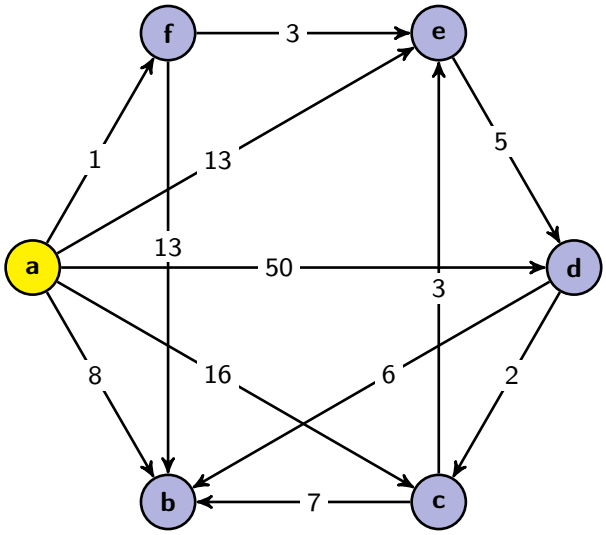
CSE 332: Data Structures and Parallelism

QuickCheck: Dijkstra's Algorithm Solutions (due Thursday, March 1)

0. Velociraptors

Consider the following graph:



Suppose that you are at **a** and you are planning your escape from a bunch of hungry velociraptors (edge weights represent the expected number of velociraptors you will meet on this path). Run Dijkstra's Algorithm to find the **lengths** of the shortest paths (fewest number of velociraptors met) from **a** to each of the other vertices. Remember to store the path variable and list the order vertices are added to the known set.

Solution:

Vertex	Known	Cost of Path	Path
a	True	0	
b	True	~~∞~~ 8	a
c	True	~~∞~~ ~~16~~ 11	~~a~~ d
d	True	~~∞~~ ~~50~~ 9	~~a~~ e
e	True	~~∞~~ ~~13~~ 4	~~a~~ f
f	True	~~∞~~ 1	a

Order added to known set: `a, f, e, b, d, c`