

# JCL

How many levels of nesting is allowed in PROCs?

Ans-1. 15

If the "DISP=" keyword is not coded for an existing dataset, what default values will be used for "DISP="?

Ans-2. If the "DISP=" keyword is not coded ,then the DEFAULT Values are :  
DISP=(NEW,DELETE,DELETE)

If the "DISP=" keyword is not coded for a new dataset, what default values will be used for "DISP="?

Ans-3. If the "DISP=" keyword is not coded ,then the DEFAULT Values are :  
DISP=(NEW,DELETE,DELETE)

What does COND=ONLY mean?

Ans-4. - It means that job step will be executed only if previous steps abnormally terminate

What does COND=EVEN mean

Ans-5. It means that job step will be executed even if one of the previous steps abnormally terminates

Question: Can you execute a PROC from another PROC?

Answer: Yes. Only if cataloged in SYS1.PROCLIB. Upto 15 levels are allowed.

2. Question: What is a DD statement?

2. Answer: Data Definition

3. Question: What will happen if you attempt to restart a job in the middle of a JCL // IF .... // ENDIF?

4. Answer: Job will fall through to the ENDIF (not executing any steps), then resume execution with the first step AFTER the // ENDIF.

5. Question: WHAT IS A FILE?

5. Answer: A FILE IS A COLLECTIVE GROUP OF RECORDS. THE NUMBER OF RECORDS ON A FILE DEPENDS ENTIRELY ON THE APPLICATION ASSOCIATED WITH THE FILE. FILES MAY CONTAIN A FEW RECORDS, THOUSANDS, OR EVEN MILLIONS OF RECORDS.

6. Question: HOW MANY POSITONAL PARAMETERS ARE THERE IN JOBSTATEMENT?

6. Answer: THER ARE TWO POSITION PARAMETERS IN JOB STATEMENT.

7. Question: What are three parameters you can specify on Job statement as well as on exec stmt ?

7. Answer: Time , Region and Cond parameters

8. Question: How can you trap abends in the JCL?

8. Answer: Use IF ABEND statement in the JCL.

9. Question: How do you restart a step in JCL?

9. Answer: Use RESTART=step name.

10. Question: how do you pass parameters to tne program as the job is being executed ?

10. Answer: by using 'parm' parameter in exec statement. the value mentioned here should be declared in linkage section in the program and process thru procedure division. this technique is very useful when you do not know the paramtrs at the time of coding the programs.

11. Question: Why do you use a controlcard?

11. Answer: A controlcard can be a member of a pds or a sequential dataset and is used for storing the date fields, Definitions of VSAM files....etc. You use controlcard because you cannot use a instream procedure in a procedure. Generally you will be calling a Proc from your Jcl and you cannot code instream procedure in the Proc and so you will point to the dataset which is called controlcard.

12. Question: How do you submit JCL via a Cobol program? For the above question the solution is as follows..

12. Answer: In your JCL define as//JOBA JOB 1111,JOB1//STEP01 EXEC PGM=PROG1//ddname DD SYSOUT=(\*,INTRDR)....and your COBOL(PROG1) should look like thisSELECT JCL-FILE ASSIGN TO ddname.Open this file and write the JCL statements into this file.Example.MOVE '//TESTJOB JOB 1111,VISVEISH' TO JCL-REC.MOVE '//STEP01 EXEC PGM=IEFBR14' TO JCL-REC.and close this file.Then TESTJOB will be submitted.

13. Question: How do you submit a JCL under CICS environment ?

13. Answer: pass all the jcl codes to a COBOL variable(should be declare using OCCURS clas) and the write the line one by one to the spool using CICS commands like SPOOLClose SPOOLOpen SPOOLWrite . For more help reffer CECI of CICS or CICS manual

14. Question: What is the parameter to be passed in the job card for the unlimited time , irrespective of the job class

14. Answer: TIME=1440

15. Question: Definition of COND p-r in JCL and a correction to a previously posted question

15. Answer: COND is a condition parameter, consists of 2 subparameters, 1st - return code from the previous step, 2nd - condition. If COND is true, the step on which COND is coded will be BYPASSED.

16. Question: Q) WHAT IS MEANT BY S07C AND S0C30 SYSTEM ABEND CODES(QUESTION ASKED BY Mr. PRAVEEN)?

16. Answer: A) S0C7 - Data exception error - you will get it whenever you are trying to move the low values or spaces into the numeric field, or compare the numeric fields with low values, or try to do some arithmetic operations on the low values. To avoid this you have to always initialize the numeric fields otherwise they will contain the low values.S0C 30 - I have never heard of it, let you know if I come accross it.

17. Question: How to pass the temp dataset form one JOB step to another?

17. Answer: By specifying the DISP as PASS for the temp dataset

18. Question: What is a COND parameter in JCL?

18. Answer: COND means condition parameter. It is compared with systemreturn code of previous step.//step1 exec pgm=abcd//step2 exec pgm=xyz, cond=(4,lt)step2 will be executed when system return code of step1 isless than 4.

