DB2

INTERACTING DB2

1. SPUFI -Sql processing using file inputs
2. QMF -query management facility
3. EMBEDDED SQL PROGRAM(COBOL)

SQL.

Every sql statement will return SQLCODE

Signed 3 digits.

Sqlcode → 0 be happy

Sqlcode is negative → cry for it

Sqlcode is positive → warinings/informations

+ 100 → end of table.

Data types : ref slides.

Char(05) ← sam → 5 bytes→ 'sam '

Varchar(05) ← sam → 3 bytes.

DDL.

1. CREATE

CREATE TABLE/VIEW/TRIGGER/STOGROUP/UNIQUE INDEX

<NAME>

(

OTHER ATTRIBUTES

);

```
CREATE TABLE TB_DEPT
    (

    ) IN OZAGS1DB.OZAGS1TS;
```

Every attribute of a table must have

a. The name of the column

b. The data type(size)

c. [Constraints(rules)]

1. UNIQUE → no duplicates values are allowed in the column.

2. NOT NULL → mandatory.

NOT NULL WITH DEFAULT

It stores that column with default values depending on its data type.

NOT NULL WITH DEFAULT 12345

It accepts values from the user, if the user did not mention any values, then the system stores 12345 as the values for that column of the record.

Default → allows null value

3. PK(primary key)

Any unique column can be defined as PK, which acts a pivot access point to the records.

Note; only one PK for a table.

4. Foreign key. Referential constraint

5. Check constraint.

It allows the user to give a range of allowable values for the column.

Eg: gender (m,f,o)

Note: For the Primary key column and for all the UNIQUE columns, UNIQUE INDEX MUST BE CREATED. If not created, then the definition of the table is INCOMPLETE.

SYNTAX: CREATE UNIQUE INDEX <IDX9> ON TABLENAME(COLUMN NAME);

TB_DEPT

DID	HOD	DNAME
D001		
D002		
D003		
D004		
D005		
D006		

TB_EMPLOYEE

EID	ENAME	DNO	SALARY	DOJ	GENDER	
CHAR(04)	VARCHAR(15)	CHAR(04) FK	DECIMAL(7,2)	DATE	CHAR(1)	M,F,O
E001	TOMMY	D009	12345.67	2001-01-01		

REFERENTIAL INTEGRITY/REFERENTIAL CONSTRTAINT.

BUILDING RELATIONSHIP BETWEEN TABLES IS CALLED REFERTIAL CONSTRAINT.

This is done while defining the CHILD Table.

The table that has FOREIGH KEY is the child table.

A foreign key column CAN REFER ONLY TO THE PK column OF THE PARENT TABLE.

WHEN A INSERT SQL Statement is executed on the child table, the referential constraint will check if the value(being inserted in the child table) is in the PT.
If it is there, then the insertion is allowed in the CT.
If not, the insertion is rejected.

WHEN A DELETE sql statement is performed on the PT...

ON DELETE rules are activated.

- Cascade → allow deletion in the PT and delete all the depending records from the CT.
- Set null → allow deletion from the PT, SET NULL value the depending records FK column.
- Restrict → if there at least 1 depending record in the child table, RESTRICT the deletion from the PT.

R

DECIMAL(X,Y)
X→ TOTAL NUMBER OF DIGITS
Y → AFTER DECIMAL POINT

Other ways of creating table with constraints·

```
CREATE TABLE TB_EMP
    (
    EID CHAR(04) NOT NULL
    ,ENAME VARCHAR(15)
    ,DNO CHAR(04)
    ,SALARY DECIMAL(7,2)
    ,DOB DATE
    ,GENDER CHAR(01)
    ,PRIMARY KEY(EID)
    ,FOREIGN KEY(DNO) REFERENCES TB_DEPT(DID) ON DELETE
        SET NULL
    ,CHECK GENDER IN ('M','F','O')
    ) IN OZAGS1DB·OZAGS1TS;
```