

# Instructions for using Wikidata

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## 1. Overview of Wikidata: A Collaborative Hub for Structured Knowledge

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Wikidata is a collaborative knowledge base that serves as a central hub for structured data on diverse topics. It allows users to contribute and edit information, creating a comprehensive and interconnected database. Wikidata is particularly valuable for its role in supporting projects across the Wikimedia Foundation, providing a shared resource for information retrieval and enrichment.

## 2. Presentation of a Wikidata item

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The Wikidata repository is mainly composed of elements, each of which has a label, a description, and a number of aliases. The elements are uniquely identified by Q followed by a number.

Statements describe the detailed characteristics of an item and include a property and a value. Properties in Wikidata are defined by a P followed by a number (e.g., P31 corresponds to instance of ).

Example for Meudon Observatory :

**Label** **Item identifier**

# Meudon Observatory (Q13104410)...

**Description** edit

astronomical observatory Observatoire de Paris | Observatoire de Paris-Meudon **Aliases**

► Recoin: Most relevant properties which are absent

Language	Label	Description	Also known as
English	Meudon Observatory	astronomical observatory	Observatoire de Paris Observatoire de Paris-...
French	Observatoire de Meudon	observatoire astronomique	Observatoire de Paris-...
Spanish	Observatorio de Meudon	No description defined	Observatoire de Paris Observatoire de Paris-...
German	No label defined	No description defined	

All entered languages

## Statements

instance of **Property** observatory **Value** edit

Opened reference ↗ **1 reference**

reference URL	https://www.observeatoiredeparis.fr.eu/-observatoire-de-paris-.html
---------------	---

+ add reference

Wikimedia duplicated page ... edit

of Paris Observatory, PSL University ...

▼ 0 references + add reference

+ add value

We can add a property, for example, to specify the geographical coordinate with values for longitude and latitude.

coordinate location

edit

48°48'18.000"N, 2°13'50.999"E

▼ 1 reference

reference URL	<a href="https://www.observeatoiredeparis.fr.eu/acces-au-site-de-meudon-de-l.html">https://www.observeatoiredeparis.fr.eu/acces-au-site-de-meudon-de-l.html</a>
---------------	---

Properties can also refer to databases used by libraries and archives. These are **Identifiers**.

## Identifiers

VIAF ID	132241421	edit
▼ 0 references		+ add reference
+ add value		
ISNI	0000 0001 2160 2666	edit
▼ 0 references		+ add reference
+ add value		
Minor Planet Center observatory code	005	edit
▼ 0 references		+ add reference

## 3. Extraction datas from Wikidata

## 3.1 Query SPARQL on Wikidata Query Services

To generate lists on Wikidata, we use SPARQL queries on Wikidata Query Service (<https://query.wikidata.org>)

SPARQL is a language for querying knowledge bases.

A triplet can be read as a sentence(ending with a period), with a subject, a predicate and an object.

`SELECT` lists the variables that we want to retrieve.

`WHERE` contain restrictions on these variables, mostly in the form of triplets.

In the example below: we search to determine all "items" whose instance of (P31) is a spacecraft.

## 3.2 First query

```
SELECT ?item ?itemLabel
WHERE
{
  ?item wdt:P31 wd:Q40218 . #spacecraft
  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE]" }
}
GROUP BY ?item ?itemLabel
```

For more information:

[https://www.wikidata.org/wiki/Wikidata:SPARQL\\_tutorial/fr](https://www.wikidata.org/wiki/Wikidata:SPARQL_tutorial/fr)

([https://www.wikidata.org/wiki/Wikidata:SPARQL\\_tutorial/fr](https://www.wikidata.org/wiki/Wikidata:SPARQL_tutorial/fr))

item	itemLabel
<a href="#">Q wd:Q113149606</a>	1965-027E
<a href="#">Q wd:Q112795279</a>	1971-054A
<a href="#">Q wd:Q30742734</a>	ANGELS
<a href="#">Q wd:Q111860822</a>	Apollo 10 SIVB
<a href="#">Q wd:Q111912932</a>	Apollo 11 SIVB
<a href="#">Q wd:Q111912933</a>	Apollo 12 SIVB
<a href="#">Q wd:Q111912934</a>	Apollo 13 SIVB
<a href="#">Q wd:Q111912936</a>	Apollo 14 SIVB
<a href="#">Q wd:Q111912937</a>	Apollo 15 SIVB

The results are available in the form of table, with as the input which Wikidata identifier and label which corresponds to the name given in Wikidata.

