

01) Tape:

- i) Optimum block size for tape datasets - 32760
- ii) To copy two or more datasets in the same TAPE volume with incremented LABELS (sequence number of datasets)

```

//*****
//COPY1      EXEC PGM=IEBGENER
//SYSUT1     DD  DSN=CSS8.V7F.TEST1.DTPSF,DISP=SHR
//SYSUT2     DD  DSN=CSS8.V7F.COPY1.DTPSF,DISP=(NEW,CATLG,DELETE),
//           DCB=(*.SYSUT1),
//           UNIT=TAPE,
//           VOLUME=(PRIVATE,RETAIN)          /* requirement 1 */
//SYSPRINT   DD  SYSOUT=*
//SYSIN      DD  DUMMY
//*****
//COPY2      EXEC PGM=IEBGENER
//SYSUT1     DD  DSN=CSS8.V7F.TEST2.DTPSF,DISP=SHR
//SYSUT2     DD  DSN=CSS8.V7F.COPY2.DTPSF,DISP=(NEW,CATLG,DELETE),
//           DCB=(*.SYSUT1),
//           UNIT=TAPE,
//           VOL=REF=*.COPY1.SYSUT2,        /* requirement 2 */
//           LABEL=(2,SL)                   /* requirement 3 */
//SYSPRINT   DD  SYSOUT=*
//SYSIN      DD  DUMMY
//*****

```

02) =3.13;e;CMPCOLM starting column:end column (to compare a specific set of characters)

03) Cobol :- Input procedure - Release; Output Procedure- Return Date - YYMMDD

- INITIALIZE VERB won't initialize FILLER items
- MOVE from NUMERIC, COMP-3 TO ALPHA (A) is incompatible.
- S0C4 : if variable is not initialized and if you do any conditional (IF) checking it will abend with S0C4
- Parm passed from the jcl;Requirements in the program linkage section

```

01 PARM-JCL.
   10 PARM-LEN      PIC S9(4) COMP.
   10 PARM-VALUE   PIC ????.

```
- Cobol/370 :- MOVE FUNCTION CURRENT-DATE TO WS-DATE (FUNCTION CURRENT-DATE stores CCYYMDDHHMMSSSS-DDDD - 21 chars)

```

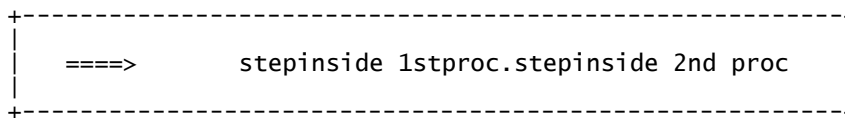
Integer dates are based beginning JAN 1, 1601
But LE/370 are based beginning OCT 15, 1582
Number of days since OCT 15, 1582 is Lilian fmt.

```
- Cobol/II :- Reference modification and subscript in same statement
eg., MOVE ENTRY1 (SUB1) (5:7) TO FIELD1.
subscript will appear first in the code.

04) IMS :- GE- no record, GB - eodb

05) JCL and Proc:-

- i) Restart proc with in proc
example MCPB67(PROC) - TPD.PROCLIB
BNM67(JCL) - MED8.CAT.C3.JCL



ii) Descriptions:-

JCLLIB: Is used to indicate MVS, where to search for your procs or INCLUDE groups, this library will be search first when attempting to look for the above

```

eg:- //name JCLLIB ORDER=(X.Y.Z,....)
      //name JCLLIB ORDER=(X.Y.Z,....)

```

JOBLIB : Is used to identify a program library to search first when attempting to locate programs executed during JOB's life.

STEPLIB: Is used to identify a program library to search first when attempting to locate programs executed during job STEP.

