Cheat sheet: KnowRob, Prolog, JPL, Protégé

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1 KnowRob: Computer setup and launch procedure

- Interactive Prolog shell: `rosrun rosprolog rosprolog <pkg>`
- Launch file: start json_prolog ROS service for package PACKAGE

```
<launch>
  <node name="knowrob" pkg="rosprolog" type="run_with_prolog_env"
        args="PACKAGE $(find json_prolog)/bin/json_prolog" />
</launch>
```

2 Prolog

- Make use of tab completion: type the beginning of a predicates and hit TAB for auto-completion
- Access elements A of a list As: `member(A, As)`
- Collect all results A in a list As: `findall(A, rdf_has(A, P, O), As)`

3 JPL

Complete API documentation: `http://www.swi-prolog.org/packages/jpl/prolog_api/api.html`

- Create an instance Inst of the class 'edu.tum.cs.ias.knowrob.ExampleClass' with the constructor parameters arg1, arg2:
  `jpl_new('edu.tum.cs.ias.knowrob.ExampleClass', ['arg1', 'arg2'], Inst)`
- Call the method doStuff of the instance Inst with parameters param1:
  `jpl_call(Inst, 'doStuff', ['param1'], Res)`
- Call the static method doStuffStatic of the class 'edu.tum.cs.ias.knowrob.ExampleClass'
  `jpl_call('edu.tum.cs.ias.knowrob.ExampleClass', 'doStuffStatic', ['p3', 'p4'], Res)`
- Determine the type of a Java object :
  `jpl_datum_to_type(@'J#00000000000143204648', Type)`
- Read the value of a member variable:
  `jpl_get(Object, FieldName, Value)`
- Convert a Java array to a Prolog list:
  `jpl_array_to_list(JArray, PlList)`

4 Protégé

- All classes are sub-classes of owl:Thing, all properties sub-properties of topObjectProperty and topDataProperty, respectively.
- The KnowRob taxonomy is large – the easiest way to find a class is to use the search function (top right corner)
- Tab completion often works for classes and properties