

**Chapter 1: Introduction to Assembler**

You will learn:

- Structure of a ALC program.
- Differences between assembler commands and macros.
- The assembler and link process.
- Structure of Macro and Copy libraries.
- Concepts of DSECTs, symbols, addressability, relocatability, and addressing.
- How to differentiate between machine instruction formats.

**Chapter 2: Defining Data Constants and Symbols**

You will learn:

- Defining data types and constants.
- How to specifying subfields.
- Truncation and padding.
- How to define literals and storage.

**Chapter 3: Assembler Listings**

You will learn:

- Different parts of an Assembler listing.
- Reading the source and object program.
- How to use the cross-reference table, diagnostics and statistics.

**Chapter 4: Fixed Point Instructions**

You will learn:

- Commands for loading and storing fixed point values.
- Fixed point arithmetic.
- Branching commands and its associated condition codes.

**Chapter 5: Logical Instructions**

You will learn:

- How to execute logical instructions.
- Compare instructions.

**Chapter 6: File Handling**

You will learn:

- Opening and closing datasets.
- How to check the condition of the open.
- Reading and writing datasets.
- Executing printing job.

**Chapter 7: Packed Arithmetic**

You will learn:

- Executing arithmetic commands using packed numeric data.
- Converting to and from packed numeric data.
- Editing packed numeric data using patterns.

**Chapter 8: Calls and Linkage**

You will learn:

- Calling subroutines.
- Passing data to and from a subroutine.
- Concepts and contents of a save area.
- Purpose and usage of registers for linkage.
- The CALL macro.
- Creating external references.

**Chapter 9: Table Handling**

You will learn:

- Creating and accessing a table.
- Initializing and loading a table.
- The LOAD and DELETE macros.

**Chapter 10: Macros**

You will learn:

- Creating and coding macros.
- Debugging and running macros.
- Common OS macros.
- Coding conditional assemblies.

**Chapter 11: VSAM Macros**

You will learn:

- Opening and closing VSAM datasets.
- Reading and writing VSAM datasets.
- Coding a random access to a VSAM KSDS.
- Performing error checking on VSAM datasets.
- VSAM return codes and feedback codes.

**Chapter 12: Using the Linkage Editor**

- What the Linkage Editor does.
- Coding Linkage Editor control cards.
- Entry Point Address.
- Reading the link maps.

**Chapter 13: Assembler Dumps**

You will learn:

- How to read an Assembler dump.
- Concepts of the PSW and how it helps in the debugging process.
- Registers and program relocation.

**Chapter 14: More Logical instruction**

You will learn:

- How to use logical operations.
- Setting bit switches.
- Testing masks and flags.
- Inserting and storing one byte.
- Translate and Translate and test.

**Chapter 15: MVS 31-bit Addressing**

You will learn:

- Addressing modes.
- When to use 31-bit addressing.
- Assembler programming with 31-bit mode.