19. Question: WRITE A JCL TO EXECUTE A JOB BY 7 A.M ON JAN 20,1986 ?

19. Answer: THE code IS : /\*MAIN DEADLINE=(0700,B,012086)

20. Question: HOW MANY TYPES OF LIBRARIES ARE THERE IN JCL ?

20. Answer: LIBRARIES ARE OF THREE TYPES.1.SYTEM LIBRARIES: SUCH AS SYS1.LINKLIB 2.PRIVATE LIBRARIES: SPECIFIED IN A JOBLIB OR STEPLIB DD STATEMENTS.3.TEMPORARY LIBRARIES:CREATED IN A PREVIOUS STEP OF THE JOB.

21. Question: WHAT U MEAN BY INCLUDE STATEMENT IN JCL ?

21. Answer: AN INCLUDE STATEMENT IDENTIFIES A MEMBER OF A PDS OR PDSE THAT CONTAINS THIS SET OF JCL STATEMENTS IS CALLED AN INCLUDE GROUP. THE SYSTEM REPLACES THE INCLUDE STATEMENT WITH THE STATEMENTS IN THE INCLUDE GROUP.

22. Question: THE MAXIMUM NUMBER OF IN-STREAM PROCEDURE YOU CAN CODE IN ANY JCL IS ?

22. Answer: 15.

23. Question: What you mean by skeleton JCL?

23. Answer: Jcl which changes during run time i.e. the values for the jcl such as pgm name, dd name will change. i.e. same jcl can be used for various jobs, equivalent to dynamic sql...

24. Question: How do you submit a JCL under CICS environment ?

24. Answer: Edit the JCL in Extra partition TDQ and submit the same using some system command (not sure) under CICS subsystem. This is what I think, please clarify....

25. Question: what is jcl

25. Answer: it is interface between operating system(mvs) & application program. when 2 related programs are combined together on control statements is called job control language

26. Question: What is the max blocksize for a Tape file?

26. Answer: It is 32,760. Based on that we can calculate efficient number of Records in a Block

27. Question: What are the basic JCL Statements for a Job?

27. Answer: 1.JOB : Identifies a job and supplies accounting info 2.EXEC : Identifies a job step by indicating the name of the program to be executed. 3.DD : Identifies a data set to be allocated for the job step 4.Delimiter (/): Marks the end of an in-stream dataset 5.Null(//):Marks the end of a job 6.Comments(//): Provides Comments 7.PROC : Marks the beginning of a procedure 8.PEND : Marks the end of a procedure 9.OUTPUT: Supplies options for SYSOUT processing.

28. Question: What do the statements: typrun=scan and typrun=hold do in a JCL statement

28. Answer: typrun=scan checks the JCL for errors, typrun=hold holdsthe job until further notice.

29. Question: Which of the following is Online transaction? CICS, DB2 and JCI

29. Answer: CICS

30. Question: How many PERFORM's are there in COBOL-II?

30. Answer: 5

31. Question: which is the most widely used batch performance monitor for DB2?

31. Answer: DB2PM

32. Question: What is QSAM error usually when it is occurs?

32. Answer: Usually it is occurs at the time of job submission.

33. Question: what is the purpose of include statement in a jcl?

33. Answer: It is used as an alternative for steplib. When we specify the dataset name in include ,it will search in all the datasets specified in the include dataset.

34. Question: IS IT POSSIBLE TO KNOW THE REMAINING FREE SPACE IN AN CONTROL INTERVAL/CONTROL AREA ONCE AN INSERTION HAS BEEN MADE.

34. Answer: NOT POSSIBLE

35. Question: what does soc04 error mean?

35. Answer: this error is faced when we execute the cobol program. the main reason for this error is that a variable is defined with less characters and we are trying to move data which is larger than the actual storage space.

36. Question: What is JCL

36. Answer: JCL is Job Control Language and is used for Batch processing. The startup procedures of OS and standard products like CICS etc are written in JCL.

37. Question: In which table PLAN is registered in ?

37. Answer: RCT

38. Question: GDG?

38. Answer: GDG - group of dataset that are logically or chronologically related, referred by name and a relative generation number - an integer which identifies the generation of a dataset and is coded in parentheses after dataset name. Absolute GDG name - GxxxxVyy, where xxxx-absolute gen.number, yy-version number.

Can be sequential, direct, partitioned. (VSAM - no).

Must always be cataloged. Advantage - all datasets have the same name and system keeps track of adding new and retaining previous generations and deleting oldest successive generation. To create a GDG we create a GDG index in the system catalog with IDCAMS utility and then a model (prototype, DSCB) on the same volume to supply DCB information. Empty - when limit is reached all members are removed from the index, otherwise-only oldest. Scratch-removed members are uncataloged & deleted, otherwise - removed & uncataloged, but remain in the system (not members of GDG any more). GDG number is updated at the end of the job.

If number is not specified all generations will be processed from the beginning

40. Question: what do you mean By spooling? Expand SPOOL?

40. Answer: This is managed by JES.This is used for Queuing the Outputs that are intended for Printing and are first stored in SPOOLDASD. This can be managed Using

41. Question: How many Instream-Procedures(procs) can be Coded in a single Job?

41. Answer: The Answer is: 15

42. Question: FOR HOW LONG A JOB CAN BE EXECUTED CONTINUEOUSLY IN A MAINFRAME

42. Answer: 248 DAYS

43. Question: How may divisions are there in JCL-COBOL?

43. Answer: SIX

44. Question: MAX. NO OF DD STATEMENTS IN A JOB

44. Answer: 3273

45. Question: HOW MUCH SPACE OS ALLOCATES WHEN YOU CREATE A PS OR PDS?

45. Answer: 56 KB

46. Question: MIN NO OF DATASET NAMES(PDS) IN ONE DIRECTORY BLOCK?

46. Answer: SIX

47. Question: THE MAXIMUM NUMBER OF STEPS IN A JOB?

47. Answer: 255

48. Question: How much is memory space involved, when we code BLOCKSIZE,TRK & CYL

48. Answer: One block constitutes 32KB of formatted memory/ 42KB of Unformatted memory,6 blocks makes one Track & 15 Tracks makes one cylinder.

