

**COMP 3710 - 3**

**Applied Artificial Intelligence (3,1,0)**

**Fall 2017**

**Seminar/Lab 6.**

**Backward Chaining for ZooKeeper**

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Let’s find if that animal is zebra, using backward chaining.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BC(…) | Fact? | No rule? | Rule0 | Rule1 | Return |
| BC(‘Zebra’) | No | No | ['Ungulate', 'WhiteColor', 'BlackStrip'] |  | BC(‘Ungulate’) && BC(‘WhiteColor’) && BC(‘BlackStrip’) |
| BC(‘Ungulate’) | No | No | [‘Mammal’, ‘Hoof’] | [‘Mammal’, ‘ChewCud’] | BC(‘Mammal’) && BC(‘Hoof’) **||** BC(‘Mammal’) && BC(‘ChewCud’) |
| BC(‘Mammal’) | No | No | [‘Hair’] | [‘Milk’] | BC(‘Hair’) || BC(‘Milk’) |
| BC(‘Hair’) | Yes |  |  |  | TRUE |
| BC(‘Milk’) | No |  |  |  | FALSE |
| BC(‘Mammal’) | No |  |  |  | TRUE || FALSE => **TRUE** |
| BC(‘Hoof’) | No |  |  |  | FALSE |
| BC(‘Mammal’) | **Yes** |  |  |  | TRUE |
| BC(‘ChewCud’) | Yes |  |  |  | TRUE |
| BC(‘Ungulate’) |  |  |  |  | TRUE && FALSE || TRUE && TRUE => **TRUE** |
| BC(‘WhiteColor’) | No | NO |  |  | FALSE |
| BC(‘BlackStrip’) | No | NO |  |  | FALSE |
| BC(‘Zebra’) |  |  |  |  | TRUE && FALSE && FALSE && => **FALSE** |