LI Prolog exercices

This repository holds a series of exercices and problems solved using Prolog, for the Logic in Informatics (LI) course. The repository is structured in the following directories:

- `basic` - contains simple, initiatory exercices to learn the basics of the Prolog language. **Corresponds to the 2nd assignment.**
- `problems` - more complex problems, some of which use a common optimization scheme. **Corresponds to the 4th assignment.**

Basic problems

A script named `supercharged-prolog.sh` is provided to fire up a SWI-Prolog engine already loaded with the definitions and predicates of the basic exercices, contained in the `exercices.pl` file.

Problems

There are 4 different problems solvers inside this directory, namely `bridge`, `buckets`, `cachan` and `cannibals`.

Please note! that neither problem solver can be used without the additional runner script provided in the root folder, named `run.sh`. Some necessary code is injected by the script (assertions and generic predicates) and, therefore, compiling the solvers without the script will render them non-functional.

The script

The `run.sh` script has a usage help available (execute `./run.sh --help`to see it) and can be used as follows:

- For the `bridge`, `buckets` and `cannibals` problems, the solvers can be run as:

```
./run.sh PROBLEM_NAME
```

This will compile the solver using the generic predicates defined in the `generic-solver.pl` file and the problem dedicated logic, inside each of the subdirectories (one per problem). Once compiled, the solver is automatically executed.

- The `cachan` problem can be executed as:

```
./run.sh cachan [--check]
```

Similarly to the rest of problems, the solver is compiled and executed. The `--check` flag enables solution checking (the compiled executable is different).