CS 327E Lecture 2

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Agenda

- Announcements
- Homework for today
- Reading Quiz
- Concept Questions
- Homework for next time

Announcements

- Lecture slides and notes will be posted on the course web page after each class
- Quiz and participation scores will be posted on Canvas after each class
- Please use Piazza for questions and discussion topics that are of interest to other students
- Please email or come to office hours for discussing individual questions and concerns
- Almost everyone has successfully registered their clickers! Still missing a clicker for 5 students though: Patrick Fierro, David Martinez, Kathleen Morgan, Wei-Da Pan and Luis Sanchez

Homework for Today

- Chapter 3 from the Learning SQL book
- Exercises at end of Chapter 3

Quiz Question 1

Which clause is mandatory in an SQL query?

A. `WHERE`
B. `FROM`
C. `CHOOSE`
D. `SELECT`

Quiz Question 2

What keyword removes duplicate entries from the result set?

A. `DEDUP`
B. `ALTER`
C. `UNIQUE`
D. `DISTINCT`

Quiz Question 3

A `JOIN` is a mechanism for linking two tables.

A. True
B. False

Quiz Question 4

Which of the following clauses removes unwanted rows from a result set?

A. `FILTER`
B. `HAVING`
C. `WHERE`
D. `VIEW`

Quiz Question 5

Is the following query syntactically correct?

```
SELECT cust_id, fed_id,
address
FROM customer
ORDER BY fed_id, 1;
```

A. No, since 1 does not correspond to a valid column
B. No, since the `ORDER BY` syntax requires that columns be specified in schema order
C. Yes

```
mysql> describe customer;
+--------------+------------------+
| Field        | Type             |
+--------------+------------------+
| cust_id      | int(10) unsigned |
| fed_id       | varchar(12)      |
| cust_type_cd | enum('I','B')    |
| address      | varchar(30)      |
| city         | varchar(20)      |
| state        | varchar(20)      |
| postal_code  | varchar(10)      |
+--------------+------------------+
```

Concept Question 1

We have a database for a retail store that keeps information about orders in a table called Order_Item. How can we produce a report of all the orders that is sorted by order number?

A. SELECT *
FROM Order_Item

B. SELECT OrderNumber
FROM Order_Item

C. SELECT *
FROM Order_Item
ORDER BY
OrderNumber DESC

D. SELECT *
FROM Order_Item
ORDER BY
OrderNumber

E. None of the above

Order_Item (OrderNumber, SKU, Quantity, Price, ExtendedPrice)

SELECT * FROM Order_Item

OrderNumber	SKU	Quantity	Price	ExtendedPrice
3000	100200	1	300.00	300.00
2000	101100	4	50.00	200.00
3000	101100	2	50.00	100.00
2000	101200	2	50.00	100.00
3000	101200	1	50.00	50.00
1000	201000	1	300.00	300.00
1000	202000	1	130.00	130.00

Concept Question 2

We have the same Order_Item table. This time we want to generate a report that is sorted by price from highest to lowest and then by order number.

A. SELECT *
FROM Order_Item
ORDER BY Price DESC,
OrderNumber

B. SELECT *
FROM Order_Item
ORDER BY Price ASC,
OrderNumber

C. SELECT *
FROM Order_Item
ORDER BY Price,
OrderNumber

D. None of the above

E. Not enough information

Order_Item (<u>OrderNumber</u>, <u>SKU</u>, Quantity, Price, ExtendedPrice)

SELECT * FROM Order_Item

OrderNumber	SKU	Quantity	Price	ExtendedPrice
3000	100200	1	300.00	300.00
2000	101100	4	50.00	200.00
3000	101100	2	50.00	100.00
2000	101200	2	50.00	100.00
3000	101200	1	50.00	50.00
1000	201000	1	300.00	300.00
1000	202000	1	130.00	130.00

Concept Question 3

Suppose we have a product catalog database as illustrated by the diagram below. How can we retrieve the model number, speed, and hard drive capacity for all the PCs that cost less than $500?

