ASTRA: EXISTING MODULES

COMP 30240/41400: Multi-Agent Systems

Lecturer: Rem Collier

Email: rem.collier@ucd.ie

EXISTING MODULES

- ASTRA comes with a number of existing modules.

- In these slides, we will run through the three most important ones:
  - Console
  - Debug
  - System

- Even for these, I will only introduce some of the basic options.
  - A full list can be found at the above URL.
  - A slightly out of data Javadoc can be found here: http://astralanguage.com/api-javadoc/

ASTRA.LANG.CONSOLE

- Contains a set of methods to print to the Console.

- Print methods designed to mimic their Java equivalents
  - println(…)
  - print(…)
  - Print methods work with any ASTRA term.

```
agent MyAgent {
  module Console c;

  initial !init();

  rule +!init() {
    c.println("Hello World!");
  }
}
```

ASTRA.LANG.DEBUG

- Display the state of the agent:
  - dumpBeliefs(): prints out the agents' beliefs to the console
  - printEventQueue(): prints the current event queue to the console
  - printStackTrace(): prints the stack of the current intention.

```
agent MyAgent {
  module Debug d;

  initial !init();

  rule +!init() {
    d.printStackTrace();
  }
}
```

ASTRA.LANG.SYSTEM

- Collection of System level actions:
  - exit(): terminates the program
  - fail(): action that fails
  - sleep(int): action that makes the agent go to sleep for a fixed time (ms)

```
agent MyAgent {
  module System s; module Console c;
  initial !init();
  rule +!init() {
    c.println("Hello, ");
    s.sleep(1000);
    c.println("World!");
    s.exit();
  }
}
```