

task 2:

The screenshot shows a PostgreSQL IDE with a function definition and its execution. The function `retrieve_customers` is defined with parameters `start_param` and `end_param` of type `int`, returning a `setof customer`. It is written in `plpgsql`. The function body includes a `begin` block with an `if` statement to check for invalid parameter ranges (start or end less than 1, or greater than 600). If invalid, it raises an exception 'wrong parameters'. If valid, it returns a query selecting all columns from the `customer` table where the `id` is between `start_param - 1` and `end_param + 1`. The function is then called with `start_param: 41` and `end_param: 45`. The output window shows the results of this query, displaying 5 rows of customer data.

```
1 create function retrieve_customers(start_param int, end_param int)
2 returns setof customer
3 language plpgsql
4 as
5 $$
6 begin
7 if (start_param < 1 or end_param < 1 or end_param < start_param
8 or start_param > 600 or end_param > 600)
9 then raise exception 'wrong parameters';
10 end if;
11 return query
12 select * from customer
13 where customer.id < end_param + 1 and customer.id > start_param - 1;
14 end
15 $$;
16
17 select * from retrieve_customers( start_param: 41, end_param: 45);
```

	id	name	address	review
1	41	Nicole Blackburn	94073 Laura Way Laurachester,...	Process sister individual end. Trade late thr...
2	42	Deanna Glass	9138 Delgado Valleys Suite 71...	Part discussion doctor growth must. Next impr...
3	43	Amanda Harris	1425 Maynard Underpass Steven...	Total face yeah scene born successful availab...
4	44	Valerie Stewart DDS	58228 Charles Ramp Suite 105...	Anything situation both any. Year vote really...
5	45	Jeffrey Brown	5265 Lopez Union West Janiceb...	Follow allow end more truth window purpose. C...

function:

```
create function retrieve_customers(start_param int, end_param int)
returns setof customer
language plpgsql
as
$$
begin
if (start_param < 1 or end_param < 1 or end_param < start_param
or start_param > 600 or end_param > 600)
then raise exception 'wrong parameters';
end if;
return query
select * from customer
where customer.id < end_param + 1 and customer.id > start_param - 1;
end
$;
```