

## Data preprocessing for TKRL

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All original data could be found in data.rar or be downloaded through links in README.md, while users should generate the following files according to their own tasks:

```
../data/entity2id.txt
../data/relation2id.txt
../data/type2id.txt
../data/domain2id.txt
../data/relationType.txt
../data/relationDomain.txt
../data/typeEntity.txt
```

The datasets are extracted from Freebase, and the hierarchical type structure we use is as follows:

/domain/type/topic

e.g. /book/author/William Shakespeare

/book is the domain, while /book/author is the type. William Shakespeare stands for the entity.

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### **../data/entity2id.txt**

entity list, the format is:

[Name id]

### **../data/relation2id.txt**

relation list, the format is:

[Name id]

### **../data/type2id.txt**

type list, the format is:

[Name id]

### **../data/domain2id.txt**

domain list, the format is:

[Name id]

### **../data/relationType.txt**

relation-specific information, indicating the correct type head/tail should belong to in a specific relation, the format is:

[relation type of head type of tail]

### **../data/relationDomain.txt**

relation-specific information, indicating the correct domain head/tail should belong to in a specific

relation, the format is:

[relation domain of head domain of tail]

**../data/typeEntity.txt**

Indicating all entities which could belong to a type, for soft type constraints in training and evaluation, the format is:

[type\_id entity\_id\_1 ... entity\_id\_n]