PROCLIB: JES2 parameter in JOBPARM statement.(PROCLIB=ddname)
Default is PROC00. Provides the DD name of the DD statment in the JES2 start-up JCL that allocates the JCL proc libraries to use in interpreting the JCL for this job If you don't know what DD names to use for your site, browse SYS1.PROCLIB(JES2).

iii) To include a set of JCL statments from a member into the execution JCL
eg:- //STANDOUT INCLUDE MEMBER=STANDOUT

iv) To override/add/nullify a parmeter in ALL of the EXEC statments, code in usual way on the JCL EXEC statment

Proc:-

```
//MP      PROC
//STEP1  EXEC PGM=XXX,REGION=2M,TIME=2,ACCT=TR1
//.....
//.....
//STEP2  EXEC PGM=YYY,REGION=3M,TIME=3,ACCT=TR2
//MP      PEND
```

Jcl:-

```
//JOBSTEP1 EXEC MP, ACCT=PR1,REGION=,      REGION=, nullifies
```

To override or add a parameter to only ONE EXEC statement,
code parameter.procstepname

```
//JOBSTEP1 EXEC MP,
//          time.step2=3
```

Remember PGM step can not be overridden

06) TSO commands:-

i) LISTCAT ENT(/) ALL (to list the attributes of a VSAM dataset
Use this command as a line command beside the dataset.

eg:-

```
listcat ent(/) allf.CASH.SNDX.DTVSK
          CSS4.FSP7F.CASH.SNDX.DTVSK.DATA
          CSS4.FSP7F.CASH.SNDX.DTVSK.INDEX
```

ii) ALTLIB ACTIVATE APPLICATION(CLIST) DATASET(' ')

ALTLIB DEACTIVATE APPLICATION(CLIST)

To define user-level or application-level sets of libraries containing SAA/PL EXECs or CLISTS. these libraries are searched when implicitly invoking an SAA/PL EXEC or CLIST.

(or) Below is more efficient than the above method
ALLOC DATASET('WELZ492.APPS.CLIST') FILE(SYSUEXEC);
ALTLIB ACTIVATE USER(EXEC)

iii) To DISPLAY ALL the ALIASES defined in the Master Catalog

```
=6;
PROFILE NOPREFIX
LISTC ALIAS
or to display the Master and user catalog infor for the ALIAS
LISTC ENT('prefix') ALIAS ALL
PROFILE PREFIX(prefix)      - resets the profile
```

iv) To DISPLAY ALL the UserCatalogs

```
=6;
PROFILE NOPREFIX
LISTC USERCAT or LISTC UCAT
PROFILE PREFIX(prefix)      - resets the profile
```

iv) To DISPLAY SYSTEM level information

TSO SYSTEM - this is equivalent to /D IPLINFO from SDSF
VOLSER is the ADDRESS

v) To DISPLAY IPL information

TSO IPLINFO -

07) DB2 :-

Performance Monitor - DB2 console (Jobname - *MSTR)

a) DSNZ002I : what time DB2 was started
 DSNZPARAM load module name
b) DSNJ002I : indicates active log is full
c) DSNT501I : resource unavailable
d) DSNT375I : contention - deadlock
e) DSNT376I : contention - time out

Commands:-

START DATABASE(dbname) SPACENAM(TSNAME) ACCESS(RW/RO/UT/FORCE)

General:-

From Version 5 and above a 1 row 1 column table named SYSDUMMY1 was introduced , column name is IBMREQD with the value 'Y'.

a) To get the systems-date subtracted by one.

Eg date: 1998-08-24

```
SELECT (DAY(CURRENT_DATE) - 01) FROM SYSIBM.SYSDUMMY1
result is - 23
SELECT CURRENT_DATE - DATE('0001-01-01') FROM SYSIBM.SYSDUMMY1
result is - 19970723
```

b) To get the systems-date subtracted by required no of days.

