James Valles
CSC 453
Homework #1

1. (Reading). Complete

2. Relational Schema

Authors(Last_Name: string, First_Name: string, Author_ID: integer)

Ebooks (ISBN: string, Title: string, Price: integer, Author_ID: string, Newest_ISBN: string)

Customers (Name: string, Customer_ID: integer, CCard_Number: integer)

Ereaders (Device_ID: integer, Type: string, Customer_ID: integer)

Orders (Order ID: integer, Customer_ID: integer, GiftRecipient_ID: integer, ISBN: string,
Purchase_Date: string)

3.

a. Added a field called **short_title** to store an alternative short name for each course. To do
that I entered the following :

     ALTER TABLE course
     ADD short_title VARCHAR(12);

I did VARCHAR(12) to reduce the number of characters by almost half, since it is the short title.
It appears this was correct as I see the field short_title in the Course table.

b. Cross-listing courses. Adding a new field called **xlist_course** which is foreign key referencing **CID**.
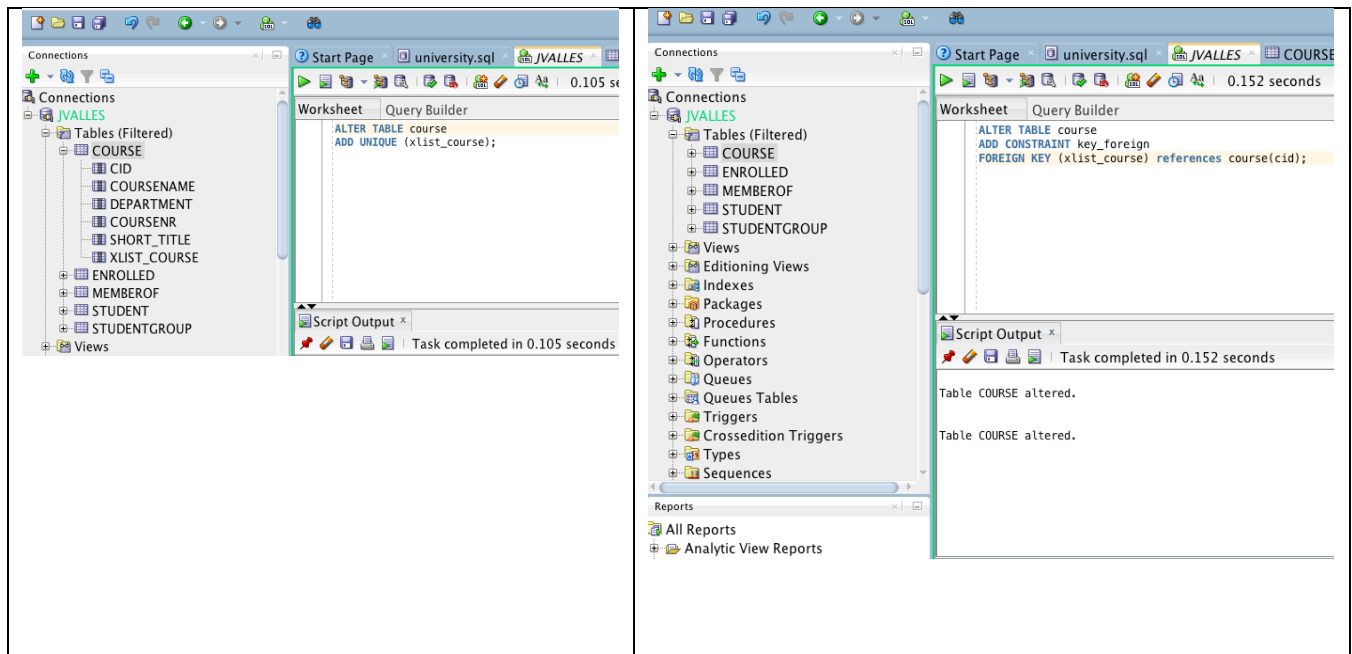
ALTER TABLE course
ADD xlist_course NUMBER(4,0);

