

Euclid's Algorithm for the Greatest Common Divisor

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Notes to the Instructor

The project is meant for use for in an introductory computer science or discrete mathematics class. The project can be used to introduce students to the notion of “computation method” or “algorithm” and to explore concepts like iteration in a basic setting. It allows them to practice their skills in doing proofs but more importantly to observe the evolution of what is accepted as a valid proof or a well-described algorithm. The students will easily notice that the method presented by Euclid to compute the GCD and proof of its correctness that he provided would not be formally accepted as correct today. They will also notice, however, that Euclid is somehow able to convey his ideas behind his method and proof in a way that they can be easily translated into a modern algorithm and proof of its correctness. In this way, it will provide them a sense of connection to the past.

A basic knowledge of programming is essential to successfully complete some of the components of the project.