

$$X=0; X + (pass-1) < numE$$

$$X = X + passnum$$

$$numE = 9$$

0 1 2 3 4 5 6 7 8

applies here too

8 place is sorted

sort w/ numPass = 4 Low = 4 mid = 7 h = 9
or w/ numPass = 8 Low = 0 mid = 7 h = 9

$$numE = 10$$

0 1 2 3 4 5 6 7 8 9

8 & 9 places are sorted

Sort These w/ numPass = 2
Low = 8 mid = 9 high = 10
then w/ numPass = 4 L = 4 m = 7 h = 10
then w/ numPass = 8 L = 0 m = 7 h = 10
0 2 4 6 8 10
4 0 4 8

$$numE = 11$$

0 1 2 3 4 5 6 7 8 9 10

8 & 9 sorted
10 sorted
but cannot sort w/ numPass = 8

$$numE = 12$$

0 1 2 3 4 5 6 7 8 9 10 11

Sort These w/ numPass = 8
L = 0 m = 7 h = 11

Test case

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

sort numPass = 4 L = 18 m = 19 h = 20
8 L = 8 m = 15 h = 20
16 L = 0 m = 15 h = 20