

# BFS search

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**function** BREADTH-FIRST-SEARCH(initialState, goalTest)

*returns* **SUCCESS** or **FAILURE** :

frontier = Queue.new(initialState)

explored = Set.new()

**while not** frontier.isEmpty():

    state = frontier.dequeue()

    explored.add(state)

**if** goalTest(state):

        return **SUCCESS**(state)

**for** neighbor **in** state.neighbors():

**if** neighbor **not in** frontier  $\cup$  explored:

            frontier.enqueue(neighbor)

return **FAILURE**