# PrologIntro

November 13, 2021

```
[1]: %%capture
     #install swi-prolog
     !sudo apt-get install software-properties-common
     !sudo apt-add-repository ppa:swi-prolog
     !sudo apt-get update
     !sudo apt-get install swi-prolog
     #install pyswip
     !pip install pyswip
```

Example 1

```
likes(alice,beer).
likes(alice,wine).
likes(bill,wine).
likes(bill,alice).
```

The following queries yield the specified answers.

```
 | ?- likes(alice,beer).
 yes.
 | ?- likes(bill,wine).
 yes.
 | ?- likes(alice,bill).
 no.
```

```
[2]: from pyswip import Prolog
     prolog = Prolog()

     literals = []
     literals.append("likes('alice', 'beer')")
     literals.append("likes('alice', 'wine')")
     literals.append("likes('bill', 'wine')")
     literals.append("likes('bill', 'alice')")

     literals.sort()
     for literal in literals:
       prolog.assertz(literal)
```

Example 2

```
male(eddie).
male(george).
male(alex).
male(marios).
male(christos).

female(ilektra).
female(sophia).
female(maria).

child(ilektra, christos).
child(ilektra, maria).
child(sophia, alex).
child(sophia, maria).
child(george, ilektra).


siblings(X, Y) :- child(X, Z), child(Y, Z), X \= Y.
grandchild(X, Y) :- child(X, P), child (P, Y).
```

[3]:
```
#        db.pl
#
# prolog.consult("db.pl")
```

[4]:
```python
literals = []
literals.append("male(eddie)")
literals.append("male(george)")
literals.append("male(alex)")
literals.append("male(marios)")
literals.append("male(christos)")

literals.append("female(ilektra)")
literals.append("female(sophia)")
literals.append("female(maria)")

literals.append("child(ilektra, christos)")
literals.append("child(ilektra, maria)")
literals.append("child(sophia, alex)")
literals.append("child(george, ilektra)")

literals.sort()
for literal in literals:
  prolog.assertz(literal)
```

[5]:
```python
prolog.assertz('(grandchild(X,Y) :- child(X, P), child(P, Y))')
q = prolog.query("grandchild('george', Y)")
for soln in q:
    s = soln['Y']
```

```
    print(s)
q.close()
```

christos
maria