CPSC-354 Report

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Abstract

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1 Introduction

2 Week by Week

2.1 Week 1: HW1

The MU puzzle is a puzzle created by Douglas Hofstadter. It consists of four rules that can be applied to a string MI.

1. $xI \to xIU$
2. $Mx \to Mxx$
3. $xIIIy \to xUy$
4. $xUUy \to xy$

When first approaching this puzzle, the first strategy that came to mind was to take advantage of rule number 2 to keep duplicating the I's until there is a multiple of three, then using rules 3 and 4 to get rid of the I's and leave a remaining U.

The issue with this is that $2^n \bmod 3$ will never equal 0, it infinitely cycles between equaling 1 and 2, and without being able to get rid of all the I's, which would require them being a multiple of 3, you will never be able to get MU.

Thus, the puzzle is not solvable.

3 Essay

4 Evidence of Participation

5 Conclusion

References

[BLA] Author, Title, Publisher, Year.