

Relating a Discrete Maths Course to the Rest of the Computing Curriculum: Two Examples

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ABSTRACT

Most computing curricula include foundational discrete mathematics courses, yet not uncommonly students see these as an unnecessary burden, failing to see their relationship to programming or other computing concepts. More often than not, this is caused, not by the students' inability or reluctance to appreciate the connection between mathematics and computing, but by the absence of explicit links in the courses that show the students such connections.

This paper presents a couple of examples that were used in an algebra course to show computing students the relationship of the contents of the course to programming issues. The specific examples used were a monoid of program statements and the construction of homomorphisms between two implementations of an abstract data type. We believe this little experiment was successful, as many students expressed to have "finally" see why they had to learn so much discrete maths.

Keywords: Education, Discrete Maths, Algebra, Programming.