = 123400000FFH?

- GDTR = FEDC1AB20007H?

- GDTR = AABB11221F0FH?

b. What is the size of the GDT and number of descriptors it holds in each of the examples above?

c. What is the maximum GDT size and number of descriptors?

10. Show how selectors and the GDTR are used to access global memory.