The NLTK FrameNet API

### Designing for Discoverability with a Rich Linguistic Resource

- **Berkeley FrameNet** is
  - a lexicon of >1000 semantic **frames** describing roles and relationships of scenes evoked by English **lexical units** (LUs)
  - a corpus of >100k sentences annotated for frames and their roles (arguments)
  - stored in an intricate XML format
- This work: a **convenient Python API for accessing FrameNet** (lexicon + annotated sentences) programmatically and interactively.

### Installation

```python
>>> import nltk
>>> nltk.download('framenet')
```

### Importing

```python
>>> from nltk.corpus import framenet as fn
```

### Listing frames & LUs by name

```python
>>> frames = fn.frames()
>>> frames
[[frame ID=2031 name=Abandonment>, <frame ID=262 name=Abounding_with>, ...]
>>> len(frames)
1221
>>> fn.frames('(?i)create')
[[frame ID=268 name=Cooking_creation>, <frame ID=1658 name=Create_physical_artwork>, ...]
```

### Frame display

```python
>>> f = fn.frame('Cooking_creation')
>>> f
Frame (268): Cooking_creation

[URL] https://framenet2.icsi.berkeley.edu/ftReports/data/frame/Cooking_creation.xml

[definition]
This frame describes food and meal preparation. A Cook creates a Produced_food from (raw) Ingredients. The Heating_Instrument and/or the Container may also be specified. ‘Caitlin baked some cookies from the pre-packaged dough.’

[semTypes] 0 semantic types
[FrameRelations] 3 frame relations
  <Parent=Intentionally_create -- Inheritance --> Child=Cooking_creation>
  <Parent=Apply_heat -- Using --> Child=Cooking_creation>
  <MainEntry=Apply_heat -- See_also --> ReferringEntry=Cooking_creation>

[lexUnit] 19 lexical units
  bake.v (4896), baking.n (17899), concoct.v (4890), cook up.v (4891), cook.n (16786), fry.v (17905), frying.n (17907), grill.v (17901), grilling.n (17902), make.v (4895), preparation.n (17988), prepare.v (4894), put together.v (4897), roast.v (17903), roasting.n (17904), whip up.v (4892)

[FE] 12 frame elements
  Core: Cook (2298), Produced_food (2299)
    Periperal: Container (2302), Degree (2308), Heating_Instrument (2380), Ingredients (2311), Manner (2389), Means (2304), Place (2303), Time (2307)
    Extra-Thematic: Purpose (2305), Recipient (2306)

[FKCoreSets] 0 frame element core sets
>>> f.fes()
```

### Annotated sentence display

```python
>>> f = fn.frame('Cooking_creation')
>>> f.lexUnit['bake.v'].exemplars[1]
exemplar sentence (805436):
[sentNo] 0
[apos] 6483425
[LJ] (4896) bake.v in Cooking_creation

[Frame] (268) Cooking_creation

[text] + [Target] + [FE]

It is also illegal in Norway for a bakery to bake bread on a Saturday or Sunday.

........****........
Cook   Produ Time

Produc Produc_Food]
```

FrameNet website: http://framenet.icsi.berkeley.edu

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