Worksheet 09 _Memory 3

1. A system uses pure segmentation (no paging). A segment table contains the following segment sizes and starting physical addresses.

	Size	Address
...	...	...
5	830	1640
6	779	1130
7	981	620

Translate each of the following logical addresses (LA) into physical addresses (PA) or enter "illegal" if the LA is not within the segment.

LA = (6, 635)
LA = (7, 1053)

2. A system uses segmentation with paging. Page size is 512 words. Each segment table entry s contains the size and the frame numbers of the page table (PT) of segment s.

	Size	Frame number of PT
...	...	...
7	...	1
…	...	...
9	...	2

For each segment, determine the starting address of PT

For 7 =

For 9 =

3. A system uses segmentation with paging. Page size is 1024 words. A segment table contains the following segment sizes.

	Size	
...	...	...
3	6080	…
…	...	...
5	2700	..

For each segment, determine:

(a) the number of pages occupied by the segment

(b) the largest valid LA = (s, p, w)

4. A memory system employs both paging and segmentation:

   - The logical address size is 32 bits.
   - Page size is 512 words.
   - The segment table contains 2^{13} entries.

   (a) What is the size of offset (w)?
   (b) What is the maximum umber of pages per segment?