

# Exercise Session: 3

24 November 2017

## 1 SQL tables and queries (3 parts, 12p)

Consider the relation

`Planets(star, name, distance, mass, atmosphere, oxygen, water)`

which is a part of the database shown in Question 2.

- 3a.** Write an SQL table definition with reasonable types and constraints. Store distance in millions of km (For Earth, you would store the value 149.6).(4p)
- 3b.** Write an SQL query to determine how many planets are in orbits larger than the orbit of the fictional planet “Duna” of the fictional star “Kerbol”? (4p)
- 3c.** We define a planet “habitable” if it satisfies all these conditions:
  - orbits at a distance (in millions of km) between 100 and 200 (inclusive) from its star,
  - has an atmosphere and it has an oxygen percentage between 15% and 25% (inclusive),
  - has water on its surface.

Write an SQL query which returns the star and name of a planet, as well as a column `status` with value ‘`habitable`’ if the planet is habitable, otherwise ‘`uninhabitable`’. (This means, return 3 values per row) (4p)