Exercise 4

- Write a windows program sum_pid that will take an integer command line argument n, spawn n threads that will each generate a random number between -100 and 100, print out their random number, and then compute and print out the sum of random numbers.

  Extra Credit:(Cannot have extra credit for both EX3 and EX4) In a multi-processor environment, it would be most efficient to do a fan-in based on a thread index to get the sum of the random numbers. See the next slide for a diagram of a fan-in. Implement that method of computing the sum.

Fan In Loop

1	2	3	4	-1	1	-1	1	2	2	2	4	3	2	1
3	2	7	4	0	1	0	1	4	2	4	2	7	3	3	1
10	2	7	4	0	1	0	1	8	2	4	2	10	3	3	1
10	2	7	4	0	1	0	1	18	2	4	2	10	3	3	1
28	2	7	4	0	1	0	1	18	2	4	2	10	3	3	1

Fan Out Loop

28	2	7	4	0	1	0	1	18	2	4	2	10	3	3	1

28	2	7	4	0	1	0	1	28	2	4	2	10	3	3	1

28	2	7	4	28	1	0	1	28	2	4	2	28	3	3	1

28	2	28	4	28	1	28	1	28	2	28	2	28	3	28	1

28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28