Principles of Computer Programming

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ABSTRACT
You have heard of computer games, right! Probably you might have had a chance to play with a friend or the computer itself. If you have not, try now (take five minutes); that computer you are using has a number of games including and not limited to Solitaire or Ink Ball. Wow! how does it work? how does it judge its moves? Outsmarts you ha! What are we thinking now--- it puzzles; there must be some logic behind this! True, there is, and that ‘puzzle’ is the act of programming. "A beginner in programming must emphasize the how of programming: how to develop the solution to a given problem, how to organize a program, and how to make effective use of the standard techniques that represent the "tricks" of trade" (http://users.csc.calpoly.edu). Therefore, this is a very interesting Module as we introduce what programming is and also familiarize ourselves with frequently applied terms in the programming world.

This serves as an entry level programming course designed to teach students the basics of programming. The primary goal of the course is to learn how to efficiently solve programming problems and provide foundation of basic knowledge regardless of the programming language. It introduces the fundamental building blocks of programming such as variables, operators, control structures, arrays and subroutines. The student will learn how to apply problem solving techniques in programming through creating flowcharts and pseudo codes.

A high level programming language (C) will be used to write small programs to reinforce concepts learned during design.

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Computer Programming is the process of writing, testing, troubleshooting, debugging and maintaining of a computer program. Good programming practices mix art, craft and engineering discipline. This book will teach you the basic principles of computer programming and good programming practices. What this book will not do is teach you to use a specific programming language. This book may also be useful as part of a course on computer theory, computer engineering, or software engineering, along side Principles of Computer Organization and Assembly Language. Using the Java. TM. Library of Congress Cataloging-in-Publication Data. Juola, Patrick Principles of computer organization and Assembly language : using the Java virtual machine / Patrick Juola. p. cm. Includes bibliographical references and index. ISBN 0-13-148683-7 1. Computer organization. 2. Assembler language (Computer program language) 3. Java virtual machine. l. Title. QA76.9.C643J96 2006 004.2 2–dc22.