# Recursive Strategy: Print a list of integers

| Problem | Print a list of integers in order, e.g. [ 3, 14, 28, 7, 6 ] |
|---|---|
| **What is the smallest version of this problem?** *(leads to base case)* | If the array consists of one element, print the only element (which happens to be the $0^{th}$ element) |
| **What recursion strategy should I use:**<br><br>• **Forwards recursion** *(each recursive step gets larger; the base case is based on # of iterations)*<br><br>• **Backwards recursion** ← classical *(each recursive step gets smaller until the base case is reached)* | Backwards recursion |
| **For recursive cases, should I:**<br><br>• **Process first and recur last?** *(process as I move up the recursive stack)*<br><br>• **Recur first and process last?** *(process as I move down the recursive stack)* | Process as I move **up** the stack. |
| **What should each recursive step do?** | Print the first integer of the Array |
| **For backwards recursion solutions:**<br>**How should the problem be reduced on each step?** | Send progressively smaller Arrays on each iteration where each Array is missing its first element.* |
| **For forwards recursion solutions:**<br>**How should I keep track of the running answer?** | N/A |

*Instead of sending smaller and smaller arrays each time, could you also send the ***same array*** to each step as well as the size of the smaller virtual array (which would decrement by one on each recursion)?

(The "virtual array" would consist of the last x elements, where x = the progressively reducing size.)