**LINKED LIST**

**Sort**

**Parameters – Boolean (alphabetical), Boolean (ascending)**

**Return – nothing**

Decide whether to sort alphabetical/numerical, and ascending/descending based on the two Boolean parameters

After deciding what way to sort, use a bubble sort method

Compare two nodes, decide whether they need to be swapped

If they do, swap their positions (not just the contents)

Repeat until entire list is sorted

**MAIN**

**Calculate Area**

**Parameters – 3D array (coordinates)**

**Return – double (area)**

Sum = (x[1] + x[0]) \* (y[1] – y[0])

While (x[i] != x[0] and y[i] != y[0])

Sum += (x[i+1] + x[i]) \* (y[i+1] – y[1])

Return .5 \* abs(sum)

**Get Coordinates**

**Parameters – 3D array (coordinates), filestream (input), row index**

**Returns – nothing**

While not end of line

Read x-coordinate into array ([row][col][0])

Read y-coordinate into array ([row][col][1])

Increment col

**Main**

Open input files

Open output files

If pilot routes file opens properly

While not EOF

Read pilot name

Get coordinates

Calculate area

Place name and area into LinkedList Node

If commands file opens properly

While not EOF

Read command

Perform either sort or search command

Output result to file

Write entire LinkedList to output file

Close files