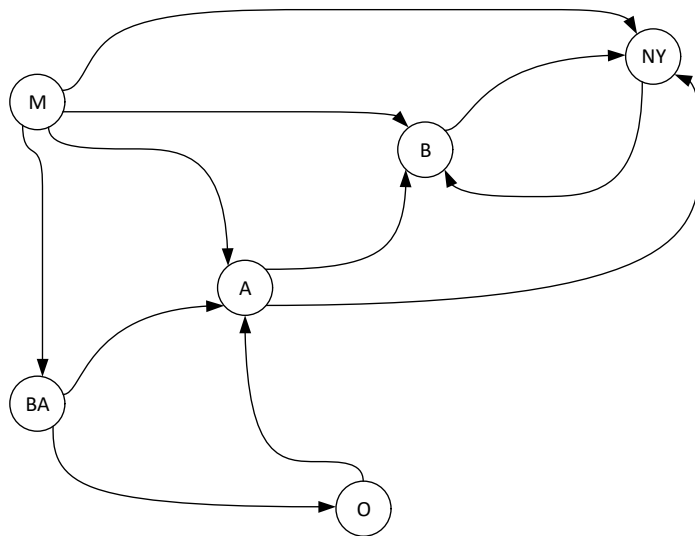


Exercise 14

Advanced SQL revision

In this exercise we will combine the topics of recursion and division in order to carry out booking queries in a flight booking system. We are looking for a flight connection from Munich to New York, where there are still second class seats available next to a window and with premium TV. The following flight connections are possible between the cities of Munich, Berlin, Amsterdam, New York, Buenos Aires and Ottawa:



For this exercise sheet, please use the prepared SQL script
`DB-Exercise09-KH-Testdata.sql`.

Task 1: Overview of all possible connections from Munich

- First use a recursive query to create an overview of all possible connections from Munich. In order to avoid creating an infinite recursion, you must remember the path taken and react accordingly when you reach a destination that has already been flown on a route.
- Now expand the previously developed query to include the travelling time as well as the departure and arrival times.

Task 2: Overview of the seats still available with the required properties

The seats relation contains the seats that are available on a flight at a specific price. In the bookingProperty relation you can find the properties of the respective seats and in the bookings relation you can find the seats that have already been booked.

- First create an overview of the seats that are still available.
- Use division to restrict the previously created view to only those seats that are in second class, next to a window and offer premium TV. These properties can be found in the requested_booking_properties relation.

Task 3: Available connections

In this task, we will now combine the previously created partial solutions in order to solve the original problem of the flight connections from Munich to New York, where there are still second class seats available next to a window and with premium TV.

- a) Use the previously created queries as named queries using the keyword `with`, and extend the recursion so that only those connections are displayed where there are free seats with the required properties.
- b) Expand the previously created query to include the price of the respective flight connection, and create an additional text field from which you can read which seat must be booked for which part of the connection.