JCL

1.What is primary allocation for a dataset?

The space allocated when the dataset is first created.

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

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

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

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

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

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.

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

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.

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

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

7.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 DELETEs 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.

8.What is the DD statement for a output file?

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

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

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

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

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.

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

Temporary datasets can be created either by not specifying any DSNAME 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.

12.How do you restart a proc from a particular step? -

In job card, specify RESTART=procstep.stepname

where procstep = name of the jcl step that invoked the proc

and stepname = name of the proc step where you want execution to start

13.How do you skip a particular step in a proc/JOB? -

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

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

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.

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

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

16.What is NOTCAT 2 -

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 data set and going to the volume where the new dataset exists(this info is in the msglog of the job) and cataloging it.

17.What is 'S0C7' abend? -

Caused by invalid data in a numeric field.

18.What is a S0C4 error ? -

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.

19.What are SD37, SB37, SE37 abends?

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.

20.What is S322 abend ?

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.

21.Why do you want to specify the REGION parameter in a JCL step? -

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.

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

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.

23.What is COND=EVEN ?

Means execute this step even if any of the previous steps, terminated abnormally.

24.What is COND=ONLY ?

Means execute this step only if any of the previous steps, terminated abnormally.

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

TYPERUN=SCAN on the JOB card or use JSCAN.

26.What does IEBGENER do?

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

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

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

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

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

29.I have a COBOL program that ACCEPTs some input data. How do you code the JCL statment for this? (How do you code instream data in a JCL?)

```
//SYSIN DD*

input data

input data

/*
```

30.Can you code instream data in a PROC ?

No.

31. How do you overcome this limitation ?

One way is to code SYSIN DD DUMMY in the PROC, and then override this from the JCL with instream data.

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

To run a non DB2 program,

```
//STEP001 EXEC PGM=MYPROG
```

To run a DB2 program,

```
//STEP001 EXEC PGM=IKJEFT01

//SYSTSIN DD *

DSN SYSTEM(....)

RUN PROGRAM(MYPROG)

PLAN(.....) LIB(....) PARMS(...)

/*
```

33.What is STEPLIB, JOBLIB? What is it used for? -

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.

34.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.

35.What happens if both JOBLIB & STEPLIB is specified ?

JOBLIB is ignored.

36.When you specify mutiple datasets in a JOBLIB or STEPLIB, what factor determines the order? -

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

37.How to change default proclib ?

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

38.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 ?

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

39.What are the valid DSORG values ?

PS - QSAM, PO - Partitioned, IS - ISAM

40.What are the differences between JES2 & JES3 ?

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.

JCL

JOB CONTROL LANGUAGE
JCL IS AN IBM LANGUAGE TO DESCRIBE A BATCH JOB AND
AND ITS REQUIREMENTS TO THE OPERATING SYSTEM
OVERRIDES
Condition code indicates a result of its execution, a program can iussue a return code using CON
Bypass or execute a step
Symbolic paramaters allows for dynamic modification of values at execution time
Name preceeded by ampersand / allow procedures to be modified

i.e. loadlibs, sysout classes
override a symbolc param after the EXEC in the proc, symbolc = ‘value’
override to PARM paramters in EXEC PARM.stepname=’value’
MODIFY JCL STATEMENTS IN CATALOGED OR IN STREAM PROICS
PARM = &DECK&CODE
DSN=UNSERLIB.&LEVEL
If the symbolic parm is not used, JCL errors
CONTROL-M col= %%volSER)
JCL IF/THEN/ELSE/ENDIF allows users to conditionally execute steps within JCL
BLOCK SIZE MAX FOR TAPE 32760
DISK 27920
JEM/JOBSCAN/JCLCHECK/TYPRUN=SCAN JOB/SCAN MACROS
DATA PACKER DATA COMPRESSION
BATCH PIPES/MVS IBM
HOOKS INTO I/O INTERFACE
CACHES INTO VIRTUAL STORAGE
PROCESSES BEFORE FILES CLOSE
JCL CHANGE SUBSYS ON IEBGENER
STANDARDS
FORMS/POLICIES/PROCEDURES
BY PASS LABEL (BLP) NL/SL
SL IBM STANDARD LABEL
NL NON STANDARD LABEL DON’T NEED ACF2
GDGS GENERATION DATA GROUP SUCCESSIVE, HISTORICALLY-RELATEWD
CHRONOLOGICAL DATA SETS UP TO 255
CURRENT 0
DSCB CONTROL BLOCK BUILD A GDG BASE ENTRY
CREATE A MODEL DATA SET LABEL VIA IEHPROGM/IDCAMS
AMS DEFINED VIA DEFINE
TO CHANGE LIMIT USER ALTER/NOEMPTY/NOSCRATCH
SMS IBM SYSTEM MANAGED STORAGE
(MVS/DFP DATA FACILITY PRODUCT)
SYSTEM MANAGED DATASETS/SPACE MANAGEMENT
DATA COMPRESSION
DATA PACKER
HRECOVER/HRECALL

SORT
SUM FIELD=NONE NO DUPES
BI UNSIGNED BINARY
CH UNSIGNED CHARACTER
PD SIGNED PACKED DECIMAL
FOR VARIABLE ADD 4 TO SORT FIELDS
SYNCSORT
REPLACES MVS SORT UTILITY DF/SORT
CREATE HEADERS/TRAILERS
CONFIGURATION MANAGEMENT
TUNING/SORT SPACE CALCULATION/DASD CAPACITY ANALYSIS
SYSTEM EXIT (IEFACTRT)
RETURN CODE
EXCPS I/OS
I/O DEVICE CONNECT TIME
TASK CONTROL (TCB) CPU TIME
SRB (SYSTEM SERVICES) CPU TIME
CLOCK (WALL) TIME
PAGING OPERATIONS
SWAPS
JOB COLLECTION OF JOB STEPS
RESTART
MSGCLASS SYSTEM MESSAGES
CLASS
NOTIFY
TYPRUN=SCAN
REGION
TIME
ALSO: RACF PROTECTION
EXEC
PARM
COND
ONLY IF PRIOR TERMINATES

EVEN IF PRIOR TERMINATES execute step even if prceeding step has failed
(0,NE,stepname)
COND=(#,GT/LT/NE/GE,STEP#)
DD DATA DEFINITION
DSN
&&TEMP temp pds &&dsn(mem1) temporary dataset
*.DDNAME
DUMMY test program flow without processing data
NULLFILE defines a dummy data set
DISP
UN/CATLG MOD SHR OLD NEW PASS DELETE
Status,normal terminal disp, abnromal termination disp
(MOD,DELETE) delete disk that may or may not exist
SPACE
RLSE
DCB
DEN=3 1600 BPI
DEN=4 6250 BPI
RECFM F/FB/S/V/VB/U
LRECL
BLKSIZE SYSTEM DETERMINED FOR DISK I.E. DO NOT NEED DCB OR =0
TRTCH=COMP RECORDING TECHNIQUE NOCOMP IDRC
improved data recording capability
UNIT
DEFER DON'T MOUNT UNTIL NEEDED
AFF UNIT AFFINITY DEVICE REQUIRED FOR DD UNIT=ADD=DD1
REQUEST THAT A VOLUME BE MOUNTED USING THE SAME DEVICE
20
LABEL
RETPD
EXPDT
(# of files, NSL/BLP/SL,EXPDT=98000)Tape SLH F1 T h2 f1 = label=2,blp
VOL
RETAIN RETAIN VOLUME
(,,,10)
TAPE
INSTREAM PROC/PEND SAME SET OF JCL CATALOGED IN A PDS PROCEDURE LIBRARY
Aaa PROC MAX # IS 15
PEND
EXEC proc=aaa
DD * OVERRIDES to include instream data
PROCEDURE nested procedures MVS/ESA v. 4 procedure that calls other procedures up to 15 levels
RESTART
BACKWARD REFERENCE REF A VOLUME FROM A PREVIOUS VOL=REF
REFERBACK //OUT1 OUTPUT CLASS=A
//RPT1 DD SYSOUT=(,),OUTPUT=(*.OUt1)
JES2 CONTROL the input and ouput processing of jobs
JOB ENTRY SUBSTEM
/*ROUTE PRINT RMT1
/*JOBPARM PROCLIB=PROC01
JOBLIB/STEPLIB

Passing a Parameter to a Program

(**Next**) (**Previous**) (**Table-of-Contents**)

The two techniques use to pass information (a Parameter) from JCL to a program are as follows.

