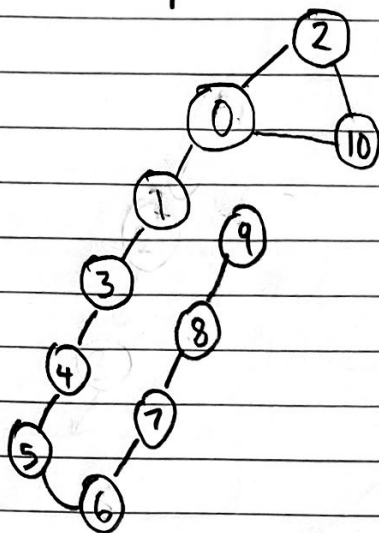


No, not necessarily, either one
can be faster

Example # 1



BFS is faster than DFS
(we start at vertex 0)

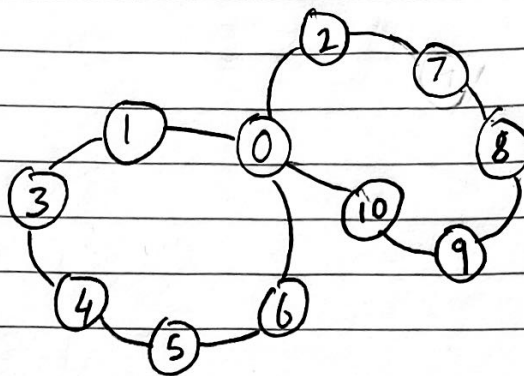
DFS travels to 11 nodes
to find a cycle:

$0 \rightarrow 1 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6 \rightarrow 7 \rightarrow 8 \rightarrow 9$
 $\rightarrow 2 \rightarrow 10 \rightarrow 0$

BFS travels to 5 nodes
to find a cycle:

$0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 10 \rightarrow 0$

Example # 2



DFS is faster than BFS
(we start at vertex 0)

DFS travels to 6 nodes to

Find a cycle: $0 \rightarrow 1 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6 \rightarrow 0$

BFS travels to 10 nodes to
find a cycle:

$0 \rightarrow 1 \rightarrow 2 \rightarrow 6 \rightarrow 10 \rightarrow 3 \rightarrow 5 \rightarrow 7 \rightarrow 9$
 $\rightarrow 4 \rightarrow 0$