49. Question: Corrections in the answers.

49. Answer: I think the answer for the question by Kyati on march 19/1998 about Maximum number of extents in secondary allocation is 16 & not one.I think there is a missing Disposition parameter for the question by Anon on march 11/1998-- Please add PASS.

50. Question: What is DSNDB06 ?

50. Answer: This is the Place where DB2 Catalog resides

51. Question: What is the use of DSNDB07 ?

51. Answer: This is the area where sorting takes place in DB2

52. Question: What is the purpose of Identification Division?

52. Answer: Documentation.

53. Question: What is JCL?

53. Answer: job control language

54. Question: WHAT IS DATACOM DB?

54. Answer: IT IS A DATABASE USED WITH VSE.

55. Question: What is a Dummy Utility and what it does ?

55. Answer: IEFBR14 is a Dummy utility and it is used for the sake of EXEC PGM= .... statement in JCL[when used it wouldn't perform any task]. e.g. While Allocating a dataset you don't have to run any utility [this could be done by giving disp=new in DD statement]. But for a PGM name must be given in EXEC statement, it is used.

56. Question: What 3 guidelines do we have to follow when concatenating DD statements?

56. Answer: 1. Datasets must be of the same type (disk or tape) 2. All datasets must have the same logical record length 3 The dataset with the largest blocksize must be listed first.

57. Question: On the DD statement, what is the main difference between creating a new sequential flat file and a partitioned dataset?

57. Answer: SPACE=(n,m) for a sequential file, SPACE=(n,m,p) for a PDS where n, m, and p are numbers.

The p designates how many directory blocks to allocate.

58. Question: What is the difference between IEBGENER, IEBCOPY and REPRO in IDCAMS utility?

58. Answer: IEBGENER -- This is a dataset utility for copying sequential datasets which produces a PDS or a member from a sequential dataset. IEBCOPY -- This is a dataset utility for copying one PDS to another or to merge PDSs. REPRO -- This is for copying sequential datasets. More or less same as the IEBGENER. RAVI

59. Question: How do you submit JCL via a Cobol program?

59. Answer: Use a file //dd1 DD sysout=(\*,intrdr) write your JCL to this file. Pl some one try this out.

60. Question: How to execute a set of JCL statements from a COBOL program

60. Answer: Using EXEC CICS SPOOL WRITE(var-name) END-EXEC command. var-name is a COBOL host structure containing JCL statements.

61. Question: What is the difference between static call & Dynamic call

61. Answer: In the case of Static call, the called program is a stand alone program, it is an executable program. During run time we can call it in our calling program. As about Dynamic call, the called program is not an executable program it can be executed thru the calling program.

62. Question: What is the difference between cataloged procedure and In-Stream procedure?

62. Answer: In-Stream procedures are sets of JCL statements written between JOB and EXEC statements, start with PROC and end with PEND statement. Mainly used to test cataloged procedures. Cataloged procedure is cataloged on the procedure library and is called by specifying the procedure name on the EXEC statement.



63. Question: What do you feel makes a good program?

63. Answer: a program that follows a top down approach. It is also one that other programmers or users can follow logically and is easy to read and understand.

64. Question: can we browse or edit the GDG dataset if it is a tape entry?

64. Answer: No ,

65. Question: What are the maximum and minimum sizes of any CONTROL AREA (VSAM datasets) ?

65. Answer: Minimum Size : 1 track Maximum size : 1 cylinder

66. Question: HOW TO GET CURSOR POSITION FROM SYSTEM IN CICS ENVIRONMENT ?

66. Answer: GET IT FROM EIBCURPOS !

67. Question: How many parameters are there to a DISP statement and what are their uses.

67. Answer: There are three(3) parameters. Parameter 1: current data set disposition(new, shr, old, mod) Parameter 2: normal close action for data set (catlg, keep, delete) Parameter 3:abend action for data set (catlg, keep, delete).

68. Question: What is the error code SOC01 indicate ?

68. Answer: Operation exception error For eg a dataset open error

69. Question: WHAT IS COMM?

69. Answer: COMM - HALF WORD BINARY

70. Question: What is a procedure?

70. Answer: A set of precoded JCL that can be modified through the use of parameters or override cards. Note: Procedures can be catalogued or instream.

71. Question: What is the difference between specifying DISP=OLD and DISP=SHR for a dataset?

71. Answer: OLD specifies exclusive use of a dataset, SHR allows multiple jobs to concurrently access the dataset Note: When updating a dataset, you would normally use OLD.

72. Question: What are the three basic types of statements in a jobstream?

72. Answer: JOB(one per jobstream)EXEC(one or more per job)DD(one or more per jobstep)

73. Question: What does SYSIN \* indicate?

73. Answer: Instream data follows this card and is terminated when followed by a card containing // or /\* in columns 1 and 2.

