The Famous Syllogism[1] in Greek, Latin and English:

[1] This syllogism—and those like it—are sometimes termed 'barbara.' The term, 'barbara' is a mnemonic device which informs us that this type of syllogism comprises 3 affirmations. The 1st premise affirms that Socrates is a man; the 2nd premise affirms that all men are mortal; and the conclusion affirms that Socrates is mortal.

Figure 1: I drew this pencil portrait of George Boole (1815-1864) with Pencils and Photoshop. *The Mathematical Analysis of Logic* was published in 1847, and *An Investigation into the Laws of Thought* was published in 1854.

Introduction:

Quite early on, in his *Mathematical Analysis of Logic*, George Boole–whence in programming and computer science we derive the datatype name, 'Boolean'– introduces this famous syllogism to us, his readers.

Body:

In Ancient Greek:

<div align="center">

ὁ Σωκράτης ἐστιν ἄνθρωπος.

πάντης ἄνθρωποι ἐστι θνητοί.

οὖν ὁ Σωκράτης ἐστι θνητός.

</div>

When Transliterated:

<div align="center">

ho Sōcrátēs estin ánthrōpos.

pántēs ánthrōpoi esti thnētoí.

oὗn ho Sōkrátēs esti thnētos.

</div>

In Latin:

<div align="center">

Sōcratēs est homō.

Omnēs hominēs sunt mortālēs.

Ergō, Sōcratēs est mortālis.

</div>

In English:

<div align="center">

Socrates is a man.

All men are mortal.

Therefore, Socrates is mortal.

</div>

Conclusion:

The Ancient-Greek term, ὁ λόγος , or, when transliterated, 'ho lógos,'[2] means–within the context of logic– 'statement,' or 'argument.'

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[2] The 2nd-declension masculine noun ὁ λόγος Genitive:τοῦ λόγου or, when transliterated: 'ho lógos' Genitive: 'toῦ lógou.'

The Latin 1st-and-2nd-declension adjectival suffix, '-ica, -icus, -icum' means 'of,' 'about,' 'concerning,' 'pertaining to,' etc.

Hence, etymologically, 'logic' is 'the study of the truth or falsehood of statements and arguments.'

Conventional arithmetic or Conventional Algebra has *quantity* for its subject. George Boole developed an algebra, or an arithmetic that had *logic* as its subject.