Technique	Description
via PARM=	This technique uses a PARM=*parameter* keyword on the EXEC statement in JCL. The COBOL program requires a LINKAGE SECTION.
via SYSIN	This technique requires SYSIN statement followed by the parameter to be placed in the JCL. The COBOL program requires an "ACCEPT *parameter* from SYSIN" to be coded in the COBOL program. If the SYSIN statement is missing in the JCL the ACCEPT will ABEND with a "File not found" message. To avoid this it will be necessary to use a "//SYSIN DD DUMMY" statment in the JCL when a parameter is not being passed.

The following two section describe parameter-passing in more detail. Simply click on one of the following items to learn more or download a set of sample programs that describe how to pass a parameter string from JCL to a COBOL program.

Passing a Parameter via PARM=

(Next) (Previous) (Table-of-Contents)

To pass a parameter from JCL to a program requires the use of the "PARM=" keyword with the EXEC statement. The following JCL statement shows an EXEC statement without a parameter defined.

```
//* ****************************************************************
//* Step   1 of 2, Execute the COBOL program without a parameter.
//*
//CBLPARS1 EXEC PGM=CBLPARC1
```

The following JCL statement shows an EXEC statement with a parameter defined by using the "PARM=" keyword. Notice the comma immediately after the program name. The parameter following the "PARM=" keyword requires the apostophes if the text string contains space characters.

```
//* ****************************************************************
//* Step   2 of 2, Execute the COBOL program with a parameter.
//*
//CBLPARS2 EXEC PGM=CBLPARC1,
//             PARM='SimoTime, When technology complements business'
```

Passing a Parameter via SYSIN

(Next) (Previous) (Table-of-Contents)

To pass a parameter from SYSIN to a program requires the use of DD statement for SYSIN. The following JCL statement is required if no parameter is passed.

```
//* ****************************************************************
//* Step   1 of 2, Execute the COBOL program without a parameter.
//*
//SYSIN DD DUMMY
```

The following JCL statements show what is required to pass information via SYSIN.

```
//* ****************************************************************
//* Step   2 of 2, Execute the COBOL program with a parameter.
//*
//SYSIN    DD *
Parameter from SYSIN...
//*
```

The following shows the COBOL statement required.

```
           ACCEPT variable-name FROM SYSIN
```

Q: what's symbolic parameter? What's the use of it?

Substitute the values in proc passing thru job when it's invoked in JCL.

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

A. A **symbolic** is a PROC placeholder; the value for the symbolic is supplied when the PROC is invoked, e.g. &symbol=value. An **override** replaces the PROC's statement with another one; it substitutes for the entire statement.

Q: **What's DCB? Explain various parameters in it?**
BLKSIZE, DSORG, LRECL, RECFM

Q: **What's IDCAMS? . What's the use of it?**
Define GDG, VSAM FILES, REPRO

Q: **What's SOC7? How to find out this error in JCL?**
DATA MOVEMENT ERROR.

Q: **What's the region parameter and what happens if the if the memory size exceeds specified in REGION parameter?**
822

Q: **If u want execute a job for 10 or 11 hours what u will do?**
Time=1440

Q*:* **In a job 1,2,3,4 job steps are abended. But u want execute the job step5 anyhow? How can u do it?**
Cond=only in step5.

Q: **what's b37 error code?.**
In sufficient primary allocation of a data set.

Q: **what's the parm parameter?.**
Pass the values to the program.

Q: 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 date fields, definitions of VSAM files etc , We use CONTROL CARD because we cannot use an in-stream 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 control card.

Q: How do you submit JCL via a Cobol program?
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 TESTJOB will be submitted.

Q: How do you submit a JCL under CICS environment?
Pass all the JCL codes to a COBOL variable (should be declared using OCCURS clause) and then write the line one by one to the spool using CICS commands like SPOOLClose, SPOOLOpen and SPOOLWrite. For more help refer CECI of CICS or CICS manual.

Q: What is the parameter to be passed in the job card for the unlimited time, irrespective of the job class?
TIME=1440

Q: Define COND parameter in JCL?
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.
It is compared with system return code of previous step
//STEP1 EXEC PGM=ABCD
//STEP2 EXEC PGM=XYZ, cond=(4,lt)
STEP 2 will be executed when system return code of step1 is less than 4.

Q: What is meant by S0C-07 system ABEND codes?
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.

Q: How to pass the temp dataset form one JOB step to another?
By specifying the DISP as PASS for the temp dataset

Q: Write a JCL to execute a Job by 7:00 AM on Jan 20,1986?
The code is:
//*MAIN DEADLINE=(0700,B,012086)

Q: How many types of libraries are there in JCL?
Libraries are of three types:
- System Libraries:- such as SYS1.LINKLIB
- Private Libraries:- Specified in a JOBLIB or STEPLIB DD STATEMENTS.
- Temporary Libraries:- Created in a previous step of the Job.

Q: What do you mean by INCLUDE statement in JCL?

An INCLUDE statement identifies a member of a PDS 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.

Q: What are the Maximum number of In-stream procedures you can code in any JCL?
15.

Q: What you mean by skeleton JCL?
A: JCL, which changes during run time,that is the values for the JCL such as program name, dd name will change. The same JCL can be used for various jobs, equivalent to dynamic SQL;

Q: What is JCL?
A: It is an interface between operating system (MVS) & the application program. When two related programs are combined together on control statements, it is called job control language

Q: What is the maximum blocksize for a Tape file?
A: It is 32,760. Based on that we can calculate efficient number of Records in a Block

Submitted by: Aurobindo K.S. (auroks@hotmail.com)

Q: What are the basic JCL Statements for a Job?
A: The basic JCL statements for any job are:

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

Q: What does the statements: TYPRUN=SCAN and TYPRUN=HOLD do in a JCL statement?
A TYPRUN= SCAN checks the JCL for errors, TYPRUN= HOLD holds the job until further notice.

Q: What is QSAM error usually when it occurs?
A: Usually it occurs at the time of job submission.

Q: 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.

Q: Is it possible to know the remaining free space in a Control Interval/Control Area once an insertion has been made?
A: No. It is not possible.

Q: What does SOC-04 error mean?
A: This error is faced when we execute the Cobol program. The main reason for this error is that a variable is defined with fewer characters and we are trying to move data, which is larger than the actual storage space.

Q: In which table PLAN is registered in?
A: RCT

Q: What is a GDG?
A: 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 generation number, yy-version number.
GDGs can be sequential, direct, partitioned. (VSAM - no). They must always be cataloged. Advantages - 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

Q: What do you mean by spooling?
A: This is managed by JES. This is used for Queuing the Outputs that are intended for Printing and are first stored in SPOOLDASD.

Q: How many Instream-Procedures (PROCs) can be coded in a single Job?
A: 15

Q: For how long a Job can be executed continuously on a Mainframe?
A: 248 DAYS

Q: How may divisions are there in JCL-COBOL?
A: SIX

Q: What is the Maximum number of DD Statements to be coded in a single JCL?

A: 3273

Q: How much space OS allocates when you create a PS or PDS?
A: 56 KB

Q: What is the minimum number of Dataset names (PDS) in one Directory Block?
A: SIX

Q: What is the maximum number of steps in a Job?
A: 255

Q: How much is memory space involved, when we code BLOCKSIZE, TRK & CYL ?
A: One block constitutes 32KB of formatted memory/ 42KB of Unformatted memory; 6 blocks makes one Track & 15 Tracks makes one cylinder.

Q: What is DSNDB06?
A: This is the Place where DB2 Catalog resides;

Q: What is the use of DSNDB07?
A: This is the area where sorting takes place in DB2

Q: What is DATACOM DB?
A: It is a Database used with VSE.

Q: What is a Dummy Utility and what it does?
A: IEFBR14 is a Dummy utility and it is used for the sakeof 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 statment]. But for a PGM name must be given in EXEC statment, it is used.

Q: What 3 guidelines do we have to follow when concatenating DD statements?
A: The three guidelines for concatenating DD Statements are:-

- Datasets must be of the same type (disk or tape)
- All datasets must have the same logical record length (LRECL)
- The dataset with the largest blocksize must be listed first.

Q: On a DD statement, what is the main difference between creating a new sequential flat file and a partitioned dataset?
A: 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.
Q: What is the difference between IEBGENER, IEBCOPY and REPRO in IDCAMS utility?
A: They are the utility programs used in JCLs:
IEBGENER : This utility is used for copying sequential datasets which produces a PDS or a

member from a sequential dataset.

IEBCOPY : This utility is used for copying one PDS to another or to merge PDSs.

REPRO : This is for copying sequential datasets. More or less same as the IEBGENER

Q: What is the difference between STATIC CALL & DYNAMIC CALL?

