COBOL

Targeted at: Entry Level Trainees

Session 02: Introduction

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About the Author

Created By:	Chaitanya Prasad Pittala (107592)
Credential Information:	Technical Skills: COBOL, JCL, VSAM, DB2, CICS with 5+ years of experience
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COBOL Session 02: Overview

- **Introduction:**

    This session introduces the basic terminology used in programming, the development process, debugging techniques and the history and versions of COBOL.

COBOL Session 02: Objective

- **Objective:**

After completing this session, you will be able to:

  » Explain the basic terminology used in programming

  » Describe the significance of COBOL and its usage

  » Explain the evolution of COBOL and the versions involved

Basic Terminologies in Programming

- **Program:** A program is a set of instructions that enable a computer to process data.

- **Software:** Software is the term used to describe all types of programs.

- **Application Programs:** Applications Programs are those, which are written by software developers that perform tasks required by end-users.

Basic Development Process

- Initial analysis on program specifications:
  - » Identifying the requirements
  - » Input required and output to be generated
- Design of the code:
  - » **Detailed design:** Explain the requirements in depth and provide specifications for the coder to proceed. The work products expected are Flowcharts and Pseudo Code
  - » **High Level design:** To provide a snap shot of the requirements in the form of box diagrams, Hierarchy Charts. The idea here is to provide the overall business objective but does not focus on how on the code changes involved, modules impacted etc.
- **Coding:** To write programs or scripts to achieve the objective as per the analysis and design findings

Basic Development Process (Contd.)

- **Compiling:** This process converts the source code to object code and perform initial validation such that there are no rule violations

- Testing and Debugging:

  - » Testing is to ensure that the code is executed as expected. Logical errors can be found out only by testing.

  - » In order to correct the bugs found in testing, the code needs to be verified using one of the debugging techniques.

- **Documentation:** For future reference documentation is required.

Debugging Techniques

- The following are the debugging techniques:

  » Manual verification of code after completing the program

  » Use Display or Print messages to ensure that a specific part of code is executed

  » Testing the code with specific test data for which the output is expected is already known

