

## QuizTake-Home Exercise: Joins

**Total Score:**                /6

**Printed Name:**

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### Rules:

1. You MAY use any printed or handwritten notes.
2. You MAY NOT use a computer or any other electronic device.
3. You MAY NOT discuss this quiz with any other human.

**Note:** You are allowed to use any resources you want, but you should try to solve these by hand before typing them into postgres.

**Instructions:** For each problem, write the output of the given SQL command. Assume that the following tables/rows have been added to the database:

```
1 CREATE TABLE basket_a (  
2     a INT PRIMARY KEY,  
3     fruit_a VARCHAR (100) NOT NULL  
4 );  
5  
6 CREATE TABLE basket_b (  
7     b INT PRIMARY KEY,  
8     fruit_b VARCHAR (100) NOT NULL  
9 );  
10  
11 INSERT INTO basket_a (a, fruit_a)  
12 VALUES  
13     (1, 'Apple'),  
14     (2, 'Orange'),  
15     (3, 'Banana'),  
16     (4, 'Cucumber');  
17  
18 INSERT INTO basket_b (b, fruit_b)  
19 VALUES  
20     (1, 'Orange'),  
21     (2, 'Apple'),  
22     (3, 'Watermelon'),  
23     (4, 'Pear');
```

**Problem 1:**

```
1  SELECT fruit_a FROM basket_a NATURAL JOIN basket_b;
```

**Problem 2:**

```
1  SELECT fruit_a FROM basket_a NATURAL JOIN basket_b UNION (SELECT fruit_a FROM basket_a);
```

**Problem 3:**

```
1  SELECT fruit_a,fruit_b FROM basket_a LEFT JOIN basket_b ON (b>a);
```

**Problem 4:**

```
1  SELECT fruit_a,fruit_b FROM basket_a FULL OUTER JOIN basket_b ON (fruit_b=fruit_a);
```

**Problem 5:**

```
1 SELECT fruit_a,fruit_b FROM basket_a JOIN basket_b ON (b != a);
```

**Problem 6:**

```
1 SELECT t1.fruit_a,t2.fruit_a  
2 FROM basket_a t1  
3 RIGHT OUTER JOIN basket_a t2 ON (t1.fruit_a<t2.fruit_a);
```