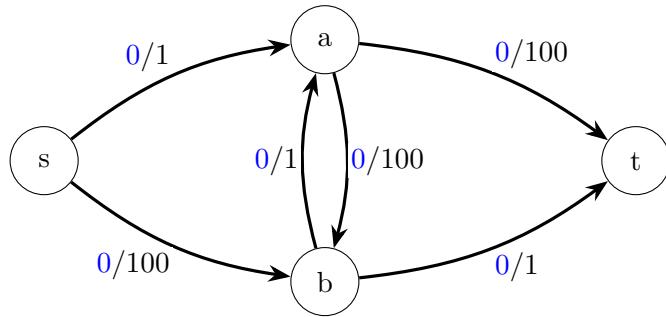


# In-Class Worksheet

CS 181 Advanced Algorithms — Spring 2026

**Instructions.** Use the push-relabel algorithm to compute a maximum flow in  $G$ . When there are ties for which vertex or edge to process, proceed alphabetically (this is just to make the example more interesting).

Flow network  $G$ :



Apply push-relabel to find the maximum flow in  $G$ . First initialize the pre-flow, then make updates using push and relabel operations. The final flow should have value 3. Use the space below to record intermediate steps in the algorithm.