SQL Language GUIDE

* **CREATE**

CREATE TABLE table\_name

(field1 TYPE,

field2 TYPE,

... ... ...

);

TYPE: CHAR(20): a string that has exactly 20 chars;

VARCHAR(20): a string that has at most 20 chars;

INTERGER; REAL; BLOB(TF);

EX:

CREATE TABLE Athlete

(aid INTEGER,

name CHAR(30),

country CHAR(20),

sport CHAR(20));

* **PRIMARY KEY CONSTRAINT**: unique; minimal; can NEVER be NULL

EX:

CREATE TABLE Athlete *This way has only 1 key*

(aid INTEGER PRIMARY KEY,

name CHAR(30),

country CHAR(20);

sport CHAR(20));

CREATE TABLE Athlete *This way can have multiple keys*

(aid INTEGER,

name CHAR(30),

country CHAR(20);

sport CHAR(20);

PRIMARY Key(aid, sport));

* **NOT NULL CONSTRAINT**: disallow null values for a field

EX:

name CHAR(30) NOT NULL

* **CANDIDATE KEY CONSTRAINT**: candidate key use UNIQUE

EX:

CREATE TABLE Athlete

(aid INTEGER,

name CHAR(30),

country CHAR(20),

sport CHAR(20),

UNIQUE (name, country), *Combined item is unique*

PRIMARY KEY (aid));

* **FOREIGN KEYS**: key from other tables, must refer to a primary key

EX:

CREATE TABLE Complete

(aid INTEGER,

oid INTEGER,

PRIMARY KEY (aid, oid),

FOREIGN KEY (aid) REFERENCES Athlete); *if the foreign key name is same as original*

FOREIGN KEY (cons\_ssn) REFERENCES Ctitizens (ssn);

*if the foreign key name is different as original*

* **REFERENTIAL INTEGRITY**: integrity constraint for the foreign

When deleted may have some problems related to foreign keys

* **NO ACTION**: action is rolled back when there’s some problem, unless all the related entries are deleted
* **RESTRICT**: action is disallowed
* **CASCADE**: also delete all tuples that refer to the deleted tuple
* **SET NULL/SET DEFAULT**: set foreign key value of referencing tuple

EX:

CREATE TABLE Complete

(aid INTEGER, oid INTEGER,

PRIMARY KEY (aid, oid),

FOREIGN KEY (aid)

REFERENCE Athlete

ON DELETE CASCADE

ON UPDATE SET NULL)

* **DROP TABLE**: Schema information and tuples are deleted

EX: DROP TABLE Olympics

* **ADD A COLUMN**

EX:

ALTER TABLE Athlete

ADD COLUMN age: INTEGER