

List some features of COBOL.

- COBOL is a standard language that can be compiled and executed on various machines. It is ideally suited for business-oriented applications as it can handle huge volumes of data. It provides numerous debugging and testing tools. COBOL is a structured language; it has different divisions, so it is easy to debug.

What is COBOL?

- COBOL is abbreviated as Common Business Oriented Language and it is one of the oldest programming languages. It primarily used for business, finance and administrative systems for companies.

What are the different data types in COBOL?

- Alpha-numeric (X)
- Alphabetic (A) and
- Numeric (9)

What is the difference between performing a SECTION and a PARAGRAPH?

- SECTION will have all the paragraphs that are part of the section, to be performed.
- PARAGRAPH will have only that paragraph to be performed.

What is the difference between CONTINUE & NEXT SENTENCE?

- CONTINUE is like a null statement and it continues execution, while NEXT SENTENCE transfers control to the next sentence.

What are the different OPEN modes available in Cobol?

Open modes can be used for

- Input
- Output
- Input – Output
- Extend

What is the use of EVALUATE statement?

- Evaluate is just like a case statement or it can be used like a Nested IFs. The difference between EVALUATE and case is that 'break' is not used in Evaluate statement and the control comes out of the EVALUATE once a match is found.

What is Static and Dynamic linking?

- In static linking, called subroutine links into the calling program, while in dynamic linking, the subroutine & the main program will exist as separate modules. Dynamic and Static linking can be achieved by choosing either the DYNAM or NODYNAM link edit option.

What is the difference between PERFORM ... WITH TEST AFTER and PERFORM ... WITH TEST BEFORE?

- If TEST BEFORE is specified, the condition is tested at the beginning of each repeated execution of the specified PERFORM range.
- If TEST AFTER is specified, the condition is tested at the end of the each repeated execution of the PERFORM range. The range is executed at least once in TEST AFTER.

What is the point of the REPLACING option of a copy statement?

- REPLACING allows for the same copy to be used more than once in the same code by changing the replace value.
- Syntax:-

COPY REPLACING BY

What kind of error is trapped by ON SIZE ERROR option?

- ON SIZE ERROR option is raised when there is
- fixed-point overflow
- Zero raised to the zero power
- Division by 0
- Zero raised to a negative number
- A negative number raised to a fractional power.

What is the difference between Structured COBOL Programming and Object Oriented COBOL programming?

- Structured programming is logical way of programming where the functionalities are divided into modules and helps write the code logically.
- Object Oriented Cobol language is a Natural way of programming in which you identify the objects, and then write functions and procedures around that object.

What is the LOCAL-STORAGE SECTION?

- Local-Storage is allocated each time the program is called and will be de-allocated when the program stops via an EXIT PROGRAM, GOBACK, or STOP RUN.
- It is defined in the DATA DIVISION after WORKING-STORAGE SECTION

What are INPUT PROCEDURE and OUTPUT PROCEDURE?

- In the INPUT PROCEDURE, the input file is opened, records are read and edited and then are released to the sorting operation. Finally the file will be closed.

RELEASE recordname FROM inputrecord

- In the OUTPUT PROCEDURE, output file is opened, the sorted record is returned to the Output record and then the record will be written. Finally the file will be closed.

RETURN file RECORD into outputrecord

What is the use of LINKAGE SECTION?

- The linkage section is used to pass data from one program to another program or to pass data from a procedure to a program. It is part of a called program that maps to data items in the calling program's working storage.

What are the access modes of START statement?

- Access modes are SEQUENTIAL or DYNAMIC for the start statement.

What is an in-line PERFORM?

- An IN-LINE PERFORM Statement allows the routine being performed to be nested within the perform statement itself instead of being a separate paragraph
- The PERFORM and END-PERFORM statements are used to block the cobol statements between them. In line PERFORM work as long as there are no internal GO TOs, not even to an exit.

Which division and paragraphs are mandatory for a COBOL program?

- Identification division and Program ID are mandatory for a COBOL program.

What is the difference between Global and External Variables? 19. What is the difference between Global and External Variables?

- Global variables are accessible only to the batch program whereas external variables can be referenced from any batch program residing in the same system library.

