Start S — D

A B

Goal J

E F

K

G H

L M

I

C

Optimal Paths: S → A or B → J

Closed list : traversal order
Open List : Nodes to explore (adjacent to current node)
↳ Given by moveGen function

DFS

Path

$\boxed{S \rightarrow A \rightarrow E \rightarrow K \rightarrow F \rightarrow J} \rightarrow B \rightarrow C \rightarrow G \rightarrow L \rightarrow M \rightarrow H \rightarrow I \rightarrow D \Big\}$ Closed List

Step	Open	current
1	A, D	S
2	E, J, B	A
3	A, J, K	E

⋮

Open Set = moveGen (current), following traversal order

BFS

Path

$\boxed{S \rightarrow A \rightarrow B \rightarrow C \rightarrow D \rightarrow E \rightarrow J} \rightarrow F \rightarrow G \rightarrow H \rightarrow I \rightarrow K \rightarrow L \rightarrow M$

Closed Set : visited nodes
Openset = moveGen (current), following traversal order
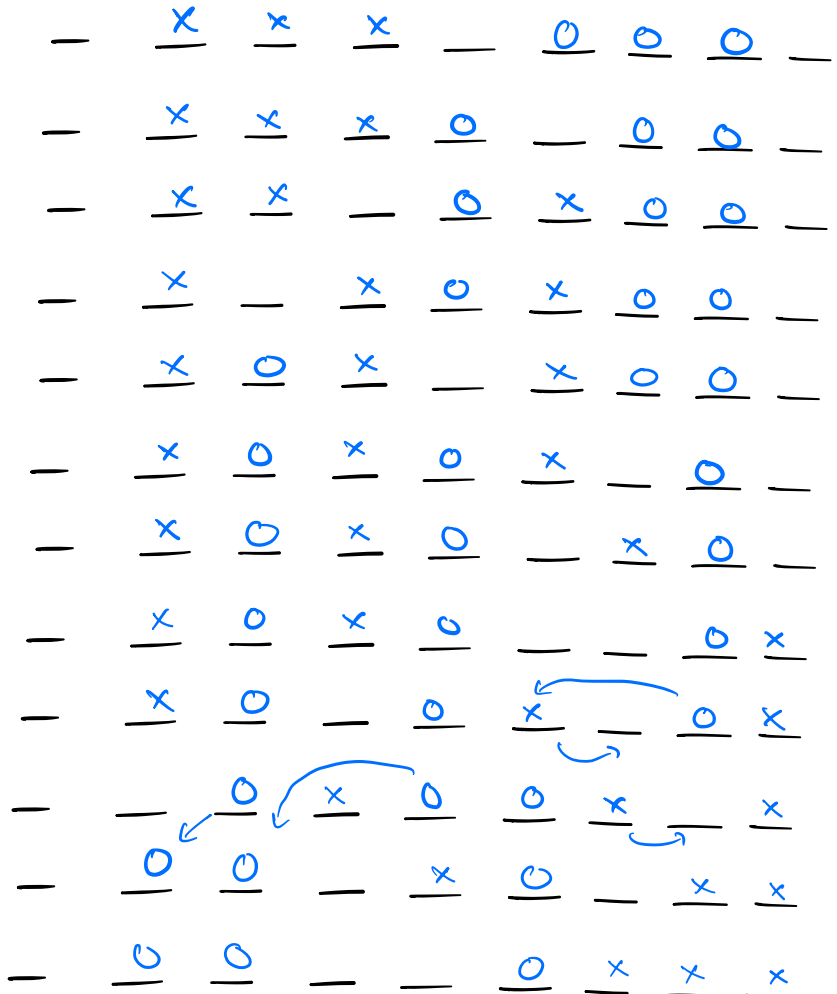
x: Westbound O: East bound

State space Graph:

9 cells, each can contain `x`, `o`, or be empty

Solution Path
for State Space
Graph

_	x	x	x	_	o	o	o	_
_	x	x	x	o	_	o	o	_
_	x	x	_	o	x	o	o	_
_	x	_	x	o	x	o	o	_
_	x	o	x	_	x	o	o	_
_	x	o	x	o	x	_	o	_
_	x	o	x	o	_	x	o	_
_	x	o	x	o	_	_	o	x
_	x	o	_	o	x	_	o	x
_	_	o	x	o	o	x	_	x
_	o	o	_	x	o	_	x	x
_	o	o	_	_	o	x	x	x

DONE!