Name:	Name:
Name:	Name:

## Fibonacci Heaps

Draw the resulting Fibonacci Heap after the Decrease-Key operation is performed to reduce the key 9 to 6. The blue nodes (5 and 8) have already been marked as losers. Note, this will take several steps, and you can use the space around the code to work out your intermediate steps.

Initial Fibonacci Heap	Final Fibonacci Heap
List of roots: 1 4	List of roots:
5	
9	
<b>FUNCTION</b> FibPQDecreaseKey(pq, value	, newKey)
node $= pq.100kuplable[value]$	
parent = node.parent	
<pre>IF parent != NONE &amp;&amp; node.key &lt;</pre>	parent.key
LOOP	
parent.children.remove(nod	le)
pq.heaps.append(node)	
<pre>IF node.key &lt; pq.minNode.k</pre>	ey <b>THEN</b> pq.minNode = node
<pre>node.isLoser = FALSE</pre>	
BREAK IF parent == NONE	parent.isLoser == FALSE
<pre>parent = node.parent, node</pre>	= parent
<b>IF</b> parent != NONE	
parent.isLoser = TRUE	