A: In the case of STATIC CALL, the called program is stand-alone and an executable. During run time we can call it in our called program. In a DYNAMIC CALL, the called program is not an executable program and it can executed through the called program

Q: What is the difference between CATALOGED PROCEDURE and IN-STREAM PROCEDURE?

A: INSTREAM PROCEDURES are set of JCL statements written between JOB and EXEC statements, start with PROC and end with PEND statement. Mainly used to test cataloged procedures. CATALOGED PROCEDURES are cataloged on the procedure library (PROCLIB) and is called by specifying the procedure name on the EXEC statement.

Q: Can we browse or edit the GDG dataset if it is a tape entry?

A: No

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

A: Minimum Size : 1 track; Maximum size : 1 cylinder

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

A: 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)

Q: What is COMP?

A: COMP - HALF WORD BINARY

Q: What is a PROCEDURE?

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

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

A: 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]

Q: What are the three basic types of statements in a jobstream?

A: The three basic types of statements in a jobstream are:
JOB : We can code one per jobstream
EXEC : It can be one or more per job
DD : one or more per jobstep);
JOB – It indicates start of jobstream to the operating system and through parms coded on it, it contains certain details about the job (like time, region, message level, job accounting data).
EXEC – It indicates the start of execution of a particular job step, be that step a program or a proc.
DD – It is a data definition statement, which is used to describe the attributes of a dataset (like name, unit, type, space, disposition etc.,).

Q: What does SYSIN * indicate?
A: Instream data follows this card and is terminated when followed by a card containing // or /* in columns 1 and 2.

Q. What is primary allocation for a dataset?
A. The space allocated when the dataset is first created.

Q.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.

Q. .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.

Q. What does a disposition of (NEW,CATLG,DELETE) mean? - GS
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.

Q. What does a disposition of (NEW,CATLG,KEEP) mean? - GS
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.

Q. How do you access a file that had a disposition of KEEP? - GS

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

Q. What does a disposition of (MOD,DELETE,DELETE) mean ?
A. The MOD will cause the dataset to be created (if it does not exist), and then the two DELETEs 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.

Q. What is the DD statement for a output file?
A. Unless allocated earlier, will have the foll parameters: DISP=(NEW,CATLG,DELETE), UNIT , SPACE & DCB .

Q. What do you do if you do not want to keep all the space allocated to a dataset? - GS
A. Specify the parameter RLSE (release) in the SPACE e.g. SPACE=(CYL, (50,50),RLSE)

Q. 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.

Q. How do you create a temporary dataset? Where will you use them?
A. Temporary datasets can be created either by not specifying any DSNAME 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.

Q. How do you restart a proc from a particular step? - GS
A. In job card, specify RESTART=procstep.stepname
where procstep = name of the jcl step that invoked the proc
and stepname = name of the proc step where you want execution to start

Q. How do you skip a particular step in a proc/JOB? - GS
A Can use either condition codes or use the jcl control statement IF (only in ESA JCL)

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

Q. How do you override a specific DDNAME/SYSIN in PROC from a JCL?
A. //<stepname.dd> DSN=...

Q. What is NOTCAT 2 - GS
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 data set and going to the volume where the new dataset exists(this info is in the msglog of the job) and cataloging it.

Q. What is 'S0C7' abend? - GS
A. Caused by invalid data in a numeric field.

Q. What is a S0C4 error ? - GS
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.

Q. 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.

Q. 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.

Q. Why do you want to specify the REGION parameter in a JCL step? - GS
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.

Q. 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.

Q. What is COND=EVEN ?
A. Means execute this step even if any of the previous steps, terminated abnormally.

Q. What is COND=ONLY ?
A. Means execute this step only if any of the previous steps, terminated abnormally.

Q. How do you check the syntax of a JCL without running it?
A. TYPERUN=SCAN on the JOB card or use JSCAN.

Q. 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 decribed using SYSUT2. IEBGENR can also do some reformatting of data by supplying control cards via SYSIN.

Q. 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.

Q. I have multiple jobs (JCLs 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).

Q. I have a COBOL program that ACCEPTs some input data. How do you code the JCL statment for this? (How do you code instream data in a JCL?)

A.
```
//SYSIN DD*
input data
input data
/*
```

Q. Can you code instream data in a PROC ?

A. No.

Q. How do you overcome this limitation ?

A. One way is to code SYSIN DD DUMMY in the PROC, and then override this from the JCL with instream data.

Q. 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 program,
```
//STEP001 EXEC PGM=MYPROG
```

To run a DB2 program,
```
//STEP001 EXEC PGM=IKJEFT01
//SYSTSIN DD *
DSN SYSTEM(....)
RUN PROGRAM(MYPROG)
PLAN(.....)  LIB(....)  PARMS(...)
/*
```

Q. What is STEPLIB, JOBLIB? What is it used for? - GS

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.

Q. What is order of searching of the libraries in a JCL? - GS

A. 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.

Q. What happens if both JOBLIB & STEPLIB is specified ?

A. JOBLIB is ignored.

Q. When you specify mutiple datasets in a JOBLIB or STEPLIB, what factor determines the order? - GS

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

Q. How to change default proclib ?

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

Q. 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.

Q. What are the valid DSORG values ?

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

Q. What are the differences between JES2 & JES3 ?

A. 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. ????? Can anyone add more

Q. What are the kinds of job control statements?

A. The JOB, EXEC and DD statement.

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

A. 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.

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

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

Q. Describe the EXEC statement, its meaning, syntax and keywords.

A. 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.

Q. Describe the DD statement, its meaning, syntax and keywords.

A. 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 know to the MVS operating system. The syntax is // ddname DD DSN=dataset name. Other keywords after DSN are DISP, DCB, SPACE, etc.

Q. What is a PROC? What is the difference between an instream and a catalogued PROC?
A. 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.

Q. What is RESTART? How is it invoked?
A. RESTART is a JOB statement keyword. It is used to restart the job at a specified step rather than at the beginning.

Q. What is a GDG? How is it referenced? How is it defined? What is a MODELDSCB?
A. 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.

Q. Explain concatenating datasets.
A. 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.

Q. What is the difference between specifying DISP=OLD and DISP=SHR for a dataset?
A. DISP=OLD denotes exclusive control of the dataset; DISP=SHR means there is no exclusivity.

Q. What is MOD and when would you use it?
A. DISP=MOD is used when the dataset can be extended, ie, you can add records at the end of an existing dataset.

Q. 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?
A. The keywords associated with the DCB parameter are LRECL, RECFM, BLKSIZE and DSORG. The DCB information can be supplied in the DD statement. The sysem looks for DCB information in the program code first.

Q. How do you designate a comment in JCL?
A. The comment statement is //* followed by the comments.

Q. What is the meaning of the EXEC statement keyword, COND? What is its syntax?
A. 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!)

Q. What is the improvement to COND= in the latest version of MVS?
A. 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.

Q. What is the purpose of the PARM keyword in the EXEC statement?
A. The value after the PARM= specifies control information to be passed to the executing program of the job
step.

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

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

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

Q. How is the keyword DUMMY used in JCL?
A. For an output file DUMMY specifies that the output is to be discarded. For input it specifies that the file is empty.

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

Q. What is the difference between BLKSIZE and LRECL?
A. BLKSIZE specifies the number of bytes

JOB statement
Accounting Information, MSGCLASS, CLASS, MSGLEVEL, NOTIFY, USERID, PASSWD, COND, REGION, RESTART

EXEC statement
The EXEC statement identifies the program to be executed via a PGM=program name keyword

DD statement
The DD statement links the external Data Set name (DSN) to the DDNAME coded within the executing program It links the File names within the program code to the File names know to the MVS operating system

What is a PROC? What is the difference between an instream and a catalogued PROC?
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 Data Set.

In-stream Procedure & Catalog Procedure?
In-stream Procedures begin with a PROC stmt and must be terminated by a PEND stmt. (PEND can also be coded for a cataloged Procedure, but it isn't required) The PENC stmt coded as :

```
//Option-name PEND    comments
```

The In-stream Procedure is placed following the JOB statement of the JOB. Up to 15 n-stream Procedures can be included in a single job. Each In-stream Procedure may be invoked several times with in the job.

```
//QZ5P13TD JOB (18636), 'HARISH', CLASS=A
//RUN PROC                    In-stream procedure starts from here
//GO EXEC PGM=ONE
//SYSOUT DD SYSOUT=A
//PEND
//STEP1 EXEC RUN              procedure is used like
..
```

A set of JCL stmt's consisting of a PROC stmt and one or more EXEC and DD stmt (steps), which is placed in a procedure library. It executed by an EXEC (procedure) stmt in another data set (called the execution JCL).