ALTER TABLE course
ADD CONSTRAINT key_foreign
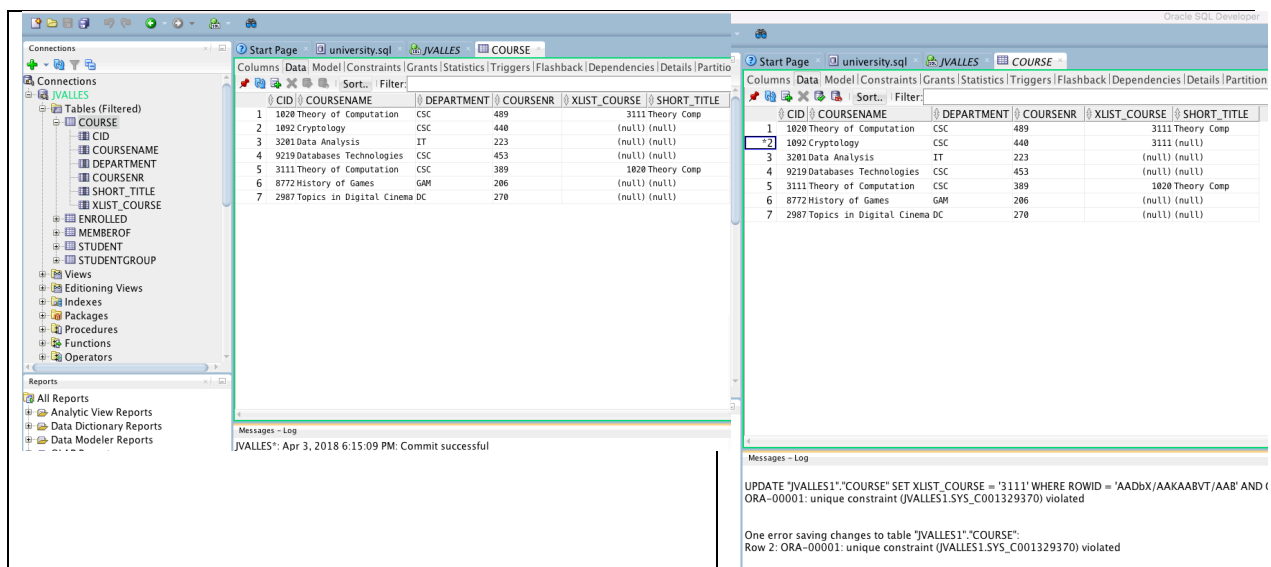FOREIGN KEY (xlist_course) references course(cid);

Will set Unique constraint to allow only at most one cross list per course. By default, if no cross list, null can be used.

ALTER TABLE course
ADD unique (xlist_course);

Output below:

c. Adding **enroll_cap** field to the course table. Setting default to 40. Adding check constraints to place a cap on enrollments <= 50.

ALTER TABLE course
ADD enroll_cap NUMBER(2,0) DEFAULT(40)
ADD CONSTRAINT enroll_constraint
CHECK(enroll_cap <= 50);

d.
Adding column **grade_basis**, setting default value to **CR**, adding constraint to not allow null values, and checking to making sure values entered can only be **PR**, **CR**, or **AU**.

ALTER TABLE enrolled
ADD **grade_basis** CHAR(2) DEFAULT('CR') **NOT NULL**
CONSTRAINT name_check **CHECK**(grade_basis='PF' OR grade_basis='CR' OR grade_basis='AU');

4.

a. I don't see any specific records from the Student table (such as LastName, SID, SSN, etc) There is so much information: owner, constraint_name, c table_name, search condition, etc. This is a table which displays all constraint metadata for the table. It is very hard to read, but has information on owner of constraint, name of constraint, type of constraint, when a constraint was last changed, etc. Very cool!

b.

Yes, I can see the constraints I added for 3c and 3d.

I see the enroll_cap (enrollment cap constraint) I set. Enroll_cap <= 50. Additionally, for 3d. I see NAME CHECK constraint for grade_basis='PF' OR grade_basis ='CR' OR grade_basis='AU'. The metadata information shows the owner: me (jvalles1), the constraint name, the table affected, the search condition, etc.

```
WNER                  CONSTRAINT_NAME        C TABLE_NAME              SEARCH_CONDITION
--------------------  --------------------   - --------------------   --------------------------
IVALLES1              SYS_C001328030         U STUDENT
IVALLES1              SYS_C001328029         P STUDENT
IVALLES1              SYS_C001328028         C STUDENT                "LASTNAME" IS NOT NULL
IVALLES1              ENROLL_CONSTRAINT      C COURSE                 enroll_cap <= 50
IVALLES1              SYS_C001329370         U COURSE
IVALLES1              KEY_FOREIGN            R COURSE
IVALLES1              SYS_C001328031         P COURSE
IVALLES1              SYS_C001328034         R STUDENTGROUP
IVALLES1              SYS_C001328033         U STUDENTGROUP
IVALLES1              SYS_C001328032         P STUDENTGROUP
IVALLES1              NAME_CHECK             C ENROLLED               grade_basis='PF' OR grade_basis='CR' OR grade_basis='AU'
```

```
OWNER                 CONSTRAINT_NAME        C TABLE_NAME             SEARCH_CONDITION
--------------------  --------------------   - --------------------   --------------------------
JVALLES1              SYS_C001328031         P COURSE
JVALLES1              KEY_FOREIGN            R COURSE
JVALLES1              SYS_C001329370         U COURSE
JVALLES1              ENROLL_CONSTRAINT      C COURSE                 enroll_cap <= 50
```