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1B) A sentence containing n words will be parsed in steps. There will always be n SHIFT transitions, to empty the buffer, n (LEFT-ARC or RIGHT-ARC) to assign each word in the sentence a parent (including the head word which has ROOT as its parent), and 1 Initial Config step at the start.

1C) The parsing mechanism described in the assignment is insufficient to generate non-projective dependency trees because the only way for it to generate dependencies is through one of the transitions LEFT-ARC or RIGHT-ARC and these transitions can only ever consider the two items at the top of the stack (two most recently added). This means it will always form a contiguous substring of the sentence when taken together with its descendants. When transitioning using LEFT-ARC or RIGHT-ARC, the resulting stack will no longer have access to the word that was marked and, so it is necessary for all dependents of that word to have been labeled before it does. However, for non-projective dependencies, this may not be the case and as such this mechanism cannot cover it.