74. Question: What are three major types of JCL statements? What are their functions?

74. Answer: JOB, EXEC, DD. JOB - indicates start of jobstream to the operating system and through parms coded on it, certain details about the job (time, region, message level, job accounting data). EXEC - indicates the start of execution of a particular job step, be that step a program or a proc.DD - is a data definition, which is used to describe the attributes of a data set (name, unit, type, space, disposition).

What are the features of JCL.

- A. JCL consists of control statements that introduces a computer job to an OS. JCL contains a set of statements referred to as Program control cards, provides necessary specifications such I/O resource requirements to process a Job. JCL is used for submitting batch jobs. JCL is not a procedural language like COBOL and is also not used to write Programs.

Briefly describe the Format of JCL statement.

A. //name operation operand comment

- Name field identifies the statement. It should be of a maximum of 8 characters long, should start from 3rd column, The first character must be an alphabet.
- Operation field specifies the type of statement, viz. JOB - makes the beginning of the JOB, or EXEC - follows JOB statement, and names the Program / Procedure to be executed, or DD - defines the file and requests the allocation of I/O devices. PROC begins a catalogued or instreamed procedures, while PEND marks the end of in-stream procedure. JCLLIB/STEPLIB specifies the private libraries containing the catalogued procedures and JCL referred to by Include statements. SET assigns values to symbolic parameters in catalog procedures, INCLUDE allows JCL stored in partitioned dataset to be included in the job stream. IF/THEN/ELSE/END allows selective execution of Job steps. CNTL and ENDCNTL marks the start and end of control statements in the input stream. OUTPUT Supplies options for SYSOUT processing. /\* indicates the end of data. /\* marks as comment line. // Marks the end of Job.
- Operand field supplies information to JCL in the form of parameters (positional and key-word).

- Positional parameters are characterized by their position in relation to other parameters. The Key-word parameters are independent of their position and characterized by key-word and '='.
- Key-word and positional parameters may have sub-parameters enclosed in parenthesis that may be positional or key-word parameters, following their corresponding rules.
- The various parameters are separated by Commas, The absence of positional parameters are indicated by coding a coma in it's place. Comma's need be provided, if all subsequent positional parameters are absent. The enclosing parameters can be omitted, if there is only one value.
- Nothing needs to be coded if all positional parameters are absent. Key word parameters can be coded in any order after any positional parameters. Comments field is optional.
- 

#### What are the general rules in coding a JCL?

Start all statements in column 1 with appropriate // or /\* or space. An entry in the name field must begin in column 3 and be followed by atleast one space. There must not be any embedded blanks within fields, parameters must be separated by commas. Column 1 to 71 contains the JCL information. Use '-' for continuation. Comments may be written on comment line or by leaving a blank after all the operands.

#### Explain JOB statement.

Jobname, (acctnum,acctname) (positional parms),'Name' (positional parm), CLASS= , PRTY= , MSGCLASS= , MSGLEVEL= , TYPRUN= , NOTIFY= . CLASS and MSGCLASS can have one of the 36 values, A-Z and 0-9. Class depends on the amount of CPU time required and use of tapes by the job. MSGCLASS specifies the job scheduler message output class. TYPRUN can be SCAN or HOLD. PRTY is used to specify the priority of the job, smaller number indicates higher priority (allowed values are 0-15 for JES2 and 0-14 for JES3). MSGLEVEL have two positional parameters stmts, mesgs; Stmt of '0' indicates print only Job statements, '2'-print all JCL and JES statements and Messages, '3'-only JCL & JES statements print; Mesgs of '0' only JCL messages print; if the job ABENDs, then JES messages too, '1'- JCL and JES messages print. NOTIFY is used to notify the user about the completion of Job.

#### Explain EXEC statement with the various parameters used.

The PGM parameter specifies the Program to be executed. ACCT parameter is used to specify the accounting number of the Step, if it is different from the Job accounting number. PARM is used to send values to the program, when it is executed. REGION specifies the amount of storage a Job step can use. DPRTY is used to specify priority to the step. COND specifies the condition for executing subsequent Job step. TIME sets a CPU time limit for a Job step. Ex. //step1 exec pgm=prog1,param='aa',region=64k

### What are the DD statements used for Peripheral I/O devices?

A. For Input stream datasets SYSIN is traditionally used as ddname. Use SYSOUT parameter to indicate the Output stream dataset.

### 7. Explain the DD statement.

ddname - specifies the name of the DD statement. DSN= is used to specify the dataset name to OS, &&name is used to specify a temporary dataset. DISP=(status,norm,abnorm) is used to specify the Disposition of the DS, with the status at beginning and norm,abend after execution, valid options are new, old, shr, mod for status, keep,catalog,uncatalog,delete for normal & abnormal run's, In addition Pass is also used for normal run. UNIT specifies the I/O devices. VOL, SPACE and DCB are others.

### 8. Explain Job Entry System.

#### What are the differences between JES2 & JES3 ? Allstate uses JES2.

JES is used to accept jobs and run them on one of several computers connected together in a network. JES consists of statements placed before or after the JOB statement to direct Jobs to the computer in a network. (i) In JES2 computers are connected in a network, and each computer is termed as a node. In JES3 several computers are connected closely together and all of the scheduling is done by a single computer that is called a global processor. (ii) In JES2 each computer in a network can select jobs from it's queue (decentralized system), while in JES3 the global processor schedules the jobs in queue to itself or to the other computers connected to it (centralized system). (iii) JES3 allocates datasets for all the steps before the job is scheduled. In JES2, allocation of datasets required by a step are done only just before the step executes. (iv) All the jobs are placed in single Job Queue in JES2 & JES3. They can also route the output to some destination. JES2 statements can not be placed in a cataloged Procedure.

