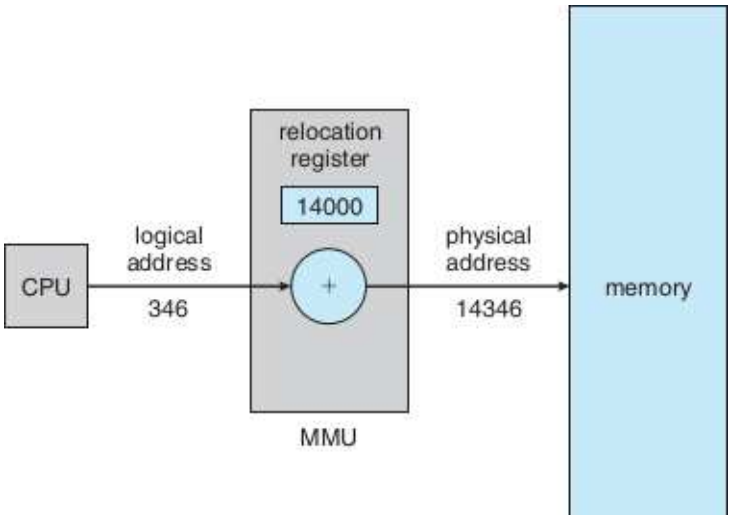
Problem Set 17

CS 311

Due Mar. 31, 2014

Due at the beginning of class in hardcopy.
Sections 8.1–4

1. The figure below illustrates dynamic relocation using a relocation register. Assuming that contiguous memory allocation is being used, if two processes dereference pointers containing the same address value, will they reference the same memory object? Explain.



2. Consider the following process for generating binaries. A compiler is used to generate the object code for individual modules, and a linkage editor is used to combine multiple object modules into a single program binary. How does the linkage editor change the binding of instructions and data to memory addresses? What information needs to be passed from the compiler to the linkage editor to facilitate the memory-binding tasks of the linkage editor?

3. Consider the following segment table:

Segment	Base	Length
0	219	600
1	2300	14
2	90	100
3	1327	580
4	1952	96

What are the physical addresses for the following logical addresses?

(a) 0,430
(b) 1,10
(c) 2,500
(d) 3,400
(e) 4,112