

**CS 464/564 Spring 2021 Quiz 2**

**Name:** \_\_\_\_\_

1. Use the stored procedure and the contents of the Staff table shown on the accompanying to answer parts a, b and c.

a. What value is returned by the call q3(10)?

b. What value is returned by the call q3(16)?

c. What value is returned by the call q3(27)?

2. Write a stored procedure (function) that is passed a customer id and a copy number and returns a 1 if the customer has borrowed the copy, otherwise the function returns a 0.

### Stored Procedure for Problem 1

```
create or replace function q3(manager integer)
returns integer AS
$$
Declare
    num integer;
    empId integer;
Begin
    select mid into empId from Staff where sid = manager;
    if empId is null then
        num = 0;
    else
        num = 1 + q3(empId);
    end if;
    return num;
End;
$$ Language plpgsql;
```

Staff table content for problem 1

sid	first	last	libnum	mid
1	Gladys	Davis	1	
2	Bonnie	Baker	1	1
3	Thelma	Eisen	1	1
4	Doris	Sams	1	2
5	Norm	Derringer	1	2
6	Ruth	Lessing	1	2
7	Dave	Bancroft	1	2
8	Jimmie	Foxx	1	6
9	Dorothy	Kamenshek	1	6
10	Mary	Baker	2	
11	Sophie	Kurys	2	10
20	David	Hilbert	2	10
12	Clerk	Maxwell	2	11
13	Bertrand	Russell	2	11
14	Ada	Byron	2	11
15	Mary	Everest	2	11
16	Gottlob	Frege	2	11
17	Ludwig	Wittgenstein	2	16
18	Alan	Turing	2	16
19	John	Mauchly	2	16
28	Winifred	Merrill	2	16
21	Sophie	Germain	2	19
22	Leonhard	Euler	2	15
23	Maxwell	Weber	2	15
24	Alonzo	Church	2	15
25	Kurt	Godel	2	24
26	Sofia	Kovalevskaya	2	24
27	Emmy	Noether	2	24