Subiecte 2

June 18, 2021

Exercise 1 (25p)**.** *Imagine a Turing Machine that has two heads and one tape. You need to:*

1. *Give formal definition of this type of TM*
2. *Give a clear explanation of computation for this type of TM. Include a formal description of computation*

Exercise 2 (20p)**.** *Implement a library/program in a programming language of your choosing to load and validate a configuration file of a TM with two heads and one tape. Also implement a simulator for this type of TM*

Exercise 3 (25p)**.** *Create a configuration file for a two head, one tape TM that recognize the language* $L = \{w\#w' | \textit{where w' is a prefix of } w\}$

Exercise 4 (30p)**.** *Create a configuration file of a (normal) or two-head, one tape TM that performs addition of two natural numbers*