Homework for the Artificial Intelligence lab #1 (28.02 - 04.03)

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1. Given a knowledge base whose facts are instances of the predicates `parent(Parent, Child)`, `male(Person)` and `female(Person)` (make sure your data makes the requested predicates and queries possible):
   - Add some sample data to your program
   - Write predicates for the following relations:
     - `father(Father, Child)`
     - `mother(Mother, Child)`
     - `son(Parent, Child)`
     - `daughter(Parent, Child)`
     - `grandfather(Grandpa, Child)`
     - `grandmother(Grandma, Child)`
     - `grandson(Grandparent, Child)`
     - `granddaughter(Grandparent, Child)`
   - Write the following queries:
     - Who is a son?
     - Who is a grandparent?
     - Who is a son and a father?
2. You are given the following geometric figures: a blue triangle, a red square, a blue diamond, a green parallelogram and a red pentagon. Implement the following:
   - Write facts that describe the figures given above. Each fact is of the form `figure(Name, Color, NumberOfSides)`
   - Define a rules for geometric figures with 4 sides (any color)
   - Define a rule for red figures

3. Two children can participate in a tennis match if they have the same age. Given the following children: Andrei (9 years old), Bogdan (12 years old), Ana (9 years old), Sebi (9 years old), write a fact that describes each child and using the facts you just defined write a rule to determine *all* possible pairs of children that can participate at a tennis match.