

Pseudocode:

get_filename()

 GET filename

 RETURN filename

read_file(filename)

 READ filename into the variable 'list'

 RETURN list

sort_list(list)

 n = len(list)

 FOR i \leftarrow 0 ... n - 1 #1

 FOR j \leftarrow 0 ... n - i - 1 #2

 IF list[j] > list[j+1]

 list[j], list[j+1] = list[j+1], list[j] #3

 PUT list

main()

 filename = get_filename()

 list = read_file(filename)

 sort_list(list)

Efficiency: $O(n^2)$

TRACE:

TEST CASE : [31, 72, 10, 32, 18, 95, 25, 50]

	i	j	n	list[j]	list[j+1]
1	0	0	8	31	72
2	0	0	8	31	72
3	0	0	8	31	72
1	1	6	8	50	95
2	1	6	8	50	95
3	1	6	8	50	95
1	2	5	8	50	72
2	2	5	8	50	72
3	2	5	8	50	72
1	3	4	8	32	50
2	3	4	8	32	50
3	3	4	8	32	50
1	4	3	8	31	32
2	4	3	8	31	32
3	4	3	8	31	32
1	5	2	8	25	31
2	5	2	8	25	31
3	5	2	8	25	31
1	6	1	8	18	25
2	6	1	8	18	25
3	6	1	8	18	25