What is Pic 9v99 Indicates?

- Pic 9v99 is a three position Numeric field with an implied or assumed decimal point after the first position.

Here, v means an implied decimal point.

How do we get current date from system with century?

- Current date with the century is achieved by using Intrinsic function called `FUNCTION CURRENT-DATE`.

What is a SSRANGE and NOSSRANGE?

- These are options for a compiler to find the subscript out of range. NOSSRANGE is the default option where there will not be any run time error if index or subscript went out of a range.

What is COMP-1? COMP-2?

- COMP-1 is a Single precision floating point and uses four bytes. COMP2 is the double precision floating number and uses eight bytes.

What is the Purpose of Pointer in the string?

- The Purpose of Pointer is to specify the leftmost position within receiving field where the first transferred character will be stored.

What is the difference between PIC 9.99 and PIC9v99? 26. What is the difference between PIC 9.99 and PIC9v99?

- PIC 9.99 is a four position field that actually contains a decimal point where as PIC 9v99 is three position numeric field with assumed decimal position.

What is binary search?

- First, we have to compare the item to be searched with the item at the center.
- If it matches, it is good to go with the value else repeat the process with the left half or the right half depending on where the item lies.
- Data Elements must be sorted to perform this search operation.

What is the difference between a binary search and a sequential search?

- In a binary search, the table element key values will be in ascending or descending sequence. The table is 'halved'(Divided into two) to search for equal to, greater than or less than conditions until the element is found.
- In a sequential search, the table is searched from top to bottom, so the elements do not have to be in a specific sequence.
- The binary search is much faster for more tables, while sequential Search works well with lesser ones. SEARCH ALL is used for binary search; SEARCH for sequential search.

Can a Search can be done on a table with or without Index?

- No, the table must be indexed to search on a table.

What are the different rules to perform a Search?

The SEARCH can be applied to a table

- Which has OCCURS clause
- INDEXED BY phrase
- Search Index must have some initial value
- Set the index value to 1

What are the different rules of SORT operation?

SORT can be performed when

- Input and Output files must remain closed
- Working file must have a select clause
- Input and Output files have FD entries
- Work file should have short description in File Section

A table has two indexes defined. Which one will be used by the SEARCH?

- The index named first can be used by search.

When is a scope terminator mandatory?

- Scope terminators are mandatory for in-line PERFORMS and EVALUATE statements. Make scope terminator as explicit for good coding standards.

Why is it necessary that file needs to be opened in I-O mode for REWRITE?

- Before the REWRITE is performed, the record must be open and read from the file. Therefore, the file must be opened in I-O mode for rewrite functionality.

How many Sections are there in Data Division?

- File Section
- Working Storage Section
- Local Storage Section
- Screen Section
- Report Section
- Linkage Section

Give some examples of command terminators?

- End IF and End Evaluate are the examples of command terminators.

What is the difference between Call and a Link?

- A call is an actual COBOL command which provokes an external program and returns. Link is same as Call but it does not belong to a COBOL verb.

Can we redefine the field of $X(200)$ to less than 200?

- Yes, we can redefine the values from bigger number to smaller number.

What is 'IS NUMERIC' clause?

- IS NUMERIC clause is used to check if any item is numeric or not. It returns TRUE when the item against which it is used contains only numbers(0 to 9) . The item can be positive or negative.

What is the difference between Call By Content and Call By Reference?

- The parameters passed in a Call By Content are protected from modification by the called program. In Call By Reference, parameters can be modified by the called program

What will happen if you code GO BACK instead of STOP RUN in a stand alone COBOL program?

- The program will go in an infinite loop.
- A Stop run ends the unit of work and returns control to the operating system whereas GOBACK returns control to calling program. So if we code GO BACK instead of Stop Run, it will go in infinite loop.

What is the purpose of Identification Division?

- Identification Division is used for documentation purpose.

How is sign stored in a COMP3 field?

- It is stored in the last nibble.

What is Redefines clause?

- Redefines clause is used to allow the same storage allocation to be referenced by different data names.

What is the use of EVALUATE statement?

- Evaluate is like a case statement and can be used to replace nested ifs. No break is required as the control comes out as soon as match is found.

