**­­­­­­­­Shell Sort Output**

Data items in given original order:

22 92 18 42 4 68 87 35 13 49 72 7 29 39 51

Please enter your choice (1 - 4, or 5 to quit)

for simple sort routine to run.

\*\*\* Enter 1 to run bubble sort.

\*\*\* Enter 2 to run insertion sort.

\*\*\* Enter 3 to run selection sort.

\*\*\* Enter 4 to run shell sort.

your choice: 4

Called Shell Sort

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

shell sort -- incr = 0, span = 5, outer for loop. \*\*\*

shell sort j = 5, x[j] = 68, second for loop. \*\*\*

\*\* shell sort after inner loop: y : 68, k : 0, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 92 18 42 4 68 87 35 13 49 72 7 29 39 51

shell sort j = 6, x[j] = 87, second for loop. \*\*\*

shell sort k = 1, j: 6, span: 5, y : 87, x[k]: 92, x[k + span]: 87 inner for loop

shell sort -- before the end of inner loop the array:

22 92 18 42 4 68 92 35 13 49 72 7 29 39 51

\*\* shell sort after inner loop: y : 87, k : -4, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 87 18 42 4 68 92 35 13 49 72 7 29 39 51

shell sort j = 7, x[j] = 35, second for loop. \*\*\*

\*\* shell sort after inner loop: y : 35, k : 2, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 87 18 42 4 68 92 35 13 49 72 7 29 39 51

shell sort j = 8, x[j] = 13, second for loop. \*\*\*

shell sort k = 3, j: 8, span: 5, y : 13, x[k]: 42, x[k + span]: 13 inner for loop

shell sort -- before the end of inner loop the array:

22 87 18 42 4 68 92 35 42 49 72 7 29 39 51

\*\* shell sort after inner loop: y : 13, k : -2, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 87 18 13 4 68 92 35 42 49 72 7 29 39 51

shell sort j = 9, x[j] = 49, second for loop. \*\*\*

\*\* shell sort after inner loop: y : 49, k : 4, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 87 18 13 4 68 92 35 42 49 72 7 29 39 51

shell sort j = 10, x[j] = 72, second for loop. \*\*\*

\*\* shell sort after inner loop: y : 72, k : 5, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 87 18 13 4 68 92 35 42 49 72 7 29 39 51

shell sort j = 11, x[j] = 7, second for loop. \*\*\*

shell sort k = 6, j: 11, span: 5, y : 7, x[k]: 92, x[k + span]: 7 inner for loop

shell sort -- before the end of inner loop the array:

22 87 18 13 4 68 92 35 42 49 72 92 29 39 51

shell sort k = 1, j: 11, span: 5, y : 7, x[k]: 87, x[k + span]: 92 inner for loop

shell sort -- before the end of inner loop the array:

22 87 18 13 4 68 87 35 42 49 72 92 29 39 51

\*\* shell sort after inner loop: y : 7, k : -4, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 7 18 13 4 68 87 35 42 49 72 92 29 39 51

shell sort j = 12, x[j] = 29, second for loop. \*\*\*

shell sort k = 7, j: 12, span: 5, y : 29, x[k]: 35, x[k + span]: 29 inner for loop

shell sort -- before the end of inner loop the array:

22 7 18 13 4 68 87 35 42 49 72 92 35 39 51

\*\* shell sort after inner loop: y : 29, k : 2, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 7 18 13 4 68 87 29 42 49 72 92 35 39 51

shell sort j = 13, x[j] = 39, second for loop. \*\*\*

shell sort k = 8, j: 13, span: 5, y : 39, x[k]: 42, x[k + span]: 39 inner for loop

shell sort -- before the end of inner loop the array:

22 7 18 13 4 68 87 29 42 49 72 92 35 42 51

\*\* shell sort after inner loop: y : 39, k : 3, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 7 18 13 4 68 87 29 39 49 72 92 35 42 51

shell sort j = 14, x[j] = 51, second for loop. \*\*\*

\*\* shell sort after inner loop: y : 51, k : 9, span : 5 \*\*\*\*

shell sort -- before the end of second loop the array:

22 7 18 13 4 68 87 29 39 49 72 92 35 42 51

Shell sort pass with Increment: 0, span: 5

22 7 18 13 4 68 87 29 39 49 72 92 35 42 51