Analysis of A distributed Algorithm in a rooted Tree.

Abstract

Analysis of a Distributed Algorithm, presenting the notions that surround it like:

Complexity of an Algorithm in a Distributed Environment

Correctness of the Algorithm

Definition of complexity in a Distributed Environment of an Algorithm π

We take the $LOCAL\ MODEL$ to define the complexity of the Algorithm executed in it. So we define:

Let G an arbitrary Graph, so we define the Synchronous Time-Complexity as the number of rounds generated during the execution of $\pi on \mathbf{G}, denotedas \mathbf{Time}(\pi, G)$

On the other hand, we can define de Asynchronous Time-Complexity as $Time(\pi, G)$ like the time units from the star of the $\pi on \mathbf{G} toitscompletion.$