

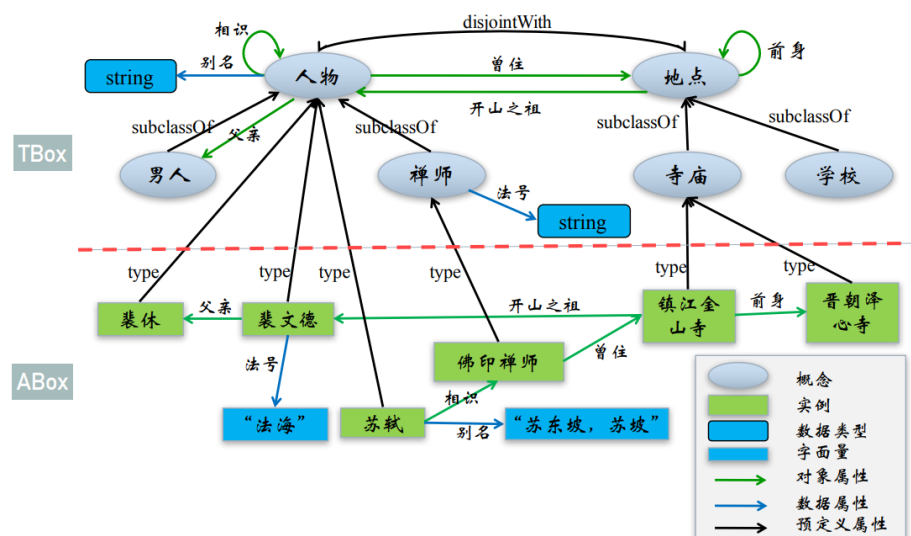
## 实践一      本体知识建模

课程名称: 知识工程      实验日期: 2023/2/24

班级: 人工智能 x 班    姓名:             学号:         

### 一、实践要求

1、使用开源工具 **Protégé**进行本体知识建模，构建知识图谱，例子如下：



### 二、实践内容

- 1、Protégé安装及环境配置
- 2、创建本体
- 3、创建类层次结构
- 4、创建实体关系
- 5、创建实体属性
- 6、创建实例
- 7、本体关系展示

### 三、实践步骤（可包括过程截图）

这是第一节的内容，那时候只保存了截图，没有写实验报告，但是现在已经忘了具体步骤了，所以实验步骤中只包含截图，并没有相关描述(@\_@)

## Data properties:

The screenshot shows the Protege interface with the 'Data properties' tab selected. The left pane displays the 'Data property hierarchy' with 'owl:topDataProperty' expanded, showing its sub-properties '姓名' (Name) and '法号' (Monastic Name). The right pane shows the 'Description' for 'owl:topDataProperty' with the following configuration:

- Equivalent To: (empty)
- SubProperty Of: owl:topDataProperty
- Domains (intersection): 人物 (Person)
- Ranges: xsd:string
- Disjoint With: (empty)

The bottom status bar indicates the ontology is 'Untitled-ontology-6' and the current view is 'OntoGraf'.

## Class hierarchy:

The screenshot shows the Protege interface with the 'Class hierarchy' tab selected. The left pane displays the 'Class hierarchy' with '男人' (Man) expanded, showing its sub-classes '男人' (Man), '禅师' (Monk), '地点' (Location), '学校' (School), and '寺庙' (Temple). The right pane shows the 'Description' for '男人' with the following configuration:

- Equivalent To: (empty)
- SubClass Of: 人物 (Person)
- General class axioms: (empty)
- SubClass Of (Anonymous Ancestor): (empty)
- Instances: 表体 (Table Body)
- Target for Key: (empty)
- Disjoint With: (empty)
- Disjoint Union Of: (empty)

The bottom status bar indicates the ontology is 'Untitled-ontology-6' and the current view is 'OntoGraf'.

## Individuals:

untitled-ontology-6 (http://www.semanticweb.org/zq/ontologies/2023/1/untitled-ontology-6) [C:\Users\zq\Documents\kgexample.owl]

File Edit View Reasoner Tools Refactor Window Help

untitled-ontology-6 (http://www.semanticweb.org/zq/ontologies/2023/1/untitled-ontology-6) Search...