Eg date: 1998-09-11

```
SELECT (CURRENT_DATE - 30 DAYS) FROM SYSIBM.SYSDUMMY1
result is - 1998-08-12
```

c) Executing EXPLAIN in QMF

eg:-

```
-----
EXPLAIN PLAN SET QUERYNO=11
FOR
SELECT * FROM WELZ492.PLAN_TABLE
WHERE QUERYNO=?
ORDER BY QUERYNO
```

d) To PICK the Duplicate rows in a table

```
SELECT ALL THE COLUMNS TO BE CONSIDERED FOR IDENTIFYING
      DUPLICATES
FROM   TABLE NAME
GROUP BY ALL THE SELECTED COLUMNS
HAVING COUNT(*) > 1
```

eg:-

```
-----
SELECT C1,C2,C3 FROM EMP_SAMPLE
GROUP BY C1,C2,C3
HAVING COUNT(*) > 1
```

(OR)

```
SELECT EMP_NO FROM SAMPLE S1
WHERE 1 <
(SELECT COUNT(*) FROM SAMPLE S2
 WHERE S1.EMP_NO = S2.EMP_NO)
```

e) To SELECT the first 10 values of a column from the table

```
SELECT EMP_NO FROM SAMPLE S1
WHERE 10 >
(SELECT COUNT(*) FROM SAMPLE S2
WHERE S1.EMP_NO < S2.EMP_NO)
```

The value 10 can be replaced as per the requirement here EMP_NO should not have duplicates

f) To SELECT the 3rd MAXimum value of a column

```
SELECT min(EMP_NO) FROM SAMPLE S1
WHERE 3 >
(SELECT COUNT(*) FROM SAMPLE S2
WHERE S1.EMP_NO < S2.EMP_NO)
```

g) Length for LONGVAR columns is decided by DB2 internal. User can't provide that. Page size, nulls are also plays a role while deciding the length

h) Synonyms will be dropped when base tables are dropped, but ALIASes retain

i) when TIME STAMP fields are used in where clause use single quote eg., WHERE TS_FIELD > '1999-01-01-00.01.01.000001'

j) COALESCE is a function which returns a value instead of NULL

k) Restart logic :
if THE SQL LOOKS like below

```
SELECT *
FROM TABLE_NAME
WHERE
  (COLUMN_A > value_a AND          - Column_a is unique column)
  (COLUMN_B > value_b AND
  COLUMN_C = value_c)

ORDER BY
  COLUMN_X
  COLUMN_Y
  COLUMN_Z
```

when applying custom coded restart logic, change the statement like below.

```
SELECT *
FROM TABLE_NAME
WHERE
  (COLUMN_A > value_a AND          - Column_a is unique column)
  (COLUMN_B > value_b AND
  COLUMN_C = value_c)
  AND
  (COLUMN_X > saved_x)
  OR
  (COLUMN_X = saved_x AND
  COLUMN_Y = saved_y)
ORDER BY
  COLUMN_X
  COLUMN_Y
  COLUMN_Z
```

l) Common SQL codes

```
-204 : The object name is undefined
-206 : Column name is not in any table reference
-551 : User not authorized
-805 : Token for the specified program is not available in plan
-811 : More than one row is selected and cursor not used
-818 : Plan , load module time stamp mismatch
-904 : Resource unavailable(pending state,TS migration)
-911 : Rollback occurred
-926 : Commit, rollback can not be issued on CICS programs
```

m) Package versioning feature can be used by passing the VERSION paramter during Precompilation step.

```
//PRECOMP EXEC PGM=DSNHPC,
// PARM='HOST(COB2),APOST,APOSTSQL,SOURCE,XREF,VERSION(AUTO)'
```

- n) To List the Dependencies for a package based on COLLECTION prefix and tables accesses externally

```
SELECT DISTINCT A.DCOLLID, A.DNAME AS PROGRAM, A.BNAME AS TABLE_N
                B.DBNAME AS DATABASE, B.CREATOR
FROM            SYSIBM.SYSPACKDEP A, SYSIBM.SYSTABLES B
WHERE A.BTYPE   = 'T'           AND
      A.BNAME   = B.NAME       AND
      A.BTYPE   = B.TYPE       AND
      (a.DCOLLID LIKE 'abcd%' OR A.DCOLLID LIKE 'efgh%')
AND (a.DBNAME NOT LIKE 'xyz%' AND B.DBNAME NOT LIKE 'uvw%')
ORDER BY 1,2,3/ORDER BY A.DCOLLID, PROGRAM
```

