CS-302 Theory of Computation
Assignment 14

Name: _____

1. Consider the following pushdown automaton

$$\big((s, a, \lambda), (s, c)\big)$$
$$\big((s, b, \lambda), (s, c)\big)$$
$$\big((s, b, \lambda), (f, \lambda)\big)$$
$$\big((f, a, c), (f, \lambda)\big)$$
$$\big((f, b, c), (f, \lambda)\big)$$

where s is the initial state and f is the final state of the PDA.

   a) Show that the string $aababaaab$ is accepted by the pushdown automaton using the table below.

State	Unread Input	Stack	Transition Used

b) Show that the string *baaabbaab* is accepted by the pushdown automaton using the table below.

State	Unread Input	Stack	Transition Used

c) Show that the strings *aabbabbaa* and *abbbabbbb* are not accepted by the pushdown automaton by giving a configuration sequence that indicates the rejection.

d) Describe the language of the pushdown automaton.