### Explain Cataloged Procedures.

The JCL statements that have potential use by several users are often placed in a cataloged procedure, which can be invoked by a single exec statement. They are stored in a PDS (need to be specified by JCLLIB ORDER=(dsn,dsn,...) statement) or SYS1.PROCLIB system library. It begins with PROC statement and followed by JCL statements that constitute the procedure.

### Explain In-stream Procedure.

In-stream procedure starts with a PROC statement and end with PEND statement. In-stream procedure's can be included after the JOB statement but before the first EXEC statement. Up to 15 in-stream procedures are allowed in a JOB, with each in-stream procedure allowed to be executed several times.

### Explain Symbolic Parameters.

A. To run a procedure for various jobs, we may have the need to modify the DD statements every time in the procedure, for that we can use Symbolic

parameters which provides the means to modify procedures for execution. Symbolic parameters are preceded with ampersand (&) and may be 1 to 7 alphanumeric characters long, which must be coded in the operand field of JCL statements. Key words on EXEC statement such as COND, PARM, PGM cannot be coded as symbolic parameter names. Values can be assigned to EXEC or SET statement on the PROC statement for duration of the run.

#### How do you assign values to Symbolic parameters?

Values can be assigned to symbolic parameters on PROC, EXEC and SET statements of a JCL. Values containing special characters other than blank, . ' \* must be coded in apostrophes ". Values assigned to symbolic parameters can be of any length but can't be continued on next line. Symbolic parameters can be concatenated with other symbolic parameters. Nullify the symbolic parameter value by coding the key word followed equal sign without a value, either on PROC or EXEC statement. Delimiter such as leading or trailing commas next to Symbolic parameters are not removed.

#### Explain the SET command.

A SET statement is used to assign values to symbolic parameters. Any number of SET statements can be included in a JCL. SET can be placed in a catalog procedure to assign default values rather than to assign values on the PROC statement. SET can be placed in JOBSTREAM to assign default values rather than assign values on EXEC statement. A new SET statement can change the value of previous SET statement. A value of SET by PROC statement is changed, if a SET statement appears within the procedure. SET statement can be placed anywhere following the Job statement. SET is conditional and is not affected by condition execution of the IF-THEN-ELSE-ENDIF. SET statement can replace setting symbolic parameter values on both EXEC and PROC statement, they also allow to create symbolic values in JCL and assign them without having to create a cataloged or in-stream procedures.

#### Explain Nesting Procedure.

In-stream procedures can be nested to a maximum of 15 levels (i.e. one proc invoking other and so on). We can not make backward reference between nested procedure. Up to only one overriding statement is possible. All step-names should be unique so that we can override them correctly.

#### Explain Include statement.

A. It is used to copy in JCL stored as a member of a PDS using the JCLLIB statement to name the PDS and placing INCLUDE statements in the JCL, where we want the members to be copied. //INCLUDE MEMBER=member-name . PDS must be named with JCLLIB statement. PDS must be cataloged and have DCB attributes of LRECL=80 and RECFM=F or FB. It can be placed anywhere after JOB statement. Placed in Cataloged and In-stream procedures. Include group can be nested up to 15 levels. Include can not contain JOB, PROC/PEND, JCLLIB, DD \*, JES2 & JES3 statements.

What is primary allocation for a dataset?

- A. The space allocated when the dataset is first created.

What is the difference between primary and secondary allocations for a dataset?

- A. Secondary allocation is done when more space is required than what has already been allocated.

How many extents are possible for a sequential file ? For a VSAM file ?

- A. 16 extents on a volume for a sequential file and 123 for a VSAM file.

What does a disposition of (NEW,CATLG,DELETE) mean?

- A. That this is a new dataset and needs to be allocated, to CATLG the dataset if the step is successful and to delete the dataset if the step abends.

What does a disposition of (NEW,CATLG,KEEP) mean?

- A. That this is a new dataset and needs to be allocated, to CATLG the dataset if the step is successful and to KEEP but not CATLG the dataset if the step abends. Thus if the step abends, the dataset would not be catalogued and we would need to supply the vol. ser the next time we refer to it.

How do you access a file that had a disposition of KEEP?

Need to supply volume serial no. VOL=SER=xxxx.

What does a disposition of (MOD,DELETE,DELETE) mean ?

The MOD will cause the dataset to be created (if it does not exist), and then the two DELETE 's will cause the dataset to be deleted whether the step abends or not. This disposition is used to clear out a dataset at the beginning of a job.

What is the DD statement for a output file?

- A. Unless allocated earlier, will have the following parameters:  
DISP=(NEW,CATLG,DELETE), UNIT , SPACE & DCB .

What do you do if you do not want to keep all the space allocated to a dataset?

- A. Specify the parameter RLSE ( release ) in the SPACE e.g.  
SPACE=(CYL,(50,50),RLSE)

What is DISP=(NEW,PASS,DELETE)?

