Informatics for Astronomers - WS2019

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Exercise sheet 1 - Basics

The following will be also part of the assessment:

(1) Try to present exercises in a way that everyone can understand (even those who didn't do the exercises), so please explain the vital parts of your solution in a clear way.

(2) Try to also include some background information where applicable, and/or explain the possible context/motivation for the given exercise.

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1. Take the string (a sequence of characters) "abracadabra". Calculate it's entropy.
2. Look up the different classifications for state-machines. How do they differ?
3. Explain the difference between an interpreted and a compiled programming language.
4. What does the `python` "Global Interpreter Lock" do and why is it needed. What are its drawbacks.
5. Explain binary and hexadecimal representation of bytes. Show the correspondence for a character and explain the differences of each system.