**Task 4**

Suppose that we are using STRIPS to describe facts and actions in a certain world called JUNGLE. In the JUNGLE world there are 4 predicates, each predicate takes at most 3 arguments, and there are 5 constants. Give a reasonably tight bound on the number of unique states in the JUNGLE world. Justify your bound.

**For a certain word JUNGLE, there are 5 constants, for 4 predicates each take 3 arguments:**

**Upper bound values are :**

**First consider the combination for 1 predicate that takes 3 arguments = 5\*5\*5 = 125**

**For 4 predicates, the combination can be defined as = 4 \* 125 = 500**

**We know that the predicate will always result in either true or false hence number of possible solutions are = 2 500**

**Lower bound values are:**

**Consider the combination for 1 predicate takes 1 argument = 5**

**For 4 predicates, the combination will be = 4\*5 = 20**

**We know that the predicate will always result in true or false, hence no of possible solutions = 2 20**