STEPLIB, JOBLIB
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

MODES
DISP=OLD denotes exclusive control of the Data Set;
DISP=SHR means there is no exclusivity .

DISP=MOD is used when the Data Set can be extended, ie, you can add records at the end of an existing Data Set

DISPOSITION OF (NEW,CATLG,DELETE)
That this is a new Data Set and needs to be allocated, to CATLG the Data Set if the step is successful and to delete the Data Set if the step abends.

DISPOSITION OF (NEW,CATLG,KEEP)
That this is a new Data Set and needs to be allocated, to CATLG the Data Set if the step is successful and to KEEP but not CATLG the Data Set if the step abends Thus if the step abends, the Data Set would not be catalogued and we would need to supply the Vol ser the next time we refer to it

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

DISPOSITION OF (NEW,PASS,DELETE)
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 Data Set will not exist beyond the JCL

What is the DD statement for a output File
Unless allocated earlier, will have the following parameters:
DISP=(NEW,CATLG,DELETE), UNIT , SPACE & DCB

How do you create a temporary Data Set? Where will you use them
Temporary Data Sets can be created either by not specifying any DSNAME 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 Data Set will not be retained once the job completes

How do you restart a proc from a particular step
In job card, specify RESTART=proc step step name where procstep = name of the jcl step that invoked the proc and stepname = name of the proc step where you want execution to start

'S0C7' abend
Caused by invalid data in a numeric field
What is a S0C4 error ?
Storage violation error - can be due to various reasons eg: READING a File that is not open, invalid address referenced due to subscript error
S322 abends
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

SD37, SB37, SE37
All indicate Data Set 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

difference between the positional parameters & keyword parameters
a).Sequence predetermined
b) Parameters separated by commas
c) Omitted parameters must be indicated by two consecutive commas.
d) Installation dependent

DUMMY Paramere
For an output File DUMMY specifies that the output is to be discarded For input it specifies that the File is empty.

COND Parameter
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!).

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

RESTART Parameter
A RESTART is a JOB statement keyword It is used to restart the job at a specified step rather than at the beginning

REGION parameter
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 .

TIME parameter
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

COND=EVEN and COND=ONLY
Means execute this step even if any of the previous steps, terminated abnormally
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
TYPERUN=SCAN on the JOB card or use JSCAN

IEBGENER do
Used to copy one SAM File to another Source Data Set should be described using SYSUT1 ddname Destination Data Set should be decribed using SYSUT2 IEBGENR can also do some reformatting of data by supplying control cards via SYSIN

differences between JES2 & JES3
JES3 allocates Data Sets for all the steps before the job is scheduled. In JES2, allocation of Data Sets Required by a step are done only just before the step executes.

What is the meaning of keyword in JCL? What is its opposite?
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) meaning are based on first, second and third position.

JCL

1.What is primary allocation for a dataset?

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

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

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

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

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

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

8.What is the DD statement for a output file?

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

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

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

12.How do you restart a proc from a particular step? -

13.How do you skip a particular step in a proc/JOB? -

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

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

16.What is NOTCAT 2 -

17.What is 'S0C7' abend? -

18.What is a S0C4 error ? -

19.What are SD37, SB37, SE37 abends?

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.

20.What is S322 abend ?

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.

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

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.

23.What is COND=EVEN ?

24.What is COND=ONLY ?

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

TYPERUN=SCAN on the JOB card or use JSCAN.

26.What does IEBGENER do?

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

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

29.I have a COBOL program that ACCEPTs some input data. How do you code the JCL statment for this? (How do you code instream data in a JCL?)

30.Can you code instream data in a PROC ? No.

31. How do you overcome this limitation ?

One way is to code SYSIN DD DUMMY in the PROC, and then override this from the JCL with instream data.

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

To run a non DB2 program,

```
//STEP001 EXEC PGM=MYPROG
```

To run a DB2 program,

```
//STEP001 EXEC PGM=IKJEFT01

//SYSTSIN DD *

DSN SYSTEM(....)

RUN PROGRAM(MYPROG)

PLAN(.....) LIB(....) PARMS(...)

/*
```

33.What is STEPLIB, JOBLIB? What is it used for? -

34.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.

ORDER OF SEARCH

JOBLIB/STEPLIB

LINK PACK AREAS
- FLPA
- MLPA
- PLPA

SYS1.LINKLIB AND
LIBRARIES CONCATENATED TO IT
VIA LNKLSTnn

35.What happens if both JOBLIB & STEPLIB is specified ? JOBLIB is ignored.

36.When you specify mutiple datasets in a JOBLIB or STEPLIB, what factor determines the order? -

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

37.How to change default proclib ? JCLLIB ORDER

38.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 ?

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

39.What are the valid DSORG values ?

PS - QSAM, PO - Partitioned, IS - ISAM

40.What are the differences between JES2 & JES3 ?

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.

Q: **what's symbolic parameter? What's the use of it?**

Q. What is the difference between a symbolic and an override in executing a PROC?
A. A **symbolic** is a PROC placeholder; the value for the symbolic is supplied when the PROC is invoked, e.g. &symbol=value. An **override** replaces the PROC's statement with another one; it substitutes for the entire statement.

Q: **What's DCB? Explain various parameters in it?**
BLKSIZE, DSORG, LRECL, RECFM

Q: **What's IDCAMS? . What's the use of it?**
Define GDG, VSAM FILES, REPRO

Q: **What's SOC7? How to find out this error in JCL?**
DATA MOVEMENT ERROR.

Q: **What's the region parameter and what happens if the if the memory size exceeds specified in REGION parameter?**
822

Q: **If u want execute a job for 10 or 11 hours what u will do?**
Time=1440

Q: **In a job 1,2,3,4 job steps are abended. But u want execute the job step5 anyhow? How can u do it?**
Cond=only in step5.

Q: **what's b37 error code?.**
In sufficient primary allocation of a data set.

Q: **what's the parm parameter?.**
Pass the values to the program.

Q: 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 date fields, definitions of VSAM files etc , We use CONTROL CARD because we cannot use an in-stream 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 control card.

Q: How do you submit JCL via a Cobol program?
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 TESTJOB will be submitted.

Q: How do you submit a JCL under CICS environment?
Pass all the JCL codes to a COBOL variable (should be declared using OCCURS clause) and then write the line one by one to the spool using CICS commands like SPOOLClose, SPOOLOpen and SPOOLWrite. For more help refer CECI of CICS or CICS manual.

Q: What is the parameter to be passed in the job card for the unlimited time, irrespective of the job class?
TIME=1440

Q: Define COND parameter in JCL?
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.
It is compared with system return code of previous step
//STEP1 EXEC PGM=ABCD
//STEP2 EXEC PGM=XYZ, cond=(4,lt)
STEP 2 will be executed when system return code of step1 is less than 4.

Q: What is meant by S0C-07 system ABEND codes?
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.

Q: How to pass the temp dataset form one JOB step to another?
By specifying the DISP as PASS for the temp dataset

Q: Write a JCL to execute a Job by 7:00 AM on Jan 20,1986?
The code is:
//*MAIN DEADLINE=(0700,B,012086)

Q: How many types of libraries are there in JCL?
Libraries are of three types:
- System Libraries:- such as SYS1.LINKLIB
- Private Libraries:- Specified in a JOBLIB or STEPLIB DD STATEMENTS.
- Temporary Libraries:- Created in a previous step of the Job.

Q: What do you mean by INCLUDE statement in JCL?
An INCLUDE statement identifies a member of a PDS 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.

Q: What are the Maximum number of In-stream procedures you can code in any JCL?
15.

Q: What you mean by skeleton JCL?
A: JCL, which changes during run time,that is the values for the JCL such as program name, dd name will change. The same JCL can be used for various jobs, equivalent to dynamic SQL;

Q: What is JCL?
A: It is an interface between operating system (MVS) & the application program. When two related programs are combined together on control statements, it is called job control language

Q: What is the maximum blocksize for a Tape file?
A: It is 32,760. Based on that we can calculate efficient number of Records in a Block

Submitted by: Aurobindo K.S. (auroks@hotmail.com)

Q: What are the basic JCL Statements for a Job?
A: The basic JCL statements for any job are:

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

Q: What does the statements: TYPRUN=SCAN and TYPRUN=HOLD do in a JCL statement?
A TYPRUN= SCAN checks the JCL for errors, TYPRUN= HOLD holds the job until further notice.

Q: What is QSAM error usually when it occurs?
A: Usually it occurs at the time of job submission.

Q: 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.

