

Exercises

Search Highlighting Function

Create an Extension, which highlights the keyword in a text, by wrapping it around <mark> tags.

Solution Function:

```
-- create highlighting function
CREATE FUNCTION highlight(text TEXT, keyword TEXT) RETURNS TEXT AS $$
BEGIN
    RETURN regexp_replace(text, keyword, '<mark>' || keyword || '</mark>',
'gi');
END;
$$ LANGUAGE plpgsql;
```

Key-Value Extractor for JSON

Create an Extension, which returns key-value rows from a json object.

Solution Function:

```
-- create key-value extractor function
CREATE FUNCTION json_kv_pairs(obj jsonb) RETURNS TABLE(key TEXT, value
TEXT) AS $$
BEGIN
    RETURN QUERY SELECT tbl.key, tbl.value::text FROM jsonb_each_text(obj)
tbl;
END;
$$ LANGUAGE plpgsql;
```

Unit Conversion Function

Create an Extension, which converts between units of measurement for length.

Solution Function:

```
-- create unit conversion function
CREATE FUNCTION convert_unit(val NUMERIC, from_unit TEXT, to_unit TEXT)
RETURNS NUMERIC AS $$
DECLARE
    factor NUMERIC := 1;
BEGIN
    -- Very basic conversion between meters and kilometers
    IF from_unit = 'm' AND to_unit = 'km' THEN factor := 0.001;
    ELSIF from_unit = 'km' AND to_unit = 'm' THEN factor := 1000;
    ELSE RAISE EXCEPTION 'Unsupported conversion: % to %', from_unit,
to_unit;
    END IF;
    RETURN val * factor;
END;
$$ LANGUAGE plpgsql;
```