- A. This is a new file and create it, if the step terminates normally, pass it to the subsequent steps and if step abends, delete it. This dataset will not exist beyond the JCL.

How do you create a temporary dataset? Where will you use them?

- A. Temporary datasets can be created either by not specifying any DSN or by specifying the temporary file indicator as in DSN=&&TEMP. We use them to carry the output of one step to another step in the same job. The dataset will not be retained once the job completes.

#### How do you restart a proc from a particular step?

- A. In job card, specify RESTART=procstep.stepname. where procstep = name of the JCL step that invoked the procedure and stepname = name of the procedure step where you want execution to start

#### How do you skip a particular step in a proc/JOB?

- A. Can use either condition codes or use the jcl control statement IF (only in ESA JCL)

#### A PROC has five steps. Step 3 has a condition code. How can you override/nullify this condition code?

- A. Provide the override on the EXEC stmt in the JCL as follows:

//STEP001 EXEC procname,COND.stepname=value

All parameters on an EXEC stmt in the proc such as COND, PARM have to be overridden like this.

#### How do you override a specific DDNAME/SYSIN in PROC from a JCL?

//<stepname.dd> DSN=...

#### What is NOTCAT 2

- A. This is an MVS message indicating that a duplicate catalog entry exists. E.g., if you already have a dataset with dsn = 'xxxx.yyyy' and u try to create one with disp=new,catlg, you would get this error. The program open and write would go through and at the end of the step the system would try to put it in the system catalog. At this point since an entry already exists the catlg would fail and give this message. You can fix the problem by deleting/uncataloging the first dataset and going to the volume where the new dataset exists (this info is in msglog of job) and cataloging.

#### What is 'S0C7' abend? What is a S0C4 error ?

S0C7 is Caused by invalid data in a numeric field. S0C4 is a Storage violation error - can be due to various reasons. e.g.: READING a file that is not open, invalid address referenced due to subscript error.

#### What are SD37, SB37, SE37 abends?

A. All indicate dataset out of space. SD37 - no secondary allocation was specified. SB37 - end of vol. and no further volumes specified. SE37 - Max. of 16 extents already allocated.

#### 34. What is S322 abend ?

A. Indicates a time out abend. Your program has taken more CPU time than the default limit for the job class. Could indicate an infinite loop.

#### Why do you want to specify the REGION parameter in a JCL step?



- A. To override the REGION defined at the JOB card level. REGION specifies the max region size. REGION=0K or 0M or omitting REGION means no limit will be applied.

What does the TIME parameter signify ? What does TIME=1440 mean ?

- A. TIME parameter can be used to overcome S322 abends for programs that genuinely need more CPU time. TIME=1440 means no CPU time limit is to be applied to this step.

What is COND=EVEN ? What is COND=ONLY ?

- A. COND=EVEN Means execute this step even if any of the previous steps, terminated abnormally.  
COND=ONLY Means execute this step only if any of the previous steps, terminated abnormally.

How do you check the syntax of a JCL without running it?

- A. TYPERUN=SCAN on the JOB card or use JSCAN.

What does IEBGENER do?

- A. Used to copy one QSAM file to another. Source dataset should be described using SYSUT1 ddname. Destination dataset should be described using SYSUT2. IEBGENER can also do some reformatting of data by supplying control cards via SYSIN.

How do you send the output of a COBOL program to a member of a PDS?

- A. Code the DSN as PDS(member) with a DISP of SHR. The disp applies to the PDS and not to a specific member.

I have multiple jobs ( JCL 's with several JOB cards ) in a member. What happens if I submit it?

- A. Multiple jobs are submitted (as many jobs as the number of JOB cards).

41. I have a COBOL program that ACCEPT 's some input data. How do you code the JCL statement for this? (How do you code in-stream data in a JCL?)

- A. //SYSIN DD\*

input data  
/\*

Can you code in-stream data in a PROC? How do you overcome this limitation?

- A. No. One way is to code SYSIN DD DUMMY in PROC, and then override it in JCL with in-stream data.

How do you run a COBOL batch program from a JCL? How do you run a COBOL/DB2 program?

- A. To run a non DB2 COBOL program: //STEP001 EXEC PGM=MYPROG  
To run a DB2 COBOL program:



```
//STEP001 EXEC PGM=IKJEFT01
//SYSTSIN DD *
DSN SYSTEM(....)
RUN PROGRAM(MYPROG)
PLAN(.....) LIB(....) PARMS(...)
/*
```

What is STEPLIB, JOBLIB? What is it used for?

- A. Specifies that the private library (or libraries) specified should be searched before the default system libraries in order to locate a program to be executed. STEPLIB applies only to the particular step, JOBLIB to all steps in the job.

What is order of searching of the libraries in a JCL?

First any private libraries as specified in the STEPLIB or JOBLIB, then the system libraries such as SYS1.LINKLIB. The system libraries are specified in the linklist.

What happens if both JOBLIB & STEPLIB is specified ?

- A. JOBLIB is ignored.

When you specify multiple datasets in a JOBLIB or STEPLIB, what factor determines the order?

- A. The library with the largest block size should be the first one.

How to change default proclib ?

- A. //ABCD JCLLIB ORDER=(ME.MYPROCLIB,SYS1.PROCLIB)

The disp in the JCL is MOD and the program opens the file in OUTPUT mode. What happens ? The disp in the JCL is SHR and the pgm opens the file in EXTEND mode. What happens ?