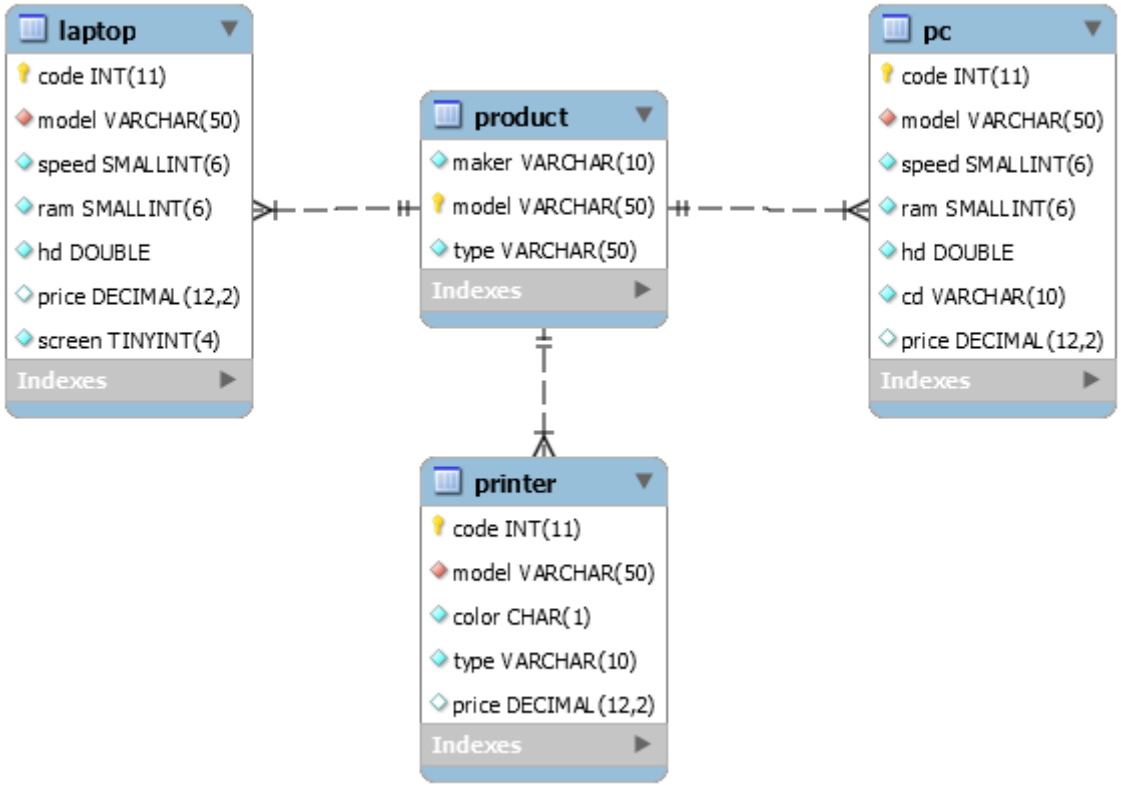
A. SELECT model, speed, hd
FROM PC
WHERE price < 500