Q: Is it possible to know the remaining free space in a Control Interval/Control Area once an insertion has been made?
A: No. It is not possible.

Q: What does SOC-04 error mean?
A: This error is faced when we execute the Cobol program. The main reason for this error is that a variable is defined with fewer characters and we are trying to move data, which is larger than the actual storage space.

Q: In which table PLAN is registered in?
A: RCT

Q: What is a GDG?
A: 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 generation number, yy-version number.
GDGs can be sequential, direct, partitioned. (VSAM - no). They must always be cataloged. Advantages - 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

Q: What do you mean by spooling?
A: This is managed by JES. This is used for Queuing the Outputs that are intended for Printing and are first stored in SPOOLDASD.

Q: How many Instream-Procedures (PROCs) can be coded in a single Job?
A: 15

Q: For how long a Job can be executed continuously on a Mainframe?
A: 248 DAYS

Q: How may divisions are there in JCL-COBOL?
A: SIX

Q: What is the Maximum number of DD Statements to be coded in a single JCL?

A: 3273

Q: How much space OS allocates when you create a PS or PDS?
A: 56 KB

Q: What is the minimum number of Dataset names (PDS) in one Directory Block?
A: SIX

Q: What is the maximum number of steps in a Job?
A: 255

Q: How much is memory space involved, when we code BLOCKSIZE, TRK & CYL ?
A: One block constitutes 32KB of formatted memory/ 42KB of Unformatted memory; 6 blocks makes one Track & 15 Tracks makes one cylinder.

Q: What is DSNDB06?
A: This is the Place where DB2 Catalog resides;

Q: What is the use of DSNDB07?
A: This is the area where sorting takes place in DB2

Q: What is DATACOM DB?
A: It is a Database used with VSE.

Q: What is a Dummy Utility and what it does?
A: IEFBR14 is a Dummy utility and it is used for the sakeof 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 statment]. But for a PGM name must be given in EXEC statment, it is used.

Q: What 3 guidelines do we have to follow when concatenating DD statements?
A: The three guidelines for concatenating DD Statements are:-

- Datasets must be of the same type (disk or tape)
- All datasets must have the same logical record length (LRECL)
- The dataset with the largest blocksize must be listed first.

Q: On a DD statement, what is the main difference between creating a new sequential flat file and a partitioned dataset?
A: 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.
Q: What is the difference between IEBGENER, IEBCOPY and REPRO in IDCAMS utility?
A: They are the utility programs used in JCLs:
IEBGENER : This utility is used for copying sequential datasets which produces a PDS or a

member from a sequential dataset.

IEBCOPY : This utility is used for copying one PDS to another or to merge PDSs.

REPRO : This is for copying sequential datasets. More or less same as the IEBGENER

Q: What is the difference between STATIC CALL & DYNAMIC CALL?

A: In the case of STATIC CALL, the called program is stand-alone and an executable. During run time we can call it in our called program. In a DYNAMIC CALL, the called program is not an executable program and it can executed through the called program

Q: What is the difference between CATALOGED PROCEDURE and IN-STREAM PROCEDURE?

A: INSTREAM PROCEDURES are set of JCL statements written between JOB and EXEC statements, start with PROC and end with PEND statement. Mainly used to test cataloged procedures. CATALOGED PROCEDURES are cataloged on the procedure library (PROCLIB) and is called by specifying the procedure name on the EXEC statement.

Q: Can we browse or edit the GDG dataset if it is a tape entry?

A: No

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

A: Minimum Size : 1 track; Maximum size : 1 cylinder

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

A: 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)

Q: What is COMP?

A: COMP - HALF WORD BINARY

Q: What is a PROCEDURE?

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

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

A: 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]

Q: What are the three basic types of statements in a jobstream?

A: The three basic types of statements in a jobstream are:
JOB : We can code one per jobstream
EXEC : It can be one or more per job
DD : one or more per jobstep);
JOB – It indicates start of jobstream to the operating system and through parms coded on it, it contains certain details about the job (like time, region, message level, job accounting data).
EXEC – It indicates the start of execution of a particular job step, be that step a program or a proc.
DD – It is a data definition statement, which is used to describe the attributes of a dataset (like name, unit, type, space, disposition etc.,).

Q: What does SYSIN * indicate?
A: Instream data follows this card and is terminated when followed by a card containing // or /* in columns 1 and 2.

Q. What is primary allocation for a dataset?
A. The space allocated when the dataset is first created.

Q.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.

Q. .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.

Q. What does a disposition of (NEW,CATLG,DELETE) mean? - GS
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.

Q. What does a disposition of (NEW,CATLG,KEEP) mean? - GS
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.

Q. How do you access a file that had a disposition of KEEP? - GS

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

Q. What does a disposition of (MOD,DELETE,DELETE) mean ?
A. The MOD will cause the dataset to be created (if it does not exist), and then the two DELETEs 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.

Q. What is the DD statement for a output file?
A. Unless allocated earlier, will have the foll parameters: DISP=(NEW,CATLG,DELETE), UNIT , SPACE & DCB .

Q. What do you do if you do not want to keep all the space allocated to a dataset? - GS
A. Specify the parameter RLSE (release) in the SPACE e.g. SPACE=(CYL, (50,50),RLSE)

Q. 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.

Q. How do you create a temporary dataset? Where will you use them?
A. Temporary datasets can be created either by not specifying any DSNAME 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.

Q. How do you restart a proc from a particular step? - GS
A. In job card, specify RESTART=procstep.stepname
where procstep = name of the jcl step that invoked the proc
and stepname = name of the proc step where you want execution to start

Q. How do you skip a particular step in a proc/JOB? - GS
A Can use either condition codes or use the jcl control statement IF (only in ESA JCL)

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

Q. How do you override a specific DDNAME/SYSIN in PROC from a JCL?
A. //<stepname.dd> DSN=...

Q. What is NOTCAT 2 - GS
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 data set and going to the volume where the new dataset exists(this info is in the msglog of the job) and cataloging it.

Q. What is 'S0C7' abend? - GS
A. Caused by invalid data in a numeric field.

Q. What is a S0C4 error ? - GS
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.

Q. 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.

Q. 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.

Q. Why do you want to specify the REGION parameter in a JCL step? - GS
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.

Q. 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.

Q. What is COND=EVEN ?
A. Means execute this step even if any of the previous steps, terminated abnormally.

Q. What is COND=ONLY ?
A. Means execute this step only if any of the previous steps, terminated abnormally.

Q. How do you check the syntax of a JCL without running it?
A. TYPERUN=SCAN on the JOB card or use JSCAN.

Q. 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 decribed using SYSUT2. IEBGENR can also do some reformatting of data by supplying control cards via SYSIN.

Q. 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.

Q. I have multiple jobs (JCLs 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).

Q. I have a COBOL program that ACCEPTs some input data. How do you code the JCL statment for this? (How do you code instream data in a JCL?)

A.
```
//SYSIN DD*
input data
input data
/*
```

Q. Can you code instream data in a PROC ?

A. No.

Q. How do you overcome this limitation ?

A. One way is to code SYSIN DD DUMMY in the PROC, and then override this from the JCL with instream data.

Q. 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 program,
```
//STEP001 EXEC PGM=MYPROG
```

To run a DB2 program,
```
//STEP001 EXEC PGM=IKJEFT01
//SYSTSIN DD *
DSN SYSTEM(....)
RUN PROGRAM(MYPROG)
PLAN(.....)  LIB(....)  PARMS(...)
/*
```

Q. What is STEPLIB, JOBLIB? What is it used for? - GS

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.

Q. What is order of searching of the libraries in a JCL? - GS

A. 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.

Q. What happens if both JOBLIB & STEPLIB is specified ?

A. JOBLIB is ignored.

Q. When you specify mutiple datasets in a JOBLIB or STEPLIB, what factor determines the order? - GS

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

Q. How to change default proclib ?

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

Q. 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.

Q. What are the valid DSORG values ?

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

Q. What are the differences between JES2 & JES3 ?

A. 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. ????? Can anyone add more

Q. What are the kinds of job control statements?

A. The JOB, EXEC and DD statement.

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

A. 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.

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

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

Q. Describe the EXEC statement, its meaning, syntax and keywords.

A. 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.

Q. Describe the DD statement, its meaning, syntax and keywords.

A. 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 know to the MVS operating system. The syntax is // ddname DD DSN=dataset name. Other keywords after DSN are DISP, DCB, SPACE, etc.

Q. What is a PROC? What is the difference between an instream and a catalogued PROC?
A. 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.

Q. What is RESTART? How is it invoked?
A. RESTART is a JOB statement keyword. It is used to restart the job at a specified step rather than at the beginning.

