

Manual Expert System



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27 maart 2020

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1. Introductie

This document contains the manual of the second assignment.

In this document we will look at the workings of our vehicle types database. We will explain how we converted our expert system from the the first assignement to a database and what queries we have defined and their mathematical notation.

2. Application

2.1 Introduction

This section will go in detail about the workings, idea's and logic of our database and queries.

2.2 Application

The database is based the expert system we have built in the previous assignment. This system identifies the vehicle type based on user input.

By answering specific questions that the expert system asks, the system is able to deduce and identify the type of a vehicle. An example of a vehicle type defined in our system is 'land vehicle'. A land vehicle, like other vehicle types in our system, also consists of subtypes. Subtypes of land vehicles are cars and bicycles in our expert system.

By answering 'yes' or 'no' to certain questions, the expert system is able to make an educated guess about the type of the vehicle.

This database and accompanying queries tries to translate this functionality into a database. Some vehicle data is inserted into tables. Vehicle subtypes each have their on table in our database (air vehicle, land vehicle, water vehicle). These three tables are merged into a bigger and more general 'vehicles' table. This 'vehicles' table is queried simulating the our vehicle types expert system.

2.2.1 Flowchart

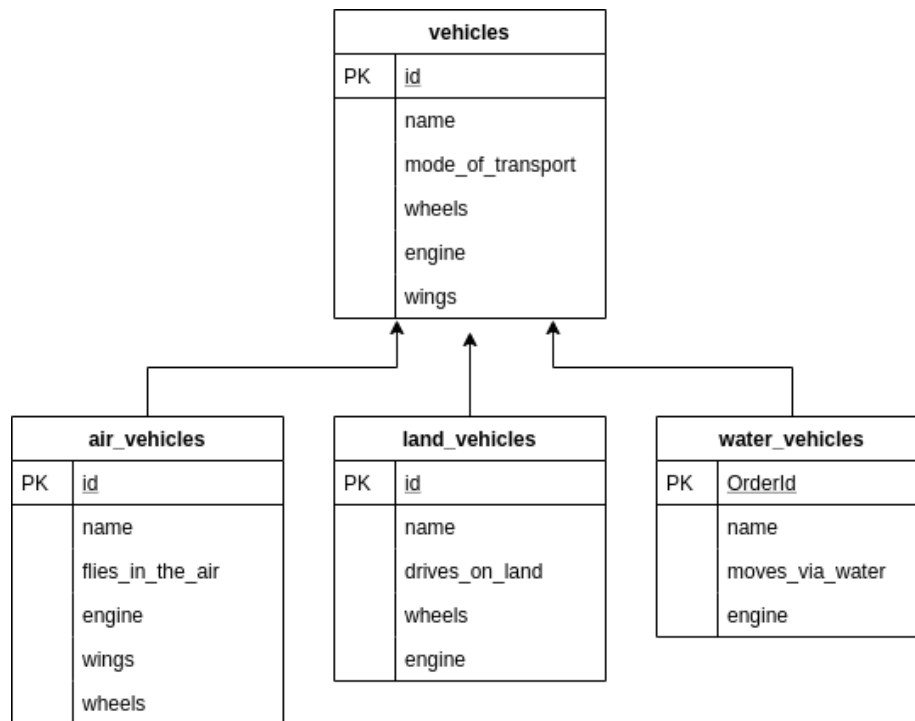


Figure 2.1: This figure shows a visual representation of our vehicle types database schema

2.3 Usage

The application is run by providing the following command **Rscript pa2.r** (Remove the '.txt' extension from the file if you haven't done so already).

Runnin initializes all functions, tables, queries and other data needed for the program. It also executes all queries at once along with a helpful message telling the user what the query has tried to retrieve from the database.

2.4 Queries

Below will be listed several queries that each test a rule in our expert system. The queries will be listed along with the responses of the system and comments providing extra information.