Volume Three: Basic Assembly Language

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Chapter Ten: Integer Arithmetic

This chapter discusses how to compute the values of integer expressions. In particular, it describes how to convert arithmetic expressions into assembly language.

Chapter Eleven: Real Arithmetic

This chapter discusses how to compute the values of floating point expressions. In particular, it describes how to convert arithmetic expressions into assembly language.

Chapter Twelve: Calculation Via Table Lookups

This chapter discusses how to quickly compute some value using a table lookup.

Chapter Thirteen: Questions, Projects, and Laboratory Exercises

Test your knowledge.

This Volume provides a basic introduction to assembly language programming. By the end of this volume you should be able to write meaningful programs using HLA. This Volume plus Volume Four present all the basic skills a typical assembly language programmer needs to write real-world applications in assembly language.

Chapters One through Seven provide information about important data types and data structures found in typical assembly language programs. For courses that have a limited amount of time available, Chapters One, Four, and Five from this set are the most important, closely followed by Chapters Two and Seven. Chapters Three and Six are optional though students should read these on their own.

Chapters Eight and Ten are also essential. Chapters Nine and Eleven are important and the course should cover them if time permits. Chapter Twelve discusses an optimization that is becoming less and less important as CPU speeds vastly outstrip memory access times. Those interested in programming embedded systems should read this chapter, other instructors may elect to skip this material.