

Data Structures I : Abstract data types



- 50 ml Vodka
- 20 ml Blue Curacao
- 100 ml Lemonade
- 1 orange slice
- Ice cubes





<https://www.youtube.com/watch?v=EzjkBwZtxp4>

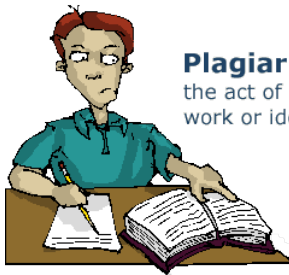
- A **data type** is a set of values and a set of operations on those values.
- For example, the values of the primitive data type **int** are integers between -2^{31} and $2^{31} - 1$; the operations of **int** include $+$, $*$, $-$, $/$, $\%$, $<$, and $>$.
- We could write all of our programs using only the built-in primitive types, but it is much more convenient to write programs at a higher level of abstraction.

Taken from [Sedgewick,2011]

- An **abstract data type (ADT)** is a data type whose representation is hidden from the client.
- When using an ADT, we focus on the operations specified in the API and pay no attention to the data representation
- When implementing an ADT, we focus on the data, then implement operations on that data.

Taken from [Sedgewick,2011]

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Plagiarism:

the act of presenting another's work or ideas as your own.

Figure: Figure about plagiarism, University of Malta [Uni09]



University of Malta.

Plagiarism — The act of presenting another's work or ideas as your own, 2009.

[Online; accessed 29-November-2013].

- Data abstraction
 - Sedgewick, Algorithms (4th edition), 2011. Section 1.2: Data Abstraction.