Q. What is a GDG? How is it referenced? How is it defined? What is a MODELDSCB?
A. 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.

Q. Explain concatenating datasets.
A. 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.

Q. What is the difference between specifying DISP=OLD and DISP=SHR for a dataset?
A. DISP=OLD denotes exclusive control of the dataset; DISP=SHR means there is no exclusivity.

Q. What is MOD and when would you use it?
A. DISP=MOD is used when the dataset can be extended, ie, you can add records at the end of an existing dataset.

Q. 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?
A. The keywords associated with the DCB parameter are LRECL, RECFM, BLKSIZE and DSORG. The DCB information can be supplied in the DD statement. The sysem looks for DCB information in the program code first.

Q. How do you designate a comment in JCL?
A. The comment statement is //* followed by the comments.

Q. What is the meaning of the EXEC statement keyword, COND? What is its syntax?
A. 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!)

Q. What is the improvement to COND= in the latest version of MVS?
A. 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.

Q. What is the purpose of the PARM keyword in the EXEC statement?
A. The value after the PARM= specifies control information to be passed to the executing program of the job
step.

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

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

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

Q. How is the keyword DUMMY used in JCL?
A. For an output file DUMMY specifies that the output is to be discarded. For input it specifies that the file is empty.

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

Q. What is the difference between BLKSIZE and LRECL?
A. BLKSIZE specifies the number of bytes

JOB statement
Accounting Information, MSGCLASS, CLASS, MSGLEVEL, NOTIFY, USERID, PASSWD, COND, REGION, RESTART

EXEC statement
The EXEC statement identifies the program to be executed via a PGM=program name keyword

DD statement
The DD statement links the external Data Set name (DSN) to the DDNAME coded within the executing program It links the File names within the program code to the File names know to the MVS operating system

What is a PROC? What is the difference between an instream and a catalogued PROC?
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 Data Set.

In-stream Procedure & Catalog Procedure?
In-stream Procedures begin with a PROC stmt and must be terminated by a PEND stmt. (PEND can also be coded for a cataloged Procedure, but it isn't required) The PENC stmt coded as :

```
//Option-name PEND    comments
```

The In-stream Procedure is placed following the JOB statement of the JOB. Up to 15 n-stream Procedures can be included in a single job. Each In-stream Procedure may be invoked several times with in the job.

```
//QZ5P13TD JOB (18636), 'HARISH', CLASS=A
//RUN PROC                    In-stream procedure starts from here
//GO EXEC PGM=ONE
//SYSOUT DD SYSOUT=A
//PEND
//STEP1 EXEC RUN              procedure is used like
..
```

A set of JCL stmt's consisting of a PROC stmt and one or more EXEC and DD stmt (steps), which is placed in a procedure library. It executed by an EXEC (procedure) stmt in another data set (called the execution JCL).

STEPLIB, JOBLIB
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

MODES
DISP=OLD denotes exclusive control of the Data Set;
DISP=SHR means there is no exclusivity .

DISP=MOD is used when the Data Set can be extended, ie, you can add records at the end of an existing Data Set

DISPOSITION OF (NEW,CATLG,DELETE)
That this is a new Data Set and needs to be allocated, to CATLG the Data Set if the step is successful and to delete the Data Set if the step abends.

DISPOSITION OF (NEW,CATLG,KEEP)
That this is a new Data Set and needs to be allocated, to CATLG the Data Set if the step is successful and to KEEP but not CATLG the Data Set if the step abends Thus if the step abends, the Data Set would not be catalogued and we would need to supply the Vol ser the next time we refer to it

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

DISPOSITION OF (NEW,PASS,DELETE)
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 Data Set will not exist beyond the JCL

What is the DD statement for a output File
Unless allocated earlier, will have the following parameters:
DISP=(NEW,CATLG,DELETE), UNIT , SPACE & DCB

How do you create a temporary Data Set? Where will you use them
Temporary Data Sets can be created either by not specifying any DSNAME 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 Data Set will not be retained once the job completes

How do you restart a proc from a particular step
In job card, specify RESTART=proc step step name where procstep = name of the jcl step that invoked the proc and stepname = name of the proc step where you want execution to start

'S0C7' abend
Caused by invalid data in a numeric field
What is a S0C4 error ?
Storage violation error - can be due to various reasons eg: READING a File that is not open, invalid address referenced due to subscript error
S322 abends
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

SD37, SB37, SE37
All indicate Data Set 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

difference between the positional parameters & keyword parameters
a).Sequence predetermined
b) Parameters separated by commas
c) Omitted parameters must be indicated by two consecutive commas.
d) Installation dependent

DUMMY Paramere
For an output File DUMMY specifies that the output is to be discarded For input it specifies that the File is empty.

COND Parameter
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!).

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

RESTART Parameter
A RESTART is a JOB statement keyword It is used to restart the job at a specified step rather than at the beginning

REGION parameter
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 .

TIME parameter
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

COND=EVEN and COND=ONLY
Means execute this step even if any of the previous steps, terminated abnormally
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

TYPERUN=SCAN on the JOB card or use JSCAN

IEBGENER do

Used to copy one SAM File to another Source Data Set should be described using SYSUT1 ddname Destination Data Set should be decribed using SYSUT2 IEBGENR can also do some reformatting of data by supplying control cards via SYSIN

differences between JES2 & JES3

JES3 allocates Data Sets for all the steps before the job is scheduled. In JES2, allocation of Data Sets Required by a step are done only just before the step executes.

What is the meaning of keyword in JCL? What is its opposite?

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) meaning are based on first, second a

Passing a Parameter to a Program

(Next) (Previous) (Table-of-Contents)

The two techniques use to pass information (a Parameter) from JCL to a program are as follows.

Technique	Description
via PARM=	This technique uses a PARM=*parameter* keyword on the EXEC statement in JCL. The COBOL program requires a LINKAGE SECTION.
via SYSIN	This technique requires SYSIN statement followed by the parameter to be placed in the JCL. The COBOL program requires an "ACCEPT *parameter* from SYSIN" to be coded in the COBOL program. If the SYSIN statement is missing in the JCL the ACCEPT will ABEND with a "File not found" message. To avoid this it will be necessary to use a "//SYSIN DD DUMMY" statment in the JCL when a parameter is not being passed.

The following two section describe parameter-passing in more detail. Simply click on one of the following items to learn more or download a set of sample programs that describe how to pass a parameter string from JCL to a COBOL program.

Passing a Parameter via PARM=

(Next) (Previous) (Table-of-Contents)

To pass a parameter from JCL to a program requires the use of the "PARM=" keyword with the EXEC statement. The following JCL statement shows an EXEC statement without a parameter defined.

```
//* ****************************************************************
//* Step   1 of 2, Execute the COBOL program without a parameter.
//*
//CBLPARS1 EXEC PGM=CBLPARC1
```

The following JCL statement shows an EXEC statement with a parameter defined by using the "PARM=" keyword. Notice the comma immediately after the program name. The parameter following the "PARM=" keyword requires the apostophes if the text string contains space characters.

```
//* ********************************************************************
//* Step   2 of 2, Execute the COBOL program with a parameter.
//*
//CBLPARS2 EXEC PGM=CBLPARC1,
//             PARM='SimoTime, When technology complements business'
```

Passing a Parameter via SYSIN

(Next) (Previous) (Table-of-Contents)

To pass a parameter from SYSIN to a program requires the use of DD statement for SYSIN. The following JCL statement is required if no parameter is passed.

```
//* ********************************************************************
//* Step   1 of 2, Execute the COBOL program without a parameter.
//*
//SYSIN DD DUMMY
```

The following JCL statements show what is required to pass information via SYSIN.

```
//* ********************************************************************
//* Step   2 of 2, Execute the COBOL program with a parameter.
//*
//SYSIN    DD *
Parameter from SYSIN...
//*
```

The following shows the COBOL statement required.

```
           ACCEPT variable-name FROM SYSIN
```

***Q:* what's symbolic parameter? What's the use of it?**
Substitute the values in proc passing thru job when it's invoked in JCL.

Q. What is the difference between a symbolic and an override in executing a PROC?
A. A **symbolic** is a PROC placeholder; the value for the symbolic is supplied when the PROC is invoked, e.g. &symbol=value. An **override** replaces the PROC's statement with another one; it substitutes for the entire statement.

