

cobol interview questions and answers

Cobol interview questions and answers are essential for job seekers looking to secure positions in mainframe development and legacy systems. As one of the oldest programming languages, COBOL (Common Business-Oriented Language) remains prevalent in various industries, particularly in financial services, government, and large corporations. Understanding COBOL and being able to articulate your knowledge during an interview can significantly enhance your chances of landing a job. This article will cover common COBOL interview questions, categorized into various topics, along with detailed answers to help you prepare effectively.

Understanding COBOL Basics

1. What is COBOL?

COBOL, which stands for Common Business-Oriented Language, is a high-level programming language designed for business applications. It was developed in the 1960s to facilitate data processing and is known for its readability and simplicity. It is predominantly used in mainframe environments due to its robust handling of large volumes of data.

2. What are the key features of COBOL?

Some key features of COBOL include:

- English-like Syntax: COBOL code reads like English, making it easier to understand.
- Data Processing: Designed primarily for data processing applications.
- File Handling: Strong capabilities for file management and data manipulation.
- Portability: Can run on various hardware and operating systems with minimal changes.
- Structured Programming: Supports structured programming principles, enhancing code clarity.

3. What are the different divisions of a COBOL program?

A COBOL program consists of four main divisions:

1. Identification Division: Provides information about the program, such as the program name and author.
2. Environment Division: Specifies the environment in which the program will run, including input and output device configurations.
3. Data Division: Defines all the variables and data structures used in the program.
4. Procedure Division: Contains the actual code and logic for processing data.

COBOL Data Types and Structures

4. What are the different data types available in COBOL?

COBOL has several data types, including:

- Numeric: For storing numbers (e.g., INTEGER, DECIMAL).
- Alphabetic: For storing letters (A-Z).
- Alphanumeric: For storing a combination of letters and numbers.
- Comp and Comp-3: For efficient storage of numeric data, where Comp uses binary representation and Comp-3 uses packed decimal.

5. Explain the significance of the PIC clause in COBOL.

The PIC (Picture) clause in COBOL is used to define the format of a data item. It specifies the data type and constraints on the data. For example:

- `PIC 9(5)` signifies a numeric field that can hold up to five digits.
- `PIC X(10)` signifies an alphanumeric field that can hold up to ten characters.

6. What is a COBOL table and how is it defined?

A COBOL table (or array) is a collection of similar data items. It is defined using the OCCURS clause in the Data Division. For instance:

```
```cobol
01 EMPLOYEE-RECORD.
05 EMPLOYEE-ID PIC 9(4).
05 EMPLOYEE-NAME PIC X(30).
05 EMPLOYEE-SALARY PIC 9(7)V99.
05 EMPLOYEE-ADDRESS.
10 ADDRESS-LINE-1 PIC X(50).
10 ADDRESS-CITY PIC X(20).
05 EMPLOYEE-HISTORY OCCURS 10 TIMES.
10 PREVIOUS-JOB PIC X(30).
```
```

COBOL Programming Concepts

7. What is the difference between PERFORM and PERFORM THRU in COBOL?

- PERFORM: Executes a specified paragraph or section only once.
- PERFORM THRU: Executes a block of code from the start paragraph to the end paragraph, allowing for multiple paragraphs to be executed in sequence.

8. How do you handle errors in COBOL?

Error handling in COBOL can be managed using:

- ON SIZE ERROR: To handle situations when an arithmetic operation exceeds the defined size.
- FILE STATUS: To check the status of file operations, ensuring that you can respond to errors appropriately.

9. What are the different types of loops in COBOL?

COBOL supports several looping constructs:

1. PERFORM UNTIL: Continues until a specified condition is met.
2. PERFORM VARYING: Iterates a certain number of times, often using a loop index variable.
3. PERFORM TIMES: Executes a block of code a fixed number of times.

