PART2.

a) (20 pts)

   i. Formally define Turing machine that can insert and delete cells on the tape, in addition to simply overwriting existing symbols.
   ii. Does it have an equivalent computational power to standard Turing machines, or not? (i.e. does it recognize the class of recursively enumerable languages?). Justify your answer with a brief explanation: if your answer is 'Yes', discuss how you can simulate it with a standard TM, if your answer is 'No', explain why.

b) (10 points) Use nondeterministic Turing Machines to show the class of recursive languages is closed under concatenation.