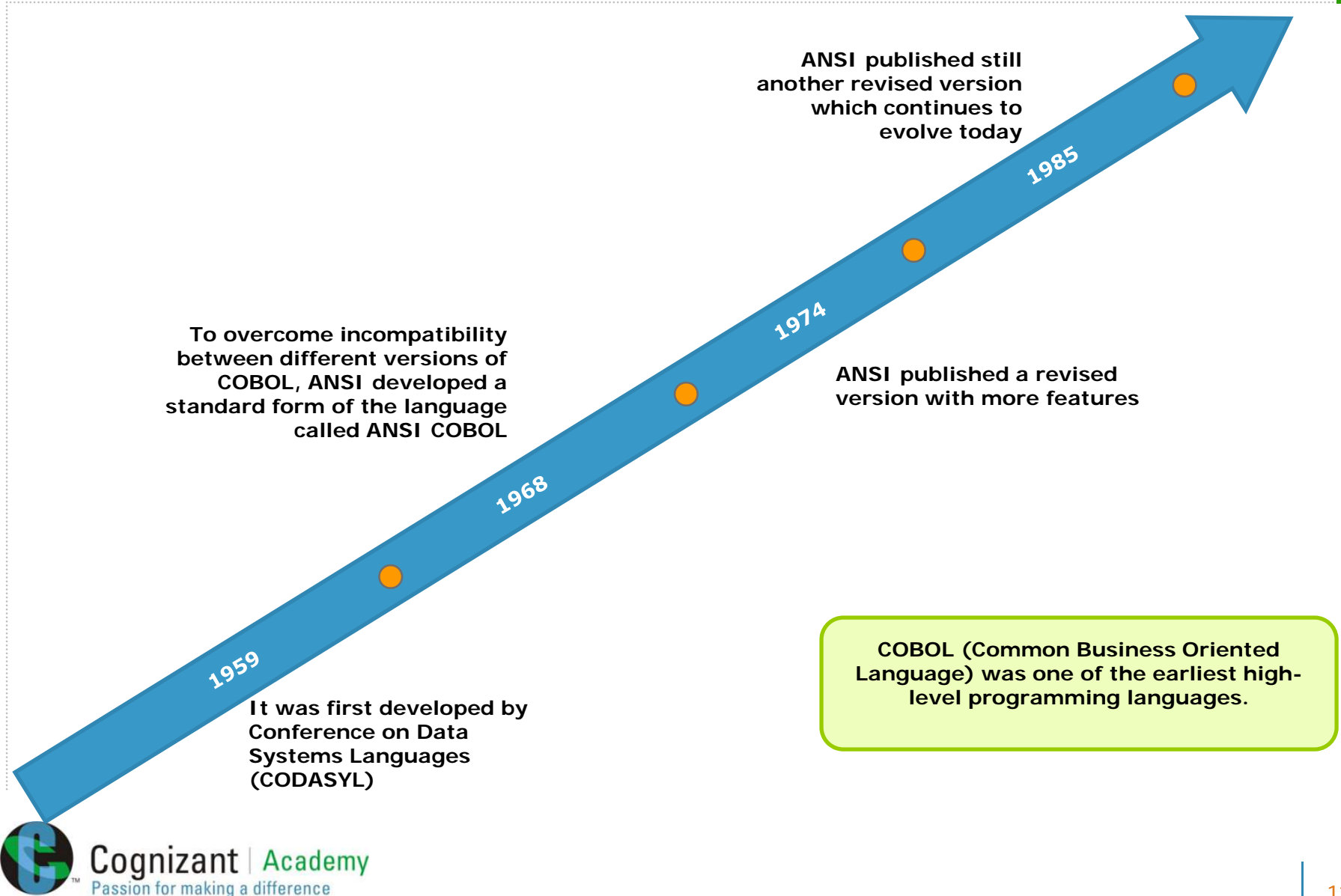 » Applying debugging tools or utilities

COBOL

- COBOL is an abbreviation for COmmon Business Oriented Language.
- COBOL is one of the many languages used to write customized applications programs.
- It is one of the most commercial application languages used worldwide today.
- COBOL is ideally suited for the solution of business problems.
- COBOL was the first programming language whose use was mandated by the Department of Defense (DoD).

History of COBOL

ANSI published still another revised version which continues to evolve today

1985

To overcome incompatibility between different versions of COBOL, ANSI developed a standard form of the language called ANSI COBOL

1974

ANSI published a revised version with more features

1968

1959

It was first developed by Conference on Data Systems Languages (CODASYL)

COBOL (Common Business Oriented Language) was one of the earliest high-level programming languages.

Versions of COBOL

- **OS/VS COBOL:**

  » No longer supported

  » The original COBOL on MVS systems

  » Limited focus on structured programming constructs

- **VS Cobol II:**

  » Very popular version of COBOL

  » Structured constructs such as scope terminators were introduced (END-IF, and so on)

  » Helped improved readability of programs

Versions of COBOL (Contd.)

- COBOL for z/OS:

  » Also known as COBOL/370 and COBOL for OS/390

  » Provided more support for Language Environment and Object Oriented features

- Enterprise COBOL:

  » Current version on mainframe systems

  » Provide features like to support:

    - Web processing
    - Operating systems

Q & A

- Allow time for questions from participants

Test Your Understanding

1. What is the difference between Program and Application Program?

2. Logical Errors can be detected only in _____ Phase.

3. What is the advantage of having Test Data?

4. Who developed COBOL first?

5. COBOL is an abbreviation for _____.

6. What is the latest version of COBOL?

COBOL Session 02: Summary

- The basic terminologies applied in programming are Program, Software, and Applications Programs.

- The development process includes Analysis, Design, Coding, Compiling, Testing and Debugging, and Documentation.

- The debugging techniques consist of Manual Check, Print Statements, Using Test Data, and Tools.

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COBOL Session 02: Summary (Contd.)

COBOL versions include OS/ VS COBOL, VS COBOL II, COBOL for z/OS, and Enterprise COBOL.

COBOL Session 02: Source

- Structured COBOL Programming, Stern & Stern, 9th edition

- http://www.engin.umd.umich.edu/CIS/course.des/cis400/cobol/cobol.html

- http://www.exforsys.com/forum/cobol/95297-cobol-versions.html

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You have completed the Session 02 of COBOL.

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