Advanced COBOL Concepts

10. Explain the concept of 'File Handling' in COBOL.

File handling in COBOL is a critical feature, as it allows programs to read from and write to various types of files, including:

- Sequential Files: Process data in the order it is stored.
- Indexed Files: Support quick access to records based on a key.
- Relative Files: Allow direct access to records based on a relative position.

Common file handling operations include opening, reading, writing, updating, and closing files. The FILE STATUS clause is used to monitor the success or failure of these operations.

11. What is a 'COPY' statement in COBOL?

The COPY statement allows you to include external code or data definitions into your COBOL program. This promotes code reusability and modular programming. For example:

```
```cobol
COPY 'COMMON-FILE-STRUCTURE'.
```
```

This includes the definitions from the specified file into the current program.

12. What is the importance of the `EVALUATE` statement in COBOL?

The `EVALUATE` statement is similar to a switch-case statement in other programming languages. It allows for cleaner and more readable multi-way branching based on the value of a variable. For example:

```
```cobol
EVALUATE TRUE
WHEN condition1
PERFORM action1
WHEN condition2
PERFORM action2
WHEN OTHER
PERFORM default-action
END-EVALUATE.
```
```

Preparing for COBOL Interviews

13. How can you prepare for a COBOL interview?

Preparation for a COBOL interview should include:

- Studying COBOL Fundamentals: Brush up on syntax, data types, and programming constructs.
- Practicing Coding: Write small COBOL programs to solve common problems.
- Reviewing Past Projects: Be ready to discuss your previous experience with COBOL projects.
- Mock Interviews: Engage in mock interviews to practice articulating your thoughts and answers.

14. What soft skills are important for a COBOL developer?

In addition to technical skills, the following soft skills are crucial for a COBOL developer:

- Problem-Solving: Ability to troubleshoot and resolve issues effectively.
- Communication: Clearly articulate technical concepts to non-technical stakeholders.
- Team Collaboration: Work well within a team setting, often involving cross-functional teams.
- Adaptability: Stay current with industry changes and evolving technologies related to COBOL.

Conclusion

In conclusion, preparing for COBOL interview questions and answers requires a comprehensive understanding of both the language and its applications. By familiarizing yourself with common questions, practicing coding, and refining your soft skills, you can significantly enhance your prospects in the job market. COBOL remains a powerful tool in many industries, and a solid grasp of its concepts can lead to rewarding career opportunities.

Frequently Asked Questions

What is COBOL and what are its primary uses?

COBOL stands for Common Business-Oriented Language. It is primarily used for business, finance, and administrative systems for companies and governments.

What are the basic structure components of a COBOL program?

A COBOL program is generally divided into four divisions: Identification Division, Environment Division, Data Division, and Procedure Division.

How do you declare a variable in COBOL?

In COBOL, you declare a variable using the '01' level number followed by the variable name and its data type. For example: '01 CUSTOMER-NAME PIC X(30).'

What is a COBOL paragraph?

A paragraph in COBOL is a section of code that performs a particular task. It is defined with a name followed by a period and can contain one or more sentences.

Can you explain the difference between 'MOVE' and 'SET' in COBOL?

'MOVE' is used to copy data from one variable to another, while 'SET' is specifically used for assigning values to numeric variables or pointers.

What is the significance of the 'PERFORM' statement in COBOL?

The 'PERFORM' statement is used to execute a paragraph or a section of code, allowing for modular programming and code reuse within COBOL.

How does COBOL handle file operations?

COBOL handles file operations using file control statements, which include OPEN, READ, WRITE, CLOSE, and DELETE, defined in the Environment Division.

What is the purpose of the 'EVALUATE' statement in COBOL?

The 'EVALUATE' statement is used for conditional processing, similar to a switch-case statement in other programming languages, allowing for multiple conditions to be evaluated.

What are the different data types available in COBOL?

COBOL has several data types, including numeric types (COMP, COMP-3), alphanumeric (PIC X), and decimal types (PIC 9), among others.

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