Complexity (due by the end of Module 2, based on Module 1)

Your employer, SGA (Secretive government Agency) want you to develop an encryption program. After doing some research you have two candidate algorithms. According to your research, Algorithm 1 has cost $\Theta(n^3)$, while algorithm 2 is listed as $O(n^4)$ and $\Omega(n^2)$. Which one do you choose? How do you decide? What would you have to know to choose the other one?

Algorithm 1 has cost $\Theta(n^3)$.

algorithm 2 is listed as $O(n^4)$ and $\Omega(n^2)$.

Please feel free to check the robustness of my work, I enjoy challenges!

Import Visuals (each with two different sample sizes):

** I skipped this step, leaving it open to the reader to imagine and *not limited* to my visuals. I feel like there has been great work on graphing in other posts, and I do not possess heavy skills there. **

Which one I choose: (Economics hat)

I would choose algorithm 1 for consistency. Maybe as government agency individuals, we do not know where the data is coming from, but that does not change our missions. Accounting for both the short and the long run, we are not even certain that the long run is feasible! Also, I do not believe it is practical to exploit the short run for potential long term gain. … So, looking at various possibilities and all the scenarios, I believe Algorithm 1 is the best fit.

How I decide:

While this is looking at data with respect to both the short and the long run, I think it is imperative to imagine/understand the hazards of a turbulent encryption. I equate a higher spread similar to a frequency. The wider the span of the frequency, the more likely it can be tapped into, which is present in the combination of $O(n^4)$ and $\Omega(n^2)$. Volatility is not acceptable. Condensed bounds are ideal in this scenario.

The reason I chose the title “Protecting the Fort”, is how I imagine algorithm 1. Like a stronghold. Enemies are aware that it exists, but due to the tight knit bond of the data points, it is impervious to attacks.

Algorithm 1 could even begin to accumulate dark matter, and form network communication with other data points in close proximity. So, even in this scenario, the tightly bound accumulation of dark matter could predict loosely spread out matter.

If I were to decrypt algorithm 2, I would know that it is inconsistent and could likely oscillate between the two functions - I could exploit this opening, for its own good, and so it improves its robustness. Perhaps i would attempt to positively manipulate this data to alter the trajectory and it could return the favor (karma)?

What would I need to know to choose others (Algorithm 2):

-The implications of the data. The ability to see into the future to see the significance of volatility, and to know with 100% certainty that the risk would pay off. Again, given the conditions of this scenario, I do not believe that they would

-Perhaps my intuition about decrypting is incorrect, too. I have not formally studied cybersecurity or quantum anything at all, i just thought it was entertaining to imagine and apply to a scenario. I also enjoy brainstorming.

-Does summation notation matter?

-Further research

an equitable solution that is developing is https://singularitynet.io/aboutus/#. Specifically "SingularityNET is a full-stack AI solution powered by a decentralized protocol and the first and only decentralized platform allowing AIs to cooperate and coordinate at scale".

I'm beginning to look into Ben's work more, and I would imagine he is evaluating the importance of encryprtion, found here https://blog.singularitynet.io/hacken-joins-singularitynet-to-pursue-ai-powered-cybersecurity-a241e373e7b7

It seems as if singularity net is on a good path, "The applications for SingularityNET are endless. We've partnered with Nexus to accelerate the creation of censorship-resistant blockchain infrastructure, NR Capital to develop AI-driven solutions for commodity trading, and Ocean Protocol to bridge the gap between AI and curated data."

I will utilize the usage of the body for my example. The body needs a heart, or a centralized core. Without this core, then it will not be possible for the person to live very long at all.

I imagine that algorithm 2 does not quite have this stability which is important for algorithms.

thoughts?