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Dr. Nim

Dr. Nim is a toy invented by John Thomas Godfrey^[1] and manufactured by E.S.R., Inc. in the mid-1960s. It consists of a marble-powered plastic computer capable of playing the game of Nim. The machine selects its moves through the action of the marbles falling through the levers of the machine.

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Game play and construction

Dr. Nim is an early computer game. The "game board" is a based on the mechanical Digi-Comp II digital computer. It has memory switches that hold bits of data. The unit is programmed by lobed levers that affect and are affected by marbles that are released from the top of the game. Three of the levers set the start position. The fourth lever is the 'equaliser' option; if set, the player can win if they play perfectly.

Nim

Dr. Nim was based on a mathematical game called *NIM*, which similarly consisted of twelve marbles. A simple strategy will always win as long as the opponent goes first. This is the strategy for single-pile NIM: If the opponent takes 3 marbles, the first player should take 1. If the opponent takes 2 marbles, the first player should take 2. Finally, if the opponent takes 1 marble, the first player should take 3. The goal of the game is to get the last marble (the 12th marble).

Influence

The mathematics communicator Matt Parker created a video about Dr. Nim.^[2]

References

- ↑ "John Godfrey Obituary - Lansing, MI - Lansing State Journal" (<http://www.legacy.com/obituaries/ljsj/obituary.aspx?n=john-thomas-godfrey-jack&pid=134332357>). *Lansing State Journal*.
- ↑ "The Unbeatable Game from the 60s: Dr NIM" (<https://www.youtube.com/watch?v=9KABcmczPdg>). YouTube.com.

2016-01-26. Retrieved 2019-01-09.

External links

- Original manual: Icarus archive version (PDF) (https://web.archive.org/web/20110720085124/http://icarus.cs.uiuc.edu/friendsofdigicomp/Files/Nim_Manual.pdf), One-legged Sandpiper version (PDF) (<http://www.one-leggedsandpiper.com/Christmas/Presents/Dr-Nim-Manual.pdf>)
- Dr Nim entry at Jim's Computer Museum (<https://web.archive.org/web/20040203170545/http://www.rdrop.com/~jimw/j-hist.shtml>)
- The Amazing Dr Nim game/puzzle (5min) (<https://www.youtube.com/watch?v=oxBghtQ8McA>) on YouTube
- Dr Nim script and explanation on Ancient Pond (<https://web.archive.org/web/20160106214437/http://www.ancientpond.info/DrNim.html>)
- Print your own Amazing Dr. Nim Scale Model (<https://www.thingiverse.com/thing:3192730>)

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