- o) To select values from A that are not available in B)

```
SELECT PROG_NAME FROM WELZ492.DUMMY1 A
WHERE NOT EXISTS(SELECT 1 FROM DASADM.CCF_CHANGE_MODULE B
                 WHERE A.PROG_NAME = B.MODULE_NAME);
```

- p) Compare tables in two subsystems eg., (PR1 DBT, DV1 DBDD)

- i) Collect the following data from two systems and store in two tables MEDCAT_PR1_DATA, MEDCAT_DV1_DATA

```
SELECT A.TBNAME,A.NAME, A.TBCREATOR, B.DBNAME, B.TSNAME, A.LENGTH
FROM   SYSIBM.SYSCOLUMNS A,SYSIBM.SYSTABLES B
WHERE  (B.TYPE = 'T' OR B.TYPE = 'V')
AND    (B.DBNAME = 'MPCDB01'
OR     B.DBNAME = 'RSSCD201')
AND    A.TBCREATOR = B.CREATOR
AND    A.TBNAME = B.NAME
ORDER BY A.TBNAME,A.NAME
```

- ii) Compare the above tables using following query.

```
SELECT DISTINCT TBNAME
FROM   LPRADU1.MEDCAT_PR1_DATA A
WHERE  NOT EXISTS
      (SELECT * FROM LPRADU1.MEDCAT_DV1_DATA B
       WHERE A.TBNAME = B.TBNAME
           AND A.NAME = B.NAME)
ORDER BY TBNAME
```

- 08) DISPATCH :- MM - msgclass system messages | SC - cursor scrolling
ML - msgclass log messages | C - supress freeze
MJ - direct access to jcl | G - page skip; Gn

- 09) ISPF:- TS-text split; TF- ; LC-lower case; UC-upper case
lrecl less <= 9 is not supported in 3.4

- 10) To allocate a personal ISPLIB thru REXX routine and display a panel

```
/* REXX */
ARG OPT
ADDRESS ISPEXEC 'LIBDEF ISPLIB DATASET ID(' , - allocates
                "'CSS8.V7F.ISPLIB')'"

ADDRESS ISPEXEC 'SELECT PANEL(MRK_PANEL) ', - displays panel
                'NEWAPPL(TEST) PASSLIB SUSPEND' - MRK_PANEL
RETURN 0
```

To write a ISREDIT Macro follow the below example, and allocate the REXX library to SYSEXEC or SYSPROC

```
-----
/* REXX */
"ISREDIT MACRO (PARAM)" - to recognize it as a macro
"ISREDIT EXCLUDE ALL" - equivalent to X ALL
"ISREDIT FIND "PARAM" ALL" - equivalent to F PARAM ALL
```

Predefined variables which are used extensively in ISREDIT Macros

.ZCSR - current line, .ZFIRST - first line .ZLAST - last line

- 11) XPEDITER online :- SET KEEPS n where n can be 5,7,9,11
GT to change the flow
S to skip the instruction

- 12) Commonly used SDSF commands

a) WHO - Displays the user information

- b) ? - Alternate fields
 c) SET DATE MMDDYYYY|DDMMYYYY|YYYYMMDD separator
 eg., set date mmddyyyy /
 d) FILTER FIELD OPER VALUE
 eg., FILTER OWNER = WELZ492
 e) SET LOG ON/OFF
 f) LOG 0 (operator log), LOG S (system log)
 g) SET CONFIRM ON/OFF
 h) SET ACTION ON/OFF - Displays the action characters
 i) SET SCREEN - To change the screen characteristics
 j) FINDLIB number|? - Resets the find limit number
 eg., FINDLIM 20000 Sets the limit to
 20000 lines for search
 k) OWNER id, PREFIX id
 eg., OWNER WELZ492, PREFIX WELZ492*
 l) DA TSU - To display the Time sharing users
 m) DA OSTC - To display started task control

