A nice title for your report

Your names

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Abstract

Here, provide a brief summary of your work.

1 Problem Definition

Here, you should state the problem and provide a formal definition. Use the LaTeX tag `\begin{definition}` for this purpose. For example:

Definition 1.1 (Towers of Hanoi)**.** Towers of Hanoi is a puzzle...

2 Problem Design

Here, you should clearly state the inputs and outputs of the problem. For example:

1. *Inputs*:
   (a) $n \in \mathbb{N}$, the number of disks.
   (b) (s, e, o), a triplet with the identifiers of the robs: ***s***tart, ***e***nd and ***o***ther.
2. *Outputs*: $S = \langle (i, j) \,;\, i, j \in \{s, e, o\} \rangle$ the sequence of steps that solve the game.

3 Algorithm Solution

Here, you should include the pseudo-code that solves the problem. For instance:

Require: $n \in \mathbb{N}$, the number of disks to move.
Require: $t \equiv (s, e, o)$, a tuple with the three robs (**s**tart, **e**nd and **o**ther)

```
1:  procedure SolveTowersOfHanoi(n, t ≡ (s, e, o))
2:      if n = 1 then
3:          return ⟨t⟩
4:      else
5:          M ← ∅
6:          M ← M ⋃ SolveTowersOfHanoi(n − 1, (s, e, o))
7:          M ← M ⋃ SolveTowersOfHanoi(1, (s, e, o))
8:          M ← M ⋃ SolveTowersOfHanoi(n − 1, (s, e, o))
9:          return M
10:     end if
11: end procedure
```

3.1 Invariants

Here, you should clearly state the rules or set of assumptions required to ensure the correct execution of the proposed algorithm.

3.2 Complexity Analysis

Provide a detailed explanation of the findings from the algorithm's complexity analysis. This is the main section, so explain it as thoroughly as possible. Include the recurrence tree or a similar analysis, along with the proof of your recurrence formula.

3.3 Implementation Notes

Include any additional information that is relevant to the implementation of your algorithm.