Indeed, in his book, *The Laws of Thought* he terms this 'arithmetic' or 'algebra' of his 'a calculus of logic' by which he meant 'a system whereby the truth or falsehood of statements/arguments could be analysed.'
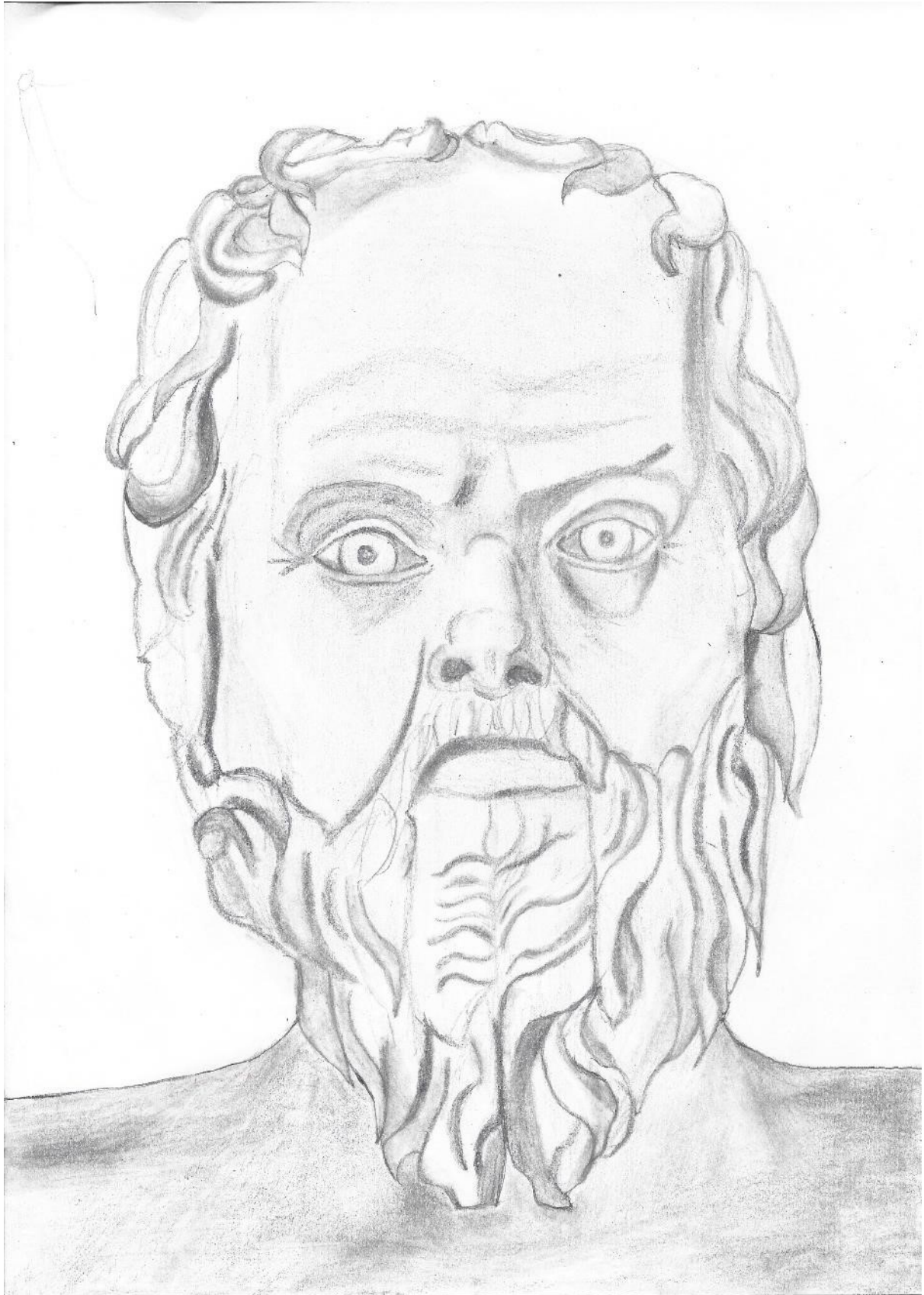
Figure 1: I drew this pencil portrait of Socrates (469/470-399 BC) with Pencils. Vēre Sōcratēs est enim mortālis. Truly Socrates is mortal indeed.

Glossary:

calculus (ˈkælkjʊləs) *noun plural* **-luses**

1. a branch of mathematics, developed independently by Newton and Leibniz. Both **differential calculus** and **integral calculus** are concerned with the effect on a function of an infinitesimal change in the independent variable as it tends to zero.
2. any mathematical system of calculation involving the use of symbols
3. *logic* an uninterputed formal system. Compare **formal language** (sense 2)
4. (*plural* **-li** (ˈkælkjʊˌlaɪ)) *pathology* a stonelike concretion of minerals and salts found in ducts or hollow organs of the body[C17 from Latin: pebble, stone used in reckoning, from *calx* small stone, counter]
   - **calcular** (ˈkælkjʊlə) *adjective* relating to calculus
   - **calculous** (ˈkælkjʊləs) or **calculary** (ˈkælkjʊlərɪ) of or suffering from a calculus. Obsolete form: **calculose**
   - **calculus of variations** a branch of calculus concerned with maxima and minima of definite integrals.[3]

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[3] *Collins English Dictionary: Complete and Unabridged*, 12th edn., Glasgow, U.K., Harper Collins Publishers, 2014, Loc. 66,078.