- A. Records will be written to end of file (append) when a WRITE is done in both cases.

What are the valid DSORG values?

- A. PS - QSAM, PO - Partitioned, IS – ISAM

51. What will happen if you attempt to restart a job in the middle of a JCL // IF .... // ENDIF?

- A. Job will fall through to the ENDIF (not executing any steps), then resume execution with the first step AFTER the // ENDIF.

52. How many positional Parameters are there in a JOB statement?

There are TWO position parameters in a JOB statement.

53. What are three parameters you can specify on Job statement as well as on exec stmt ?

- A. Time, Region and Cond parameters

54. How can you trap abends in the JCL?

A. Use IF ABEND statement in the JCL.

55. How do you restart a step in JCL?

A. Use RESTART=step name.

56. How do you pass parameters to the programs the job is being executed ?

A. By using 'PARM' parameter in EXEC statement. The values mentioned here should be declared in linkage section in the program and process through Procedure division. This technique is very useful when you do not know the parameters at the time of coding the programs.

57. Why do you use a control card?

A. A control card can be a member of a PDS or a Sequential Dataset and is used for storing the data fields, Definitions of VSAM files....etc. You use control-card because you cannot use a in-stream procedure in a procedure. Generally you will be calling a Proc from your Jcl and you cannot code in-stream procedure in the Proc and so you will point to the dataset, which is called control-card.

58. How do you submit JCL via a Cobol program? For the above question the solution is as follows..

A. In your JCL define as//JOBA JOB 1111,JOB1//STEP01 EXEC PGM=PROG1//ddname DD SYSOUT=(\*,INTRDR)....and your COBOL(PROG1) should look like this SELECT JCL-FILE ASSIGN TO ddname. Open this file and write the JCL statements into this file. Example. MOVE '//TESTJOB JOB 1111,VISVEISH' TO JCL-REC. MOVE '//STEP01 EXEC PGM=IEFBR14' TO JCL-REC. and close this file. Then TEST JOB will be submitted.

59. How do you submit a JCL under CICS environment ?

A. Pass all the JCL codes to a COBOL variable (should be declare using OCCURS clause) and then write the line one by one to the spool using CICS commands like SPOOLClose SPOOLOpen SPOOLWrite . For more help refer to CECI of CICS or CICS manual.

60. What is the parameter to be passed in the job card for the unlimited time, irrespective of the job class

A. TIME=1440

61. What is a COND parameter in JCL?

A. COND means condition parameter, consists of 2 sub-parameters, 1st - return code from the previous step, 2nd - condition.. It is compared with system return code of previous step. //step1 exec pgm=abcd //step2 exec pgm=xyz, cond=(4,lt). Step2 will be executed only if system return code of step1 is less than 4, else it is bypassed.

62. Write a JCL to execute a Job by 7 a.m. on JAN 20,1986 ?

A. THE code IS : //\*MAIN DEADLINE=(0700,B,012086)

**63. HOW MANY TYPES OF LIBRARIES ARE THERE IN JCL ?**

A. Libraries are of three types. 1. System libraries: such as sys1.linklib. 2. Private libraries: specified in a Joblib or Steplib DD statements. 3. Temporary Libraries: Created in a previous step of the job.

**What you mean by skeleton JCL?**

A. Jcl which changes during run time i.e. the values for the JCL such as Pgm name, DD name will change i.e. same JCL can be used for various jobs, equivalent to dynamic SQL ...

**65. What is the max block-size for a Tape file?**

A. It is 32,760. Based on that we can calculate efficient number of Records in a Block

**66. What is the purpose of include statement in a JCL?**

A. It is used as an alternative for steplib. When we specify the dataset name in include, it will search in all the datasets specified in the include dataset.

**67. Is it possible to know the remaining free space in control interval/control area, once an insertion is made.**

A. Not Possible

**Explain GDG?**

A. Generation Data Group is a group of datasets that are logically or chronologically related and referred by a name and relative generation number - an integer which identifies the generation of a dataset and is coded in parentheses after dataset name. Absolute GDG name - GxxxxVyy, where xxxx-absolute gen.number, yy-version number. Can be sequential, direct, partitioned. (VSAM - no). Must always be cataloged. Advantage - all datasets have the same name and system keeps track of adding new and retaining previous generations and deleting oldest successive generation. To create a GDG we create a GDG index in the system catalog with IDCAMS utility and then a model (prototype, DSCB) on the same volume to supply DCB information. Empty - when limit is reached all members are removed from the index, otherwise-only oldest. Scratch-removed members are uncataloged & deleted, otherwise - removed & uncataloged, but remain in the system (not members of GDG any more). GDG number is updated at the end of the job. If number is not specified all generations will be processed from the beginning.

**69. For how long a job can be executed continuously in a Mainframe**

A. 248 Days.

**What is the Maximum number of DD statements allowed in a JCL.**

A. 3273

**71. How much space does OS allocate, when you create a PS or PDS?**

A. 56 KB

72. What is the minimum number of dataset names (PDS) in one Directory Block?  
A. SIX

73. What is the maximum number of Steps allowed in a JOB?  
A. 255

**Q1.** What are the kinds of job control statements?

**A1.** The JOB, EXEC and DD statement.

**Q2.** What is the meaning of **keyword** in JCL? What is its opposite?

**A2.** A **keyword** in a JCL statement may appear in different places and is recognized by its name, eg. MSGCLASS in the JOB statement. The opposite is **positional** words, where their meaning is based on their position in the statement, eg. in the DISP keyword the =(NEW,CATLG,DELETE) meanings are based on first, second and third position.

