My Sorting Algorithm Utilizing Only Two Stacks

- ***START***
- Check if INPUT is empty.
  - Check if STACK1 is empty.
    - Check if STACK2 is empty.
      - ***DONE now VERIFY***
    - OUTPUT from STACK2 until empty
      - ***DONE now VERIFY***
  - If STACK2 is empty, move from STACK1
    - ***GOTO START***
  - If STACK2.TOP is greater than STACK1.TOP, move STACK1.TOP to STACK2.TOP
    - ***GOTO START***
  - If STACK2.TOP is less than STACK1.TOP, OUTPUT STACK2.TOP
    - ***GOTO START***
- If the current minimum value (MIN) is the next INPUT, use 3 steps to OUTPUT MIN
    - ***GOTO START***
- If STACK1 is empty, move INPUT to STACK1.TOP
    - ***GOTO START***
- If STACK2 is not empty *AND* STACK2.TOP==STACK1.TOP+1, move STACK1.TOP to STACK2.TOP
    - ***GOTO START***
- If INPUT > STACK1.TOP:
  - If STACK2 is not empty *AND* INPUT > STACK2.TOP *AND* STACK1.TOP < STACK2.TOP, move STACK1.TOP to STACK2.TOP
    - ***GOTO START***
  - Otherwise, move INPUT to STACK1.TOP
    - ***GOTO START***
- If INPUT < STACK1.TOP:
  - If STACK2 is empty *OR* INPUT > STACK2.TOP, move INPUT to STACK1.TOP
    - ***GOTO START***
  - If INPUT < STACK2.TOP, use 2 steps to move INPUT to STACK2.TOP
    - ***GOTO START***
  - Otherwise, OUTPUT STACK2.TOP
    - ***GOTO START***

All permutation of length-5 or less can be sorted, and only five permutations of length-6 fail to be sorted by the algorithm, but are able to be sorted by hand.

These are included in the file “mySort-unsortable.xls”.