

Nature of the Program Essay

The Crypto Exhaustive Problem Solver with Elaborations does not reflect the essential interest of computational cognitive scientists. According to the MIT Computational Cognitive Science Group, the essential interest of computational cognitive scientists is to study the computational basis of human learning and inference. They do this through combining mathematics, computer science, and behavioral experiments. The different types of behavioral tests involves the behavioral testing of adults, children, and machines. Their work is driven by understanding how humans would approach a problem. Through this understanding, computational systems are built to come closer to the capacities of human learners.

With that being said, the crypto exhaustive problem solver does not take into account the human behavioral aspect of how a human would solve a crypto problem. The Crypto Exhaustive code takes more of a mathematical approach on how to solve crypto problems and does not have a human aspect to it at all. Although, I do believe humans solve problems compositionally and this program solves the problem compositionally but it does not examine the problem in a human way only mathematically.

I think that the program is interesting because I believe that solving crypto problems are interesting to begin with. I think this program is interesting programmatically because of the way it breaks down how it solves different types of crypto problems. It starts from an Order 2 crypto problem which is a crypto problem with just two numbers used to achieve the goal up to an Order 5 problem. I think that it is very smart to deal with the solving of crypto problems like that because it handles different types of crypto problems. On top of making different cases for different types of problems I liked that it broke down the implementation of the problem compositionally. This allows one to be able to navigate the code easier and it makes it more easy to read with the human eye.

Another crucial thing to note in how the Crypto Exhaustive Problem Solver solves crypto problem is how it does so recursively. Recursion is a key thing to look at because if it did not make use of recursion the code would probably have triple the amount of code it took to write it recursively. Using recursion allows crypto problems to be solved significantly faster than how a human would solve it. This leads into the other reason why I thought that this code was interesting. Because of the structure of the code and how it thoroughly broke down the problem compositionally and recursively it was able to be solved very fast.