DOCUMENTATION

INTRODUCTION

This project was implemented within the study of the subject **“Advanced programming methods”** which focuses on the analysis of the **Java** programming language.

I chose project number **A.20** which requires the implementation of the **“Towers of Hanoi”** game using **Java** (and other additional tools).

1. MOTIVATION

I chose this project because I already implement this game in **C++,** using the **SFML** library, and I wanted to make a more complex, clean version that would highlight my progress as a programmer.

Here is a video of the old project: [Towers of Hanoi - with C++ and SFML](https://www.youtube.com/watch?v=ZXsqru5iJmU). This project does not implement the logging system using a database and focuses strictly on the game, it is much more simplistic.

The new project uses animations, execution threads and also implements the logging system. In addition, the automatic mode in which the computer solves the game is also implemented.

1. THE THEMATIC CONTEXT OF THE PROBLEM

As I said, this project was implemented within the study of the subject **“Advanced Programming Methods”.** The project was assigned to students, to show their gained knowledge related to the Java programming language. It was mandatory to use a database and connect it to the graphical interface, and my project also required the use of execution threads for windows and animations.

PROBLEM DESCRIPTION

1. THE TASK

My project requirement is as follows:

Write a Java application that visualizes the Towers of Hanoi problem in a suggestive way.

The application should run in two modes: manual mode – in which the user moves the discs on the rods; and in automatic mode – where the computer solves the problem.

* Put the algorithm in automatic mode in a thread so as not to block the interface.
* Provide for manual/automatic mode a counter that measures the time required to the user to resolve the issue.
* Implement the possibility of abandonment.
* Allow specifying the number of disks.
* Insist on the graphic representation, to be as suggestive as possible. Set the working speed in the automatic mode appropriate to human perception. Let every movement made be easily noticeable. Show the disc moved and the path taken during the movement. Use motion animation with execution threads.