

EXERCISE

Goal:

Present a minimalistic approach how to build a matching algorithm.

Outcome:

- Make a matching function taking an order object and returning a list of cleaners available to take the order. The function should be defined in its own module.
- Gulp task to run matching function and display results. Examples:

```
gulp get-matches --country=de --geo=52.5126466,13.4154251
```

```
...
- id: NWU13z1PbC32Dg3KroTt - name: David - gender: M - preferences:
fridge,windows,laundry,oven
- id: dfT9wFR37QemWyyikzEx - name: Maria - gender: F - preferences:
fridge,windows,laundry,ironing,oven
- id: LALVxHwPvNbnNYsKrO6O - name: Kathrin - gender: F -
preferences: laundry
```

```
gulp get-matches --country=de --geo=52.5126466,13.4154251 --gender=F --
preferences=windows,oven
```

```
...
- id: dfT9wFR37QemWyyikzEx - name: Maria - gender: F - preferences:
fridge,windows,laundry,ironing,oven
```

```
gulp get-matches --country=nl --geo=52.3650172,4.8375675 --gender=F --
preferences=fridge
```

```
...
- id: QxGgd09qUZ7BcLWNaOI1 - name: Sara - gender: F - preferences:
fridge,windows,laundry
```

```
gulp get-matches --country=nl --geo=52.3650172,4.8375675 --gender=F --
preferences=fridge,ironing
```

```
...
No matches found.
```

- Using PostgreSQL as data storage.

Specification:

Matching function:

- Order object parameters: country, latitude, longitude, gender (optional), preferences (optional).
- Query database for cleaners within a certain distance of latitude/longitude of the order.
- Filter out cleaners if gender doesn't match.
- Filter out cleaners if preferences don't match.
- The distance is based on country and should be defined in a config file:
 - a. Germany: 10 km
 - b. Austria: 20 km
 - c. Switzerland: 17.5 km
 - d. Netherlands: 9 km

Cleaners data model:

- **id:** 20 chars, primary key
- **name:** 255 chars
- **country_code:** 2 chars
- **latitude:** number
- **longitude:** number
- **gender:** 1 char
- **preferences:** 255 chars, comma separated list: fridge, windows, laundry, ironing, oven

Additional info:

- ORM usage is not allowed.
- Matching should be integrated in SQL-query.
- Any geo-related external tools are not allowed.
- User input validation not needed. Can be assumed that gulp commands are always correct and parameters given like in the examples above.
- Tests not required.