***Q:* What's DCB? Explain various parameters in it?**
BLKSIZE, DSORG, LRECL, RECFM

***Q:* What's IDCAMS? . What's the use of it?**
Define GDG, VSAM FILES, REPRO

***Q:* What's SOC7? How to find out this error in JCL?**
DATA MOVEMENT ERROR.

***Q:* What's the region parameter and what happens if the if the memory size exceeds specified in REGION parameter?**
822

Q: **If u want execute a job for 10 or 11 hours what u will do?**
Time=1440

Q: **In a job 1,2,3,4 job steps are abended. But u want execute the job step5 anyhow? How can u do it?**
Cond=only in step5.

Q: **what's b37 error code?.**
In sufficient primary allocation of a data set.

Q: **what's the parm parameter?.**
Pass the values to the program.

Q: 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 date fields, definitions of VSAM files etc , We use CONTROL CARD because we cannot use an in-stream 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 control card.

Q: How do you submit JCL via a Cobol program?
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 TESTJOB will be submitted.

Q: How do you submit a JCL under CICS environment?
Pass all the JCL codes to a COBOL variable (should be declared using OCCURS clause) and then write the line one by one to the spool using CICS commands like SPOOLClose, SPOOLOpen and SPOOLWrite. For more help refer CECI of CICS or CICS manual.

Q: What is the parameter to be passed in the job card for the unlimited time, irrespective of the job class?
TIME=1440

Q: Define COND parameter in JCL?

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.
It is compared with system return code of previous step
//STEP1 EXEC PGM=ABCD
//STEP2 EXEC PGM=XYZ, cond=(4,lt)
STEP 2 will be executed when system return code of step1 is less than 4.

Q: What is meant by S0C-07 system ABEND codes?
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.

Q: How to pass the temp dataset form one JOB step to another?
By specifying the DISP as PASS for the temp dataset

Q: Write a JCL to execute a Job by 7:00 AM on Jan 20,1986?
The code is:
//*MAIN DEADLINE=(0700,B,012086)

Q: How many types of libraries are there in JCL?
Libraries are of three types:
- System Libraries:- such as SYS1.LINKLIB
- Private Libraries:- Specified in a JOBLIB or STEPLIB DD STATEMENTS.
- Temporary Libraries:- Created in a previous step of the Job.

Q: What do you mean by INCLUDE statement in JCL?
An INCLUDE statement identifies a member of a PDS 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.

Q: What are the Maximum number of In-stream procedures you can code in any JCL?
15.

Q: What you mean by skeleton JCL?
A: JCL, which changes during run time,that is the values for the JCL such as program name, dd name will change. The same JCL can be used for various jobs, equivalent to dynamic SQL;

Q: What is JCL?
A: It is an interface between operating system (MVS) & the application program. When two related programs are combined together on control statements, it is called job control language

Q: What is the maximum blocksize for a Tape file?
A: It is 32,760. Based on that we can calculate efficient number of Records in a Block

Submitted by: Aurobindo K.S. (auroks@hotmail.com)

Q: What are the basic JCL Statements for a Job?
A: The basic JCL statements for any job are:

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

Q: What does the statements: TYPRUN=SCAN and TYPRUN=HOLD do in a JCL statement?
A TYPRUN= SCAN checks the JCL for errors, TYPRUN= HOLD holds the job until further notice.

Q: What is QSAM error usually when it occurs?
A: Usually it occurs at the time of job submission.

Q: 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.

Q: Is it possible to know the remaining free space in a Control Interval/Control Area once an insertion has been made?
A: No. It is not possible.

Q: What does SOC-04 error mean?
A: This error is faced when we execute the Cobol program. The main reason for this error is that a variable is defined with fewer characters and we are trying to move data, which is larger than the actual storage space.

Q: In which table PLAN is registered in?
A: RCT

Q: What is a GDG?
A: 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 generation number, yy-version number.
GDGs can be sequential, direct, partitioned. (VSAM - no). They must always be cataloged. Advantages - 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

Q: What do you mean by spooling?
A: This is managed by JES. This is used for Queuing the Outputs that are intended for Printing and are first stored in SPOOLDASD.

Q: How many Instream-Procedures (PROCs) can be coded in a single Job?
A: 15

Q: For how long a Job can be executed continuously on a Mainframe?
A: 248 DAYS

Q: How may divisions are there in JCL-COBOL?
A: SIX

Q: What is the Maximum number of DD Statements to be coded in a single JCL?
A: 3273

Q: How much space OS allocates when you create a PS or PDS?
A: 56 KB

Q: What is the minimum number of Dataset names (PDS) in one Directory Block?
A: SIX

Q: What is the maximum number of steps in a Job?
A: 255

Q: How much is memory space involved, when we code BLOCKSIZE, TRK & CYL ?
A: One block constitutes 32KB of formatted memory/ 42KB of Unformatted memory; 6 blocks makes one Track & 15 Tracks makes one cylinder.

Q: What is DSNDB06?
A: This is the Place where DB2 Catalog resides;

Q: What is the use of DSNDB07?

A: This is the area where sorting takes place in DB2

Q: What is DATACOM DB?
A: It is a Database used with VSE.

Q: What is a Dummy Utility and what it does?
A: IEFBR14 is a Dummy utility and it is used for the sakeof 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 statment]. But for a PGM name must be given in EXEC statment, it is used.

Q: What 3 guidelines do we have to follow when concatenating DD statements?
A: The three guidelines for concatenating DD Statements are:-

- Datasets must be of the same type (disk or tape)
- All datasets must have the same logical record length (LRECL)
- The dataset with the largest blocksize must be listed first.

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

Q: What is the difference between IEBGENER, IEBCOPY and REPRO in IDCAMS utility?
A: They are the utility programs used in JCLs:
IEBGENER : This utility is used for copying sequential datasets which produces a PDS or a
member from a sequential dataset.
IEBCOPY : This utility is used for copying one PDS to another or to merge PDSs.
REPRO : This is for copying sequential datasets. More or less same as the IEBGENER

Q: What is the difference between STATIC CALL & DYNAMIC CALL?
A: In the case of STATIC CALL, the called program is stand-alone and an executable. During run time we can call it in our called program. In a DYNAMIC CALL, the called program is not an executable program and it can executed through the called program

Q: What is the difference between CATALOGED PROCEDURE and IN-STREAM PROCEDURE?
A: INSTREAM PROCEDURES are set of JCL statements written between JOB and EXEC statements, start with PROC and end with PEND statement. Mainly used to test cataloged procedures. CATALOGED PROCEDURES are cataloged on the procedure library (PROCLIB) and is called by specifying the procedure name on the EXEC statement.

Q: Can we browse or edit the GDG dataset if it is a tape entry?
A: No

Q: What are the maximum and minimum sizes of any CONTROL AREA (VSAM datasets)?
A: Minimum Size : 1 track; Maximum size : 1 cylinder

Q: How many parameters are there to a DISP statement and what are their uses.
A: 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)

Q: What is COMP?
A: COMP - HALF WORD BINARY

Q: What is a PROCEDURE?
A: A set of precoded JCL that can be modified through the use of parameters or override cards. Note: Procedures can be catalogued or instream.

Q: What is the difference between specifying DISP=OLD and DISP=SHR for a dataset?
A: 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]

Q: What are the three basic types of statements in a jobstream?
A: The three basic types of statements in a jobstream are:
JOB : We can code one per jobstream
EXEC : It can be one or more per job
DD : one or more per jobstep);
JOB – It indicates start of jobstream to the operating system and through parms coded on it, it contains certain details about the job (like time, region, message level, job accounting data).
EXEC – It indicates the start of execution of a particular job step, be that step a program or a proc.
DD – It is a data definition statement, which is used to describe the attributes of a dataset (like name, unit, type, space, disposition etc.,).

Q: What does SYSIN * indicate?
A: Instream data follows this card and is terminated when followed by a card containing // or /* in columns 1 and 2.

Q. What is primary allocation for a dataset?
A. The space allocated when the dataset is first created.

Q.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.

Q. .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.

Q. What does a disposition of (NEW,CATLG,DELETE) mean? - GS
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.

Q. What does a disposition of (NEW,CATLG,KEEP) mean? - GS
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.

Q. How do you access a file that had a disposition of KEEP? - GS

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

Q. What does a disposition of (MOD,DELETE,DELETE) mean ?
A. The MOD will cause the dataset to be created (if it does not exist), and then the two DELETEs 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.

Q. What is the DD statement for a output file?
A. Unless allocated earlier, will have the foll parameters: DISP=(NEW,CATLG,DELETE), UNIT , SPACE & DCB .

Q. What do you do if you do not want to keep all the space allocated to a dataset? - GS
A. Specify the parameter RLSE (release) in the SPACE e.g. SPACE=(CYL, (50,50),RLSE)

Q. 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.

Q. How do you create a temporary dataset? Where will you use them?
A. Temporary datasets can be created either by not specifying any DSNAME 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.

