

Assembler Language – Introduction

Course Summary

Description

This class is an introduction to Assembler Language programming. Topics include an overview of computer architecture, review of instruction formats, and basic assembler language instructions

Topics

- Introduction to computer systems architecture
- Basic Instructions
- LOAD/STORE instructions
- Assembler Language Program Structure
- Conditional Instructions
- Basic I/O Operations
- Introduction to macros
- Mathematical Operations
- Arithmetic operations using decimal instructions

Audience

This class is intended for programmers or operators who have a good understanding of basic OS/390 architecture.

Prerequisites

Experience with a programming language preferred.

Duration

Five days

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Course Outline

- I. Introduction to Computer Systems Architecture**
 - A. Review how data is represented in storage
 - B. Introduce addressing concepts; absolute and relative
 - C. Examine the use of registers and how they are used in instructions
 - D. Introduce the Program Status Word (PSW).

- II. Basic Instructions**

- III. LOAD/STORE Instructions**
 - A. MOVE instructions
 - B. Data definitions

- IV. Assembler Language Program Structure**
 - A. Introduction to save/restore register conventions
 - B. Overview of general register usage
 - C. Establishing program addressability.

- V. Conditional Instructions**
 - A. COMPARE instructions.
 - B. BRANCH instructions

- VI. Basic I/O Operations**

- VII. Introduction to Macros**
 - A. OPEN/CLOSE processing of sequential files
 - B. GET/PUT using QSAM

- VIII. Mathematical Operations**

- IX. Arithmetic Operations Using Decimal Instructions**
 - A. Performing binary arithmetic operations