

Aaron Gordon
CST 363
Week 5
Assignment 10

1. What purposes do views serve?

Views allow an SQL SELECT statement to be treated by other SQL SELECT statements as if it were a table in the database. This can be used to create a layer of abstraction between the database and applications reading from it (applications read only the view, and are ignorant of changes to the underlying tables) or to hide complex or privileged data from less advanced users. Views may also be used to automatically apply arithmetic operations, such as sums or averages, to a set of data.

2. What are the limitations on SELECT statements used in a view?

The SELECT statement used to create a view cannot contain an ORDER BY clause. This makes sense, as one of the requirements for a table to be a relation is order-independence of its records.

3. Using the course, customer and enrollment table from the Art Courses Database, code an SQL statement to create a view named CourseFeeOwedView that shows CourseNumber, Course, CourseDate, CustomerNumber, CustomerLastName, CustomerFirstName, Phone, Fee, AmountPaid, and the calculated column (Fee – AmountPaid), renamed as AmountOwed.

```
CREATE VIEW CourseFeeOwedView AS
    SELECT      c.CourseNumber,
               c.Course,
               c.CourseDate,
               cu.CustomerNumber,
               cu.CustomerLastName,
               cu.CustomerFirstName,
               cu.Phone,
               c.Fee,
               e.AmountPaid,
               (c.Fee - e.AmountPaid) AS AmountOwed
    FROM        course c

    LEFT JOIN  enrollment e
    ON         c.CourseNumber = e.CourseNumber

    LEFT JOIN  customer cu
    ON         e.CustomerNumber = cu.CustomerNumber
```

4.Code an SQL statement that displays the data in CourseFeeOwedView, sorted alphabetically by CustomerLastName.

```
SELECT * FROM CourseFeeOwedView  
ORDER BY CustomerLastName ASC
```

5.Code an SQL statement that displays the data in CourseFeeOwedView, sorted alphabetically by CustomerLastName for any customer who still owes money for a course fee.

```
SELECT * FROM CourseFeeOwedView  
WHERE AmountOwed > 0  
ORDER BY CustomerLastName ASC
```