Active ontology: Entities Object properties Data properties OntoGraf

Class hierarchy Individuals Annotations Usage

佛印禅师

- 佛朝祥心寺
- 苏轼
- 苏休
- 黄文德
- 镇江金山寺

Show: < this > different

Found 8 uses of 佛印禅师

- 佛印禅师
  - 佛印禅师 曾住 镇江金山寺
  - 佛印禅师 Type 禅师
  - Individual: 佛印禅师
- 苏轼
  - 苏轼 相识 佛印禅师

Types

- 禅师

Same Individual As

Different Individuals

Object property assertions

- 曾住 镇江金山寺

Data property assertions

Negative object property assertions

Negative data property assertions

## Object properties:

untitled-ontology-6 (http://www.semanticweb.org/zq/ontologies/2023/1/untitled-ontology-6) [C:\Users\zq\Documents\kgexample.owl]

File Edit View Reasoner Tools Refactor Window Help

untitled-ontology-6 (http://www.semanticweb.org/zq/ontologies/2023/1/untitled-ontology-6) Search...

Active ontology: Entities Object properties Data properties OntoGraf

Object property hierarchy Asserted Annotations Usage

owl:topObjectProperty

- 开山祖师
- 父亲
- 相识
- 前身
- 曾住

Asserted

Annotations

Functional

Inverse functional

Transitive

Symmetric

Asymmetric

Reflexive

Irreflexive

Equivalent To

- owl:topObjectProperty

SubProperty Of

Inverse Of

Domains (intersection)

- 地点

Ranges (intersection)

- 人物

Disjoint With

SuperProperty Of (Chain)

File Edit View Reasoner Tools Refactor Window Help

untitled-ontology-6 (http://www.semanticweb.org/zq/ontologies/2023/1/untitled-ontology-6) [C:\Users\zq\Documents\kgexample.owl]

Active ontology: untitled-ontology-6 (http://www.semanticweb.org/zq/ontologies/2023/1/untitled-ontology-6)

owl:Thing

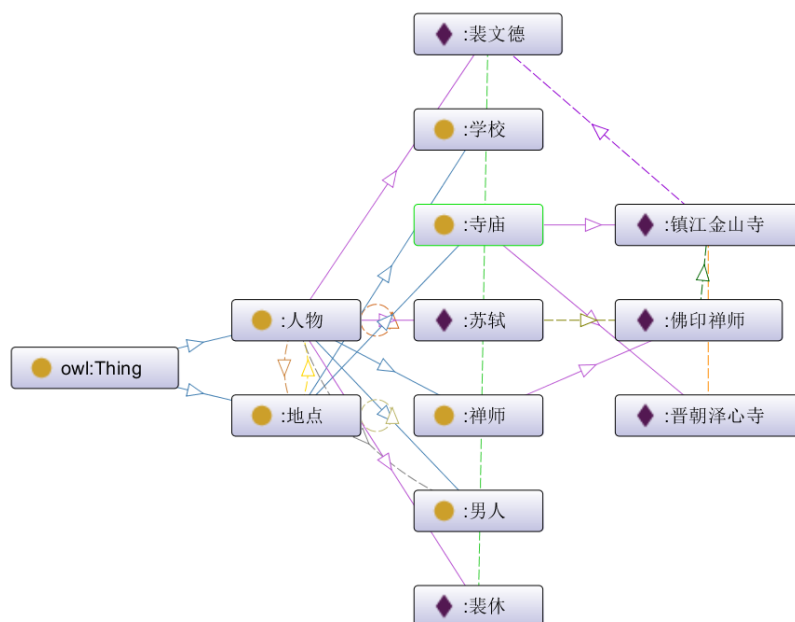
- 人物
- 男人
- 禅师
- 地点
- 学校
- 寺庙

Asserted

Search: contains Sea... Clear

15:54 2023/2/24

打开左上角工具栏 **window-tab-Ontograf**, 查看本体建模内容, 可视化显示。



学习了本体建模相关知识，并使用了 **Protege-5.5.0** 进行实践，创建了一些武侠小说相关的本体建模，了解了本体建模相关的操作和方法，感受到了知识工程的快乐。