پایگاه داده
تمرین دوم

عباس یزدان مهر

۹۹۲۴۳۰۷۷

مهندسی کامپیوتر، دانشگاه شهید بهشتی

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الف

```sql
SELECT DISTINCT name FROM student, takes
  WHERE student.ID = takes.ID;
```

ب

```sql
SELECT dept_name, name, MAX(salary) FROM instructor GROUP BY dept_name;
```

پ

```sql
SELECT dept_name, name, MIN(salary) FROM
 (SELECT dept_name, name, MAX(salary) AS salary FROM instructor GROUP BY dept_name);
```

ت

```sql
INSERT INTO course (course_id, title, dept_name, credits)
  VALUES
    ('CE-100', 'Weekly Seminar', 'CE', 0);
```

ث

```sql
INSERT INTO section (course_id, sec_id, semester, year, building, room_number, time_slot_id)
  VALUES
    ('CE-100', '1', 'Spring', '1401', 'CE', '100', '1');
```

ج

```sql
INSERT INTO takes(id, course_id, sec_id, semester, year, grade)
SELECT student.id, 'CE-100', 1, 'Spring', '1401', null FROM student WHERE student.dept_name = 'CE';
```

چ

```sql
DELETE FROM takes WHERE id IN
  (SELECT id FROM student WHERE name = 'Ali Ahmadi');
```

ح

پیام خطا نشان می دهد که یک خطای محدودیت کلید خارجی وجود دارد، به این معنی که شما در حال حذف یک جدول والد هستید که در آن جدول فرزند، شناسه جدول اصلی به عنوان یک کلید خارجی وجود دارد. برای جلوگیری از این خطا، ابتدا باید رکوردهای جدول فرزند و پس از آن رکورد جدول والد را حذف کنید:

```sql
DELETE FROM takes WHERE course_id = 'CE-100';
DELETE FROM section WHERE course_id = 'CE-100';
DELETE FROM course WHERE course_id = 'CE-100';
```

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خ

```sql
DELETE FROM takes WHERE course_id in
  (SELECT id FROM course WHERE course.title LIKE '%database%');
DELETE FROM section WHERE course_id in
  (SELECT id FROM course WHERE course.title LIKE '%database%');
DELETE FROM course WHERE course.title LIKE '%database%';
```

۲

الف

```sql
SELECT * from food WHERE food.id IN
  (SELECT food_id FROM cooks WHERE restaurant_id = 1);
```

ب

```sql
SELECT * FROM customer WHERE customer.id IN
  (SELECT customer_id FROM invoice) AND phone IS null;
```

پ

```sql
DELETE FROM food WHERE id IN
 (SELECT food_id FROM invoice WHERE invoice.date != '1401');
```

ت

```sql
SELECT name FROM restaurant WHERE id in
  (SELECT restaurant_id FROM
     (SELECT restaurant_id, MAX(types_count) AS maximum FROM
        (SELECT restaurant_id, COUNT(food_id) AS types_count
           FROM cooks GROUP BY restaurant_id
        )
     )
  );
```

دقت داریم که در یک رستوران نمی‌تواند دو آی دی یکسان غذا موجود باشد.

ث

```sql
SELECT name FROM food WHERE id IN
  (SELECT food_id FROM invoice WHERE date = '1400');
```

```sql
SELECT name FROM customer WHERE id IN
  (SELECT customer_id FROM invoice WHERE food_count > 3);
```

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چ

```sql
SELECT food_id FROM cooks WHERE price <
  (SELECT MIN(price) AS minimum
     FROM cooks WHERE restaurant_id = 1
  );
```

ح

```sql
CREATE TABLE new_cooks
  SELECT restaurant_id, food_id, FLOOR(0.95 * price) AS price
    FROM cooks WHERE price > 100;
```

خ

```sql
SELECT name FROM food WHERE id IN
  (SELECT food_id FROM
     (SELECT food_id, SUM(food_count) AS all_sell
        FROM invoice GROUP BY food_id ORDER BY all_sell DESC
     ) LIMIT 10
  );
```

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