**Q3.** Describe the JOB statement, its meaning, syntax and significant keywords.

**A3.** The JOB statement is the first in a JCL stream. Its format is // jobname, keyword JOB, accounting information in brackets and keywords, MSGCLASS, MSGLEVEL, NOTIFY, CLASS, etc.

**Q4.** Describe the EXEC statement, its meaning, syntax and keywords.

**A4.** The EXEC statement identifies the program to be executed via a PGM=program name keyword. Its format is //jobname EXEC PGM=program name. The PARM= keyword can be used to pass external values to the executing program.

**Q5.** Describe the DD statement, its meaning, syntax and keywords.

**A5.** The DD statement links the external dataset name (DSN) to the DDNAME coded within the executing program. It links the file names within the program code to the file names known to the MVS operating system. The syntax is // ddname DD DSN=dataset name. Other keywords after DSN are DISP, DCB, SPACE, etc.

**Q6.** What is a PROC? What is the difference between an instream and a catalogued PROC?

**A6.** PROC stands for **procedure**. It is 'canned' JCL invoked by a PROC statement. An instream PROC is presented within the JCL; a catalogued PROC is referenced from a proclib partitioned dataset.

**Q7.** What is the difference between a **symbolic** and an **override** in executing a PROC?

**A7.** A **symbolic** is a PROC placeholder; the value for the symbolic is supplied when the PROC is invoked, eg. &symbol=value. An **override** replaces the PROC's statement with

another one; it substitutes for the entire statement.

**Q8.** What is RESTART? How is it invoked?

**A8.** RESTART is a JOB statement keyword. It is used to restart the job at a specified step rather than at the beginning.

**Q9.** What is a GDG? How is it referenced? How is it defined? What is a MODEL DSCB?

**A9.** GDG stands for **generation data group**. It is a dataset with versions that can be referenced **absolutely** or **relatively**. It is defined by an IDCAMS define generation datagroup execution.

**Q10.** Explain **concatenating** datasets.

**A10.** Datasets can be grouped in a DD statement one after another, eg. in a JOBLIB statement where the load module can exist in one of many datasets

**Q11.** What is the difference between specifying DISP=OLD and DISP=SHR for a dataset?

**A11.** DISP=OLD denotes exclusive control of the dataset; DISP=SHR means there is no exclusivity.

**Q12.** What is MOD and when would you use it?

**A12.** DISP=MOD is used when the dataset can be extended, ie, you can add records at the end of an existing dataset.

**Q13.** What are the keywords associated with DCB? How can you specify DCB information? What is the OS precedence for obtaining that DCB information, ie. where does the system look for it first?

**A13.** The keywords associated with the DCB parameter are LRECL, RECFM, BLKSIZE and DSORG. The DCB information can be supplied in the DD statement. The system looks for DCB information in the program code first.

**Q14.** How do you designate a **comment** in JCL?

**A14.** The comment statement is `/**` followed by the comments.

**Q15.** What is the meaning of the EXEC statement keyword, COND? What is its syntax?

**A15.** COND specifies the conditions for executing the subsequent job step. The value after the COND= is compared to the return codes of the preceding steps and if the comparison is true, the step is bypassed. (If this answer confuses you, welcome to the club - memorize it and don't ask questions!)

**Q16.** What is the improvement to COND= in the latest version of MVS?

**A16.** MVS now allows for an IF bracketed by an END IF around any job step to replace the COND= syntax. Again, if the IF statement is true, the step is bypassed.

**Q17.** What is the purpose of the PARM keyword in the EXEC statement?

**A17.** The value after the PARM= specifies control information to be passed to the executing program of the job step.

**Q18.** What is the purpose and meaning of the REGION keyword and what JCL statement is it associated with?

**A18.** REGION specifies the maximum CPU memory allocated for a particular job or job step. If REGION is in the JOB card, it relates to the entire job; if in the EXEC statement, it relates to the job step.

**Q19.** What is the purpose and meaning of the TIME keyword and what JCL statement is it associated with?

**A19.** TIME specifies the maximum CPU time allocated for a particular job or job step. If TIME is in the JOB card, it relates to the entire job; if in the EXEC statement, it relates to the job step.

**Q20.** What is the meaning of data definition name (**ddname**) and dataset name (**dsname**) in the DD statement?

**A20.** Data definition name is the eight character designation after the // of the DD statement. It matches the internal name specified in the steps executing program. In COBOL that's the name specified after the ASSIGN in the SELECT ASSIGN statement. Dataset name is the operating system (MVS) name for the file.

**Q21.** How is the keyword DUMMY used in JCL?

**A21.** For an output file DUMMY specifies that the output is to be discarded. For input it specifies that the file is empty.

**Q22.** What does the keyword DCB mean and what are some of the keywords associated with it?

**A22.** DCB stands for **data control block**; it is a keyword for the DD statement used to describe datasets. Keywords associated with it are BLKSIZE, DEN, LRECL and RECFM.

**Q23.** What is the difference between BLKSIZE and LRECL?

**A23.** BLKSIZE specifies the number of bytes