Answers to the exercises for chapter: Line breaking

1. A forward approach is possible because the starting point is clear: the zeroeth breakpoint is at the left margin of the first line. The breakpoint at the beginning of the last line is not fixed in that way. This means that we can not trivially solve the last stage. A forward approach to page breaking could use heuristics to flush the memory to the output final every once in a while. A backtracking approach would have to store the whole document in memory before it could start breaking.
2. Assume that at the end of the first line there will be two breakpoints, one for a stretched and one for a shrunk line. At the end of the second line there will be four possibilities, of which two (stretch/shrink and shrink/stretch) are the same, giving three breakpoints. Four feasible breakpoints at the end of the third line, et cetera.
   For short paragraphs this means that the cost will be roughly quadratic in the number of lines of the paragraph.
   After a number of lines, the breakpoints will merge: a certain breakpoint will be feasible from k stretched lines and from $k+1$ shrunk ones. From that point on, every word introduces a feasible breakpoint, so the cost is linear in the number of words to the end of the paragraph and the number of words per line.
3. *no answer given*
4. *no answer given*
5. *no answer given*