What is 77 level used for?

- It is an elementary level item which cannot be subdivided.

What is the function of Accept Verb?

- Accept Verb is used to get data such as date, time, and day from operating system or directly from the user. If a program is accepting data from the user, then it needs to be passed through the JCL.

Where does AREA B in COBOL start from?

- Area B starts from 12 to 72 column.

If 123 value is moved to a PP999 PIC clause,
then what is edited value taken?

- .00123 edited value will be taken. P is assumed decimal scaling position which is used to specify the location of an assumed decimal point when the point is not within the number that appears in the data item. .PIC PP999 means that numeric data item is of 3 characters and there are 5 positions after the decimal point.

How many bytes does a S9(7) SIGN TRAILING SEPARATE field occupy?

- 9(7) will take 7 bytes and 1 byte for SIGN, so total 8 bytes it will take.

What is the use of COPYBOOK in COBOL?
Can we use the same COPYBOOK for
multiple files in the same program?

- COPYBOOK helps to save the layout of any file and helps to use the same layout across any program.
- Yes, we can refer same copybook for multiple files if the layout is same and REPLACING option is to be used along with COPYBOOK for that.

What is the difference between INCLUDE and COPY ?

- Not much difference is there in the way they work. They both help to expand layout in a program. The only difference is INCLUDE gets expanded at PRECOMPILATION stage itself and is the reason why all DCLGEN members are expanded using INCLUDE.

How to identify a file as a FB or a VB file by looking at the COBOL program?

- By looking at the recording mode option in COBOL program, we can say whether the file is Fixed block or Variable block file. F is the value for FB file and V is the value for VB file

Can we move Alpha numeric value to Numeric field?

- Yes, we can move and it will not create any issue as long it is only a MOVE statement. But program might fail sometimes if the field is in used in arithmetic calculations

When is INSPECT verb is used in COBOL?

- INSPECT is used to know number of times a specific character occurs or to replace some portion of data.

Difference between GOBACK ,STOP RUN and EXIT PROGRAM in COBOL?

- GOBACK returns control to the calling program
- STOP RUN stops the current work unit and returns control to OS
- EXIT PROGRAM is used to come out of a program that has been called by another program

What is the difference between Delimited by Space and Delimited by Size?

- In delimited by Space, Space is considered as a delimiter
- In delimited by size, total size of data item is considered as delimiter

Can we use MAX or MIN with Alpha numeric data?

- Yes,we can use it.

How to pass return code from COBOL to JCL?

- There is a defined word RETURNCODE in COBOL which can be used to pass data from program to JCL

How to pass data from JCL to COBOL?

- We can either pass via PARM or SYSIN.

Explain sorting techniques in COBOL program? With Example

- COBOL supports 2 sorting techniques.
- 1. Ascending order of sorting is done by using ASCENDING KEY clause
- 2. Descending order of sorting is done by using DESCENDING KEY clause

A sort file definition is:

```
SORT SORT-EMPLOYEE ON ASCENDING KEY EMPID USING  
SOURCE-EMPLOYEE GIVING TARGET-EMPLOYEE
```

The sort file is defined by using

- SORT verb
- ON order of sorting,

- Specifying key field
- USING source file
- GIVING target file

The SORT-EMPLOYEE file is the “workfile” that is the interface between source file and target file. SORT-EMPLOYEE is not the actual file, but it is declarative file that communicates to the compiler as an external file.

- ON ASCENDING KEY EMPID – indicates the order of sorting is ascending and the key field is EMPID SOURCE-EMPLOYEE is the source file that is to be sorted TARGET-FILE is the resultant file that will have sorted records of source file

How to remove the spaces at the end of each record in the output file of variable length, via COBOL program?

- Spaces at the end of the record are called trailing spaces. There are no functions to trim the trailing space. It can be done by altering the RECORD LENGTH. The following is the accomplish this task Assuming that a variable length file has maximum record length as 4000 Move the original record length value to RECORDLENGTH. This process enables the trimming off the entire record that is beyond the length. In case the data is populated only up to 3000 bytes. Then move 3000 to RECORDLENGTH. By implementing the above process, the record would trim off the trailing 1000 bytes.