State Space Representation:

1. **State:**

   Each state is represented by a tuple (m, c, s) where m is the number of missionaries, c is the number of cannibals and s is the side of the boat.

   The target of the problem is to take all 3 missionaries and 3 cannibals on the right side where the capacity of the boat is it can only maximum of 2 individuals at a time.

   Start State = (3, 3, 1) => 3M, 3C and boat on left side

   Goal State = (0, 0, 0) => 0M, 0C and boat on the right side

2. **Operators**

   We have to reach the goal state with series of operators that change the state from one to another:

   operators = [(1, 0), (0, 1), (1, 1), (0, 2), (2, 0)]

   Where each pair *(x, y)* represents number of missionaries, number of cannibals to moved from either left to right or right to left.

3. **Constraints**

   Constraints are for each state , number of cannibals shouldn't outnumber number of missionaries on each sides.