Relational algebra

Queries in relational algebra

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Exercise n.1

MAGAZINE (MId, MName, Publisher)
ARTICLE (AId, Title, Topic, MId)

- Find the names of the magazines that have never published any article about motorcycles

Exercise n.2

MAGAZINE (MId, MName, Publisher)
ARTICLE (AId, Title, Topic, MId)

- Find the names of the magazines that have only ever published articles about motorcycles

Exercise n.3

MAGAZINE (MId, MName, Publisher)
ARTICLE (AId, Title, Topic, MId)

- Find the names of the magazines that publish both articles about motorcycles and articles about cars

Exercise n.4

MAGAZINE (MId, MName, Publisher)
ARTICLE (AId, Title, Topic, MId)

- Find the names of the magazines that have published only one article about motorcycles (i.e., they may have published any articles about other topics)

Exercise n.5

SAILOR (SId, SName, Expertise, DateofBirth)
BOOKING (SId, BId, Date)
BOAT(Bid, BName, Color)

- Find the codes of the sailors who have never booked a red boat

Exercise n.6

SAILOR (SId, SName, Expertise, DateofBirth)
BOOKING (SId, BId, Date)
BOAT(Bid, BName, Color)

- Find the codes and the names of the sailors who have booked a red boat and a green boat

Exercise n.7

- Given the relational schema including the following tables (primary keys are underlined)

  AIRCRAFT (AId, AName, MaximumRange)
  CERTIFICATE (AId, CId)
  PILOT(Pid, PName, Salary)

- Find the codes and the names of the pilots who are qualified to fly on at least two aircrafts that can cover distances greater than 5,000 km, and who are qualified to fly on a Boeing