Q. How do you restart a proc from a particular step? - GS

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

Q. How do you skip a particular step in a proc/JOB? - GS

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

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

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.

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

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

Q. What is NOTCAT 2 - GS

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 data set and going to the volume where the new dataset exists(this info is in the msglog of the job) and cataloging it.

Q. What is 'S0C7' abend? - GS

A. Caused by invalid data in a numeric field.

Q. What is a S0C4 error ? - GS

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.

Q. 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.

Q. 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.

Q. Why do you want to specify the REGION parameter in a JCL step? - GS

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.

Q. 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.

Q. What is COND=EVEN ?

A. Means execute this step even if any of the previous steps, terminated abnormally.

Q. What is COND=ONLY ?

A. Means execute this step only if any of the previous steps, terminated abnormally.

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

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

Q. 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 decribed using SYSUT2. IEBGENR can also do some reformatting of data by supplying control cards via SYSIN.

Q. 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.

Q. I have multiple jobs (JCLs 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).

Q. I have a COBOL program that ACCEPTs some input data. How do you code the JCL statment for this? (How do you code instream data in a JCL?)

A.
```
//SYSIN DD*
input data
input data
/*
```

Q. Can you code instream data in a PROC ?

A. No.

Q. How do you overcome this limitation ?

A. One way is to code SYSIN DD DUMMY in the PROC, and then override this from the JCL with instream data.

Q. 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 program,

```
//STEP001 EXEC PGM=MYPROG
```

To run a DB2 program,

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

Q. What is STEPLIB, JOBLIB? What is it used for? - GS

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.

Q. What is order of searching of the libraries in a JCL? - GS

A. 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.

Q. What happens if both JOBLIB & STEPLIB is specified ?

A. JOBLIB is ignored.

Q. When you specify mutiple datasets in a JOBLIB or STEPLIB, what factor determines the order? - GS

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

Q. How to change default proclib ?

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

Q. 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.

Q. What are the valid DSORG values ?

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

Q. What are the differences between JES2 & JES3 ?

A. 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. ????? Can anyone add more

Q. What are the kinds of job control statements?
A. The JOB, EXEC and DD statement.

Q. What is the meaning of keyword in JCL? What is its opposite?
A. 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.

Q. Describe the JOB statement, its meaning, syntax and significant keywords.
A. The JOB statement is the first in a JCL stream. Its format is // jobname, keyword JOB, accounting information in brackets and keywords, MSGCLASS, MSGLEVEL, NOTIFIY, CLASS, etc.

Q. Describe the EXEC statement, its meaning, syntax and keywords.
A. 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.

Q. Describe the DD statement, its meaning, syntax and keywords.
A. 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 know to the MVS operating system. The syntax is // ddname DD DSN=dataset name. Other keywords after DSN are DISP, DCB, SPACE, etc.

Q. What is a PROC? What is the difference between an instream and a catalogued PROC?
A. 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.

Q. What is RESTART? How is it invoked?
A. RESTART is a JOB statement keyword. It is used to restart the job at a specified step rather than at the beginning.

Q. What is a GDG? How is it referenced? How is it defined? What is a MODELDSCB?
A. 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.

Q. Explain concatenating datasets.
A. 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.

Q. What is the difference between specifying DISP=OLD and DISP=SHR for a dataset?
A. DISP=OLD denotes exclusive control of the dataset; DISP=SHR means there is no exclusivity.

Q. What is MOD and when would you use it?
A. DISP=MOD is used when the dataset can be extended, ie, you can add records at the end of an existing dataset.

Q. 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?
A. The keywords associated with the DCB parameter are LRECL, RECFM, BLKSIZE and DSORG. The DCB information can be supplied in the DD statement. The sysem looks for DCB information in the program code first.

Q. How do you designate a comment in JCL?
A. The comment statement is //* followed by the comments.

Q. What is the meaning of the EXEC statement keyword, COND? What is its syntax?
A. 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!)

Q. What is the improvement to COND= in the latest version of MVS?
A. 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.

Q. What is the purpose of the PARM keyword in the EXEC statement?
A. The value after the PARM= specifies control information to be passed to the executing program of the job
step.

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

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

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

Q. How is the keyword DUMMY used in JCL?
A. For an output file DUMMY specifies that the output is to be discarded. For input it specifies that the file is empty.

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

Q. What is the difference between BLKSIZE and LRECL?
A. BLKSIZE specifies the number of bytes

JOB statement
Accounting Information, MSGCLASS, CLASS, MSGLEVEL, NOTIFY, USERID, PASSWD, COND, REGION, RESTART

EXEC statement
The EXEC statement identifies the program to be executed via a PGM=program name keyword

DD statement
The DD statement links the external Data Set name (DSN) to the DDNAME coded within the executing program It links the File names within the program code to the File names know to the MVS operating system

What is a PROC? What is the difference between an instream and a catalogued PROC?
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 Data Set.

In-stream Procedure & Catalog Procedure?
In-stream Procedures begin with a PROC stmt and must be terminated by a PEND stmt. (PEND can also be coded for a cataloged Procedure, but it isn't required) The PENC stmt coded as :

```
//Option-name PEND    comments
```

The In-stream Procedure is placed following the JOB statement of the JOB. Up to 15 n-stream Procedures can be included in a single job. Each In-stream Procedure may be invoked several times with in the job.

```
//QZ5P13TD JOB (18636), 'HARISH', CLASS=A
//RUN PROC                    In-stream procedure starts from here
//GO EXEC PGM=ONE
//SYSOUT DD SYSOUT=A
//PEND
//STEP1 EXEC RUN              procedure is used like
..
```

A set of JCL stmt's consisting of a PROC stmt and one or more EXEC and DD stmt (steps), which is placed in a procedure library. It executed by an EXEC (procedure) stmt in another data set (called the execution JCL).

STEPLIB, JOBLIB
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

MODES
DISP=OLD denotes exclusive control of the Data Set;
DISP=SHR means there is no exclusivity .

DISP=MOD is used when the Data Set can be extended, ie, you can add records at the end of an existing Data Set

DISPOSITION OF (NEW,CATLG,DELETE)
That this is a new Data Set and needs to be allocated, to CATLG the Data Set if the step is successful and to delete the Data Set if the step abends.

DISPOSITION OF (NEW,CATLG,KEEP)
That this is a new Data Set and needs to be allocated, to CATLG the Data Set if the step is successful and to KEEP but not CATLG the Data Set if the step abends Thus if the step abends, the Data Set would not be catalogued and we would need to supply the Vol ser the next time we refer to it

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

DISPOSITION OF (NEW,PASS,DELETE)
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 Data Set will not exist beyond the JCL

What is the DD statement for a output File
Unless allocated earlier, will have the following parameters:
DISP=(NEW,CATLG,DELETE), UNIT , SPACE & DCB

How do you create a temporary Data Set? Where will you use them
Temporary Data Sets can be created either by not specifying any DSNAME 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 Data Set will not be retained once the job completes

How do you restart a proc from a particular step
In job card, specify RESTART=proc step step name where procstep = name of the jcl step that invoked the proc and stepname = name of the proc step where you want execution to start

'S0C7' abend
Caused by invalid data in a numeric field
What is a S0C4 error ?
Storage violation error - can be due to various reasons eg: READING a File that is not open, invalid address referenced due to subscript error
S322 abends
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

SD37, SB37, SE37
All indicate Data Set 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

difference between the positional parameters & keyword parameters
a).Sequence predetermined
b) Parameters separated by commas
c) Omitted parameters must be indicated by two consecutive commas.
d) Installation dependent

DUMMY Paramere
For an output File DUMMY specifies that the output is to be discarded For input it specifies that the File is empty.

COND Parameter
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!).

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

RESTART Parameter
A RESTART is a JOB statement keyword It is used to restart the job at a specified step rather than at the beginning

REGION parameter
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 .

TIME parameter
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

COND=EVEN and COND=ONLY
Means execute this step even if any of the previous steps, terminated abnormally
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
TYPERUN=SCAN on the JOB card or use JSCAN

IEBGENER do
Used to copy one SAM File to another Source Data Set should be described using SYSUT1 ddname Destination Data Set should be decribed using SYSUT2 IEBGENR can also do some reformatting of data by supplying control cards via SYSIN

differences between JES2 & JES3
JES3 allocates Data Sets for all the steps before the job is scheduled. In JES2, allocation of Data Sets Required by a step are done only just before the step executes.

What is the meaning of keyword in JCL? What is its opposite?
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) meaning are based on first, second and third position.