example of a multitage TM:
A TM that accepts all strings
It will create a copy of its original input string placed on tape #1 offer using tape #2 as auxiliary memory.
The copy will follow arrows a left on the tape between original string and the copy for preparation purposes.
1, 1, 1, R, 1, 1, 1, 5, L 4, 1 → 1, R, R 0, 11 → 0, 0, R, R 1, 0 → 1, 0, 5, L 4, 0 → 0, 0, R, R
\$, S, R U, U → U, U, R, L U, \$ → U, \$, S, R U, U → U, U, R, R (A)  2 \$, S, R