Class Activity : Exercise 8.6

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8.6

a). Since a virtual address is the offset in the local memory space of the target process, the virtual page number can be calculated by dividing the page size by the virtual address, and the remainder is the relative offset in the virtual page. Then system can use the virtual page number to search in the process's page table and get the page frame number of the physical memory space. Therefore, the physical address can be get by the physical frame number times the page size and plus the relative offset.

b). 1052

virtual page number = 1052 / 1024 = 1
relative offset = 1052 % 1024 = 28
physical page frame number = 7
phy address = 1024 x 7 + 28 = 7196

2221

virtual page number = 2221 / 1024 = 2
relative offset = 2221 % 1024 = 173
physical page frame number = None
phy address = None

5499

virtual page number = 5499 / 1024 = 5
relative offset = 5499 % 1024 = 379
physical page frame number = 0
phy address = 1024 x 0 + 379 = 379