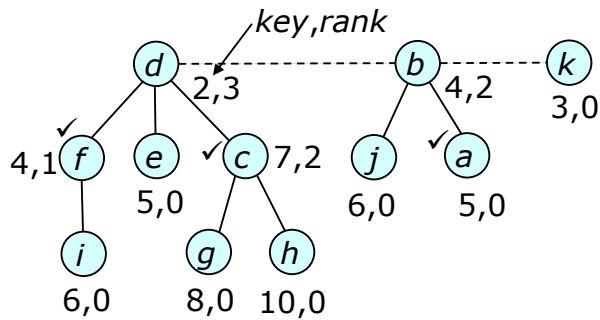1. (5 points). Suppose we do a *deletemin* on the Fibonacci heap shown below. How many
    credits are needed to satisfy the credit invariant before the operation? How many are
    needed after the operation?

Consider a Fibonacci heap with maximum rank of 8. Give a numerical upper bound on the
number of new credits required to pay for a *deletemin* operation, while maintaining the
credit invariant.

2. (5 points) The diagram below shows an instance of the min-cost flow problem, with a flow defined.
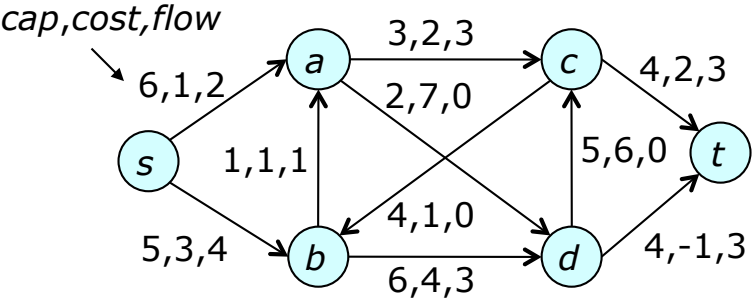
cap,cost,flow

Draw the residual graph corresponding to this flow.

Is the given flow a min-cost flow? Justify your answer using the residual graph.