B. SELECT p.model,
pc.speed, pc.hd
FROM Product p, PC pc
WHERE p.model = pc.model
AND price < 500

C. All of the above

D. None of the above

E. Not enough information



Concept Question 4

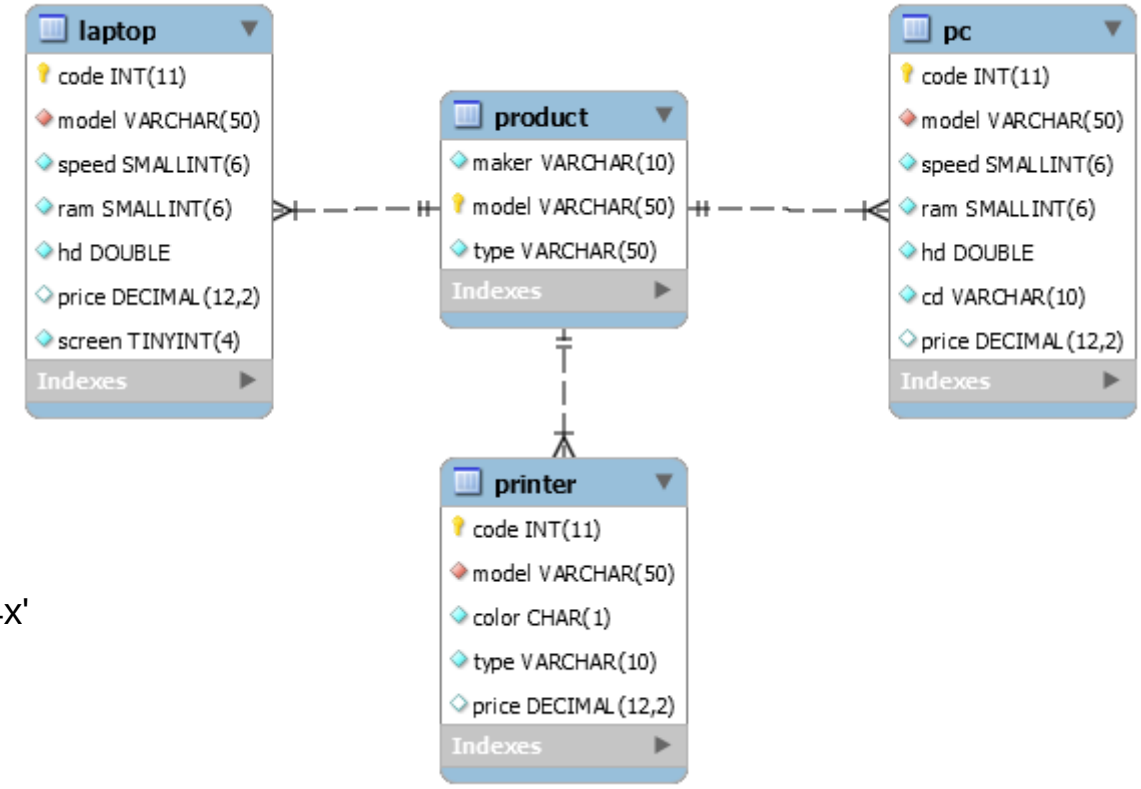
How can we find the model number, speed, and hard drive capacity of all PCs that have a 12x or 24x CD drive and that cost less than $600?

A.
```
SELECT model, speed, hd
FROM PC
WHERE price < 600
AND cd = '12x'
OR cd = '24x‘
```

B.
```
SELECT model, speed, hd
FROM PC
WHERE price < 600
AND cd IN ('12x', '24x')
```

C.
```
SELECT model, speed, hd
FROM PC
WHERE price < 600
AND cd BETWEEN '12x' AND '24x'
```

D. None of the above



Concept Question 5

We are building a database that tracks projects worked on by software development teams. Each project has one or more developers and they can be a lead, senior or junior developer on the project. Based on these requirements, suggest how to add some integrity checking to the Teams table.

A. CONSTRAINT project_id_fk
FOREIGN KEY project_id
REFERENCES Projects(project_id)

B. CONSTRAINT emp_id_fk
FOREIGN KEY emp_id
REFERENCES Employees(emp_id)

C. CONSTRAINT role_ck CHECK(role IN ('L', 'S', 'J'))

D. CONSTRAINT proj_emp_pk
PRIMARY KEY (project_id, emp_id)

E. All of the above

```
create table Projects
(
  project_id INTEGER PRIMARY KEY,
  start_date DATE NOT NULL,
  ...
)

create table Employees
(
  emp_id INTEGER PRIMARY KEY,
  first_name VARCHAR(20),
  last_name VARCHAR(20),
  ...
)

create table Teams
(
  project_id INTEGER NOT NULL,
  emp_id INTEGER NOT NULL,
  role CHAR(1),
  ...
)
```

Homework for Next Time

- Chapter 4 from the Learning SQL book