13) CICS NATIVE TRANSACTIONS:-

CICS programs are reentrant(RENT) - RENT forces RESIDENT
 (CECI - CICS Command Level Interpreter)

Releases pgm from XPED HOLD STATUS

 CECI REL PROG(PGMNAME)

Displays a Map

 CECI SEND MAP(MAP-NAME) MAPSET(MAPSET-NAME)
 eg:- CECI SEND MAP('NMC011M') MAPSET('NMC011S')

To Display the details of a transaction/program from PCT/PPT

 CECI INQ TRANS/PROG(XXXX)

To List the Transactions using Master Terminal Transaction

 CEMT I TRAN(*)

To List the Programs

 CEMT I PROG(*)

To List the Files

 CEMT I FILE(*)

To Discard a source(don't do this)

 CEMT D FILE/prog/tran(*)

To QUIESCE/UNQUIESCE an RLS file

 CEMT s dsn('dsn') Q/UNQ

To NEWCOPY a source

 CEMT S PROG(MEMBER) NEW

To include a entry into a PCT PPT FCT

 CEDA D PROG(*) G(*) - where G is the group
 This will list the program do a COPY AS(NEWMEM) {TO(NEWGROUP)}

CEDA DIS MAPSET(XXX*) G(*)

To install the whole group

 CEDA INSTALL G(GROUPNAME)

To establish a DBCTL connection and to disconnect it

 CDBC

To Inquire the status of the DBCTL interface

 CDBI

DSNC - CICS DB2 interface transaction

To List the RCT using CICS transaction DSNC to invoke DB2 command

DSNC DISPLAY STATISTICS

If entries are more than 1 page: To display the required page issue P/1

Another method to scroll the entries using PFF7/PF8 is

- a) Clear the screen
- b) Enter; CEOT PAGE
- c) PF3
- d) Clear the screen
- e) DSNC DISPLAY STATISTICS

To START and STOP the attach facility

DSNC STRT
DSNC STOP

14) Line commands

To edit/browse a member from 3.4 list PDS giving a line command:

E /(MEMBERNAME) besides the pds name '/' will be replaced for the PDS name.

Eg.,

COMMAND NAME

e /(disprexx).V7F.REXX

15) VSAM

-
- a) Allocate alternate index separately based on base cluster.
 - b) Alternate index will be deleted with the deletion of base cluster
 - c) Share option SHROPTNS(A,B) keyword in DEFINE cluster defines how the VSAM dataset would be shared
 - A - Cross Region ; values 1,2,3,4
 - B - CROSS System ; values 3,4
 - d) REUSE - resets the EOF pointer and starts from first record always. But if the file is open for I-O this will be processed normally.
 - e) REWRITE can be used only for direct access files
 - f) If the program used alternate key the secondary index dataset should be included in the step like //BASENAME1 for eg, if the SELECT statement reads like below


```

SELECT KSDS-FILE ASSSIGN            KSDSFILE
      ORGANIZATION            IS    INDEXED
      ACCES                    IS    DYNAMIC
      RECORD KEY               IS    KSDS-PTR
      ALTERNATE RECORD KEY IS    KSDS-ALTR-PTR
                              WITH DUPLICATES
      FILE    STATUS            IS    KSDS-STATUS.

```

In the JCL, use as below;

```

//KSDSFILE    DD DSN=BASECLUSTERNAME, DISP=SHR
//KSDSFIL1    DD DSN=SECONDARY INDEX DATASET NAME, DISP=SHR

```

16) Special DD names

SYSABEND	- Produces a dump of user and system areas
SYSMDUMP	- Produces a dump of system areas and program's address space. Unformatted and machine readable
SYSUDUMP	- dump of user areas, formatted

17) Miscellaneous

DLF	- EXEC PGM = DSMSPEXC
APKACIF	- EXEC PGM = APKACIF
BMC Secondary Index	- EXEC PGM = BMCSIU