1. What are the different types of VSAM files available?

ESDS: Entry Sequence Data Set

KSDS: Key Sequence Data Set

RRDS: Relative Data Set

2. What is IDCAMS ?

IDCAMS is the Access Method Services program. You run the IDCAMS program and supply AMS commands thru SYSIN. (examples of AMS commands are DELETE, DEFINE, REPRO etc..).

3. Can AMS commands be run from the TSO prompt ?

Yes

4. Syntax of AMS modal commands ?

Note: these can be used only under IDCAMS and not from the TSO prompt.

IF LASTCC(or MAXCC) >(or <,= etc..) value -

THEN -

DO -

command set (such as DELETE, DEFINE etc..)

ELSE -

DO -

command set

LASTCC - Condition code from the last function(such as delete) executed

MAXCC - Max condition code that was returned by any of the prev functions

SET is also a valid AMS command. SET LASTCC (or MAXCC) = value

The maximum condition code is 16. A cond code of 4 indicates a warning. A cond code of 8 is usually encountered on a DELETE of a dataset that is not present.

5. Under IDCAMS , multiple functions can be executed, each of which returns a cond code. What will be the condition code returned to the operating system ?

The maximum condition code generated is returned as the condition code of the IDCAMS step.

6. What is Control Interval, Control Area ?

Control Interval is analogous to a physical block for QSAM files. It is the unit of i/o. Must be between 512 bytes to 32 k. Usually either 2K or 4K. A larger control interval increases performance for sequential processing while the reverse is true for random access. Under CICS when a record is locked, the entire CI gets locked.

Control area is a group of control intervals. CA is used during allocation. CA size is calculated based on the allocation type (cyl, tracks or records) and can be max of 1 cylinder

7. What is FREESPACE ?

Coded in the DEFINE as FREESPACE(ci ca) where ci is the percentage of each control interval to be left free for insertions, ca is the percentage of control intervals in each control area to be left empty.

8. How do you decide on optimum values for CI, FREESPACE etc..?

CI size should be based on record length, type of processing. Usually CI is 4K. If record length is larger(>1K), chose 6K or 8K.

FREESPACE should be large if more number of insertions are envisaged. Usual values are (20 20) when heavy updates are expected. CI size can be calculated.

9. Would you specify FREESPACE for an ESDS?

No. Because you cannot insert records in an ESDS, also when you rewrite a record, it must be of the same length. Thus putting any value for freespace does not make any sense.

10. What is SHAREOPTS ?

SHAREOPTS is a parameter in the DEFINE and specifies how an object can be shared among users. It is coded as SHAREOPTS(a b), where a is the cross region share option ie how two or more jobs on a single system can share the file, while b is the cross system share option ie how two or more jobs on different MVSes can share the file. Usual value is (2 3).

11. What is the meaning of each of the values in SHAREOPTS(2 3)?

Value of 2 for cross region means that the file can be processed simultaneously by multiple users provided only one of them is an updater. Value of 3 for cross system means that any number of jobs can process the file for input or output (VSAM does nothing to ensure integrity).

12. How do you define a KSDS ?

DEFINE CLUSTER(cluster name) with the INDEXED parameter. Also specify the ds name for the DATA component & the ds INDEX component. Other important parms are RECORDSIZE, KEYS, SHAREOPTIONS.

13. How do you define an ALTINDX ? How do you use ALTINDXs in batch, CICS pgms ?

DEFINE ALTERNATEINDEX. Important paramters are RELATE where you specify the base cluster name, KEYS, RECORDSIZE,SHAREOPTIONS,UNIQUEKEY(or NONUNIQUEKEY), DATA(ds name for the data component), INDEX(ds name for the index component).

Then DEFINE PATH. Important paramters are NAME (ds name for the path), PATHENTRY (ds name of the alternate index name), UPDATE(or NOUPDATE) which specifies whether an alt index is updated when a update to the base cluster takes place.

Then BLDINDEX. Parameters are INDATASET(ds name of base cluster), OUTDATASET(ds name of AIX).

Using alternate indexes in batch pgms:

In the JCL, you must have DD stmts for the cluster and for the path(s). In the cobol pgm, SELECT .. ASSIGN TO ddname for base cluster RECORD KEY IS... ALTERNATE RECORD KEY IS..

Using alternate indexes in CICS pgms:

FCT entries must be created for both base cluster & the path. To read using the alternate index, use the dd name of the path in CICS file control commands.

14. What happens when you open an empty VSAM file in a COBOL program for input?

A VSAM file that has never contained a record is treated as unavailable. Attempting to open for input will fail. An empty file can be opened for output only. When you open for output, COBOL will write a dummy record to the file & then delete it out.

15. How do you initialize a VSAM file before any operation? a VSAM with alternate index?

Can write a dummy program that just opens the file for output & then closes it.

16. What does a file status of 02 on a VSAM indicate?

Duplicate alternate key . Happens on both input and output operation

17. How do you calculate record size of an alternate cluster? Give your values for both unique and non-unique.

Unique Case: 5 + (alt-key-length + primary-key)

Nonunique Case: 5 + (alt-key-length + n * primary-key)

where n = # of duplicate records for the alternate key

????Any one who knows - can you explain ?

18. What is the difference between sequential files and ESDS files?

Sequential(QSAM) files can be created on tape while ESDS files cannot.

Also, you can have ALTINDEX for an ESDS while no such facility exists for QSAM files.

19. How do you load a VSAM data set with records ?

Using the REPRO command.

20. How do you define a GDG ?

Use the DEFINE GENERATIONDATAGROUP command. In the same IDCAMS step, another dataset must be defined whose DCB parameters are used when new generations of the GDG are created. This dataset is known as the model dataset. The ds name of this model dataset must be the same as that of the GDG, so use a disp of keep rather than catlg and also specify space=(trk,0)

21. Do all versions of the GDG have to be of the same record length ?

No, the DCB of the model dataset can be overridden when you allocate new versions.

22. How are different versions of GDG named ?

base-file-name.GnnnnV00 where nnnn= generation number (upto 255).

nnnn will be 0000 for the 1st generation.

23. Suppose 3 generations of a GDG exist. How would you reference the 1 st generation in the JCL?

Use GDG name(-2).

24. Suppose a generation of GDG gets created in a particular step of a proc. How would you refer the current generation in a subsequent step? What would be the disposition of this generation now?

Relative generation numbers are updated only at the end of the job, not at the end of a step. To allocate a new generation, we would be using (+1) with a DISP of (NEW,CATLG,DELETE). To refer to this in a subsequent step in the same job, we would again use (+1) but with a DISP of SHR or OLD.

25. What more info you should give in the DD statement while defining the next generation of a GDG?

Give (+1) as the generation number, give (new,catlg) for disp, give space parameter, can give the dcb parameter if you want to override the dcb of the model dataset.

26. Assuming that the DEFINE jcl is not available, how do you get info about a VSAM file's organisation ?

Use the LISTCAT command.

27. During processing of a VSAM file, some system error occurs and it is subsequently unusable . What do you do ?

Run VERIFY.