COM S 352
Assignment 7
Due: March 30, 2018

8.13 Compare the memory organization schemes of contiguous memory allocation, pure segmentation, and pure paging with respect to the following issues:
a. External fragmentation
b. Internal fragmentation
c. Ability to share code across processes

8.20 Assuming a 1-KB page size, what are the page numbers and offsets for the following address references (provided as decimal numbers):
a. 3085
b. 42095
c. 215201
d. 650000

8.28 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

8.29 What is the purpose of paging the page tables?

9.3 Consider the page table shown in Figure 9.30 for a system with 12-bit virtual and physical addresses and with 256-byte pages. The list of free page frames is *D*, *E*, *F* (that is, *D* is at the head of the list, *E* is second, and *F* is last).

Page	Page Frame
0	–
1	2
2	C
3	A
4	–
5	4
6	3
7	–
8	B
9	0

Figure 9.30 Page table for Exercise 9.3.

Convert the following virtual addresses to their equivalent physical addresses in hexadecimal. All numbers are given in hexadecimal. (A dash for a page frame indicates that the page is not in memory.)

- 9EF
- 111
- 700
- 0FF

9.8 Consider the following page reference string:
1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6.
How many page faults would occur for the following replacement algorithms, assuming one, two, three, four, five, six, and seven frames?Remember that all frames are initially empty, so your first unique pages will cost one fault each.

- LRU replacement
- FIFO replacement
- Optimal replacement