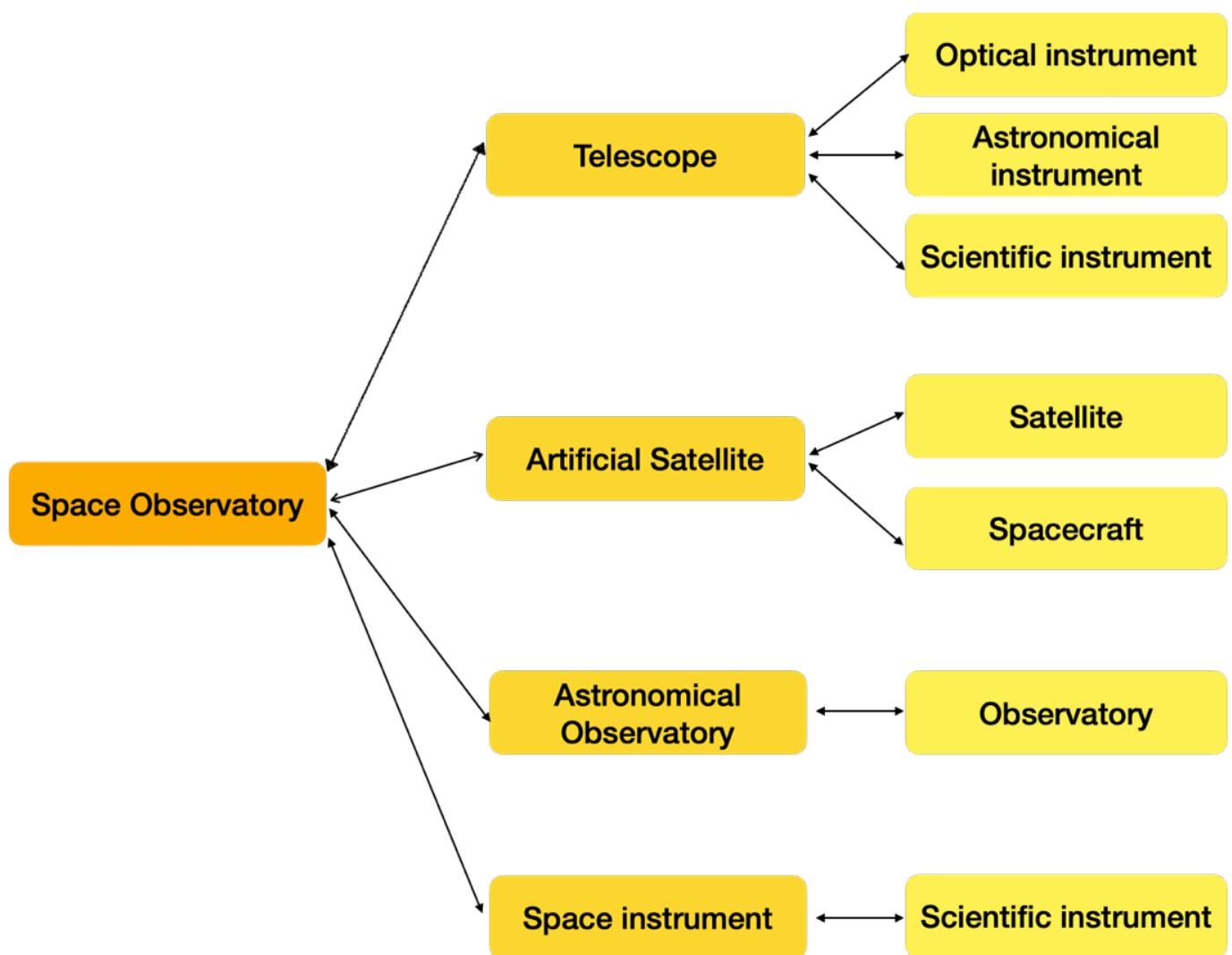
By Exploring all the elements of each list in Wikidata, we notice that the relationships (predicate) between the subject and object are variable. A non-exhaustive list of predicates used in wikidata for space mission has been established :

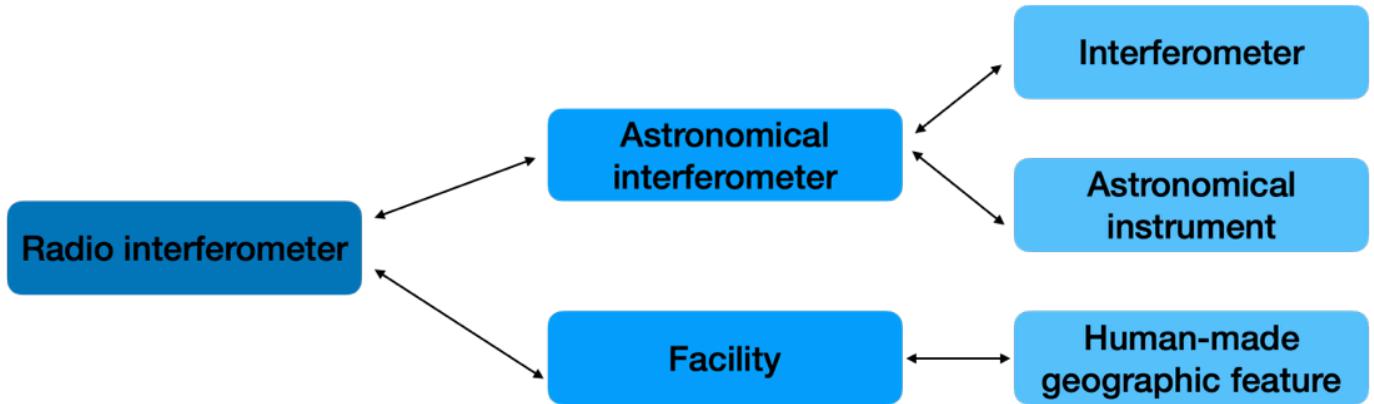
- Space observatory
- Spacecraft
- Astronomical observatory
- Artificial satellite
- Launch vehicle
- Radio interferometer
- Planetary probe
- Orbiter
- Space probe

- Human spaceflight
- Space mission
- Spaceflight
- Observatory
- Optical telescope
- Earth observation satellite
- Lander
- Cubesat
- ...

Each predicate has a parent and/or a children.

Here an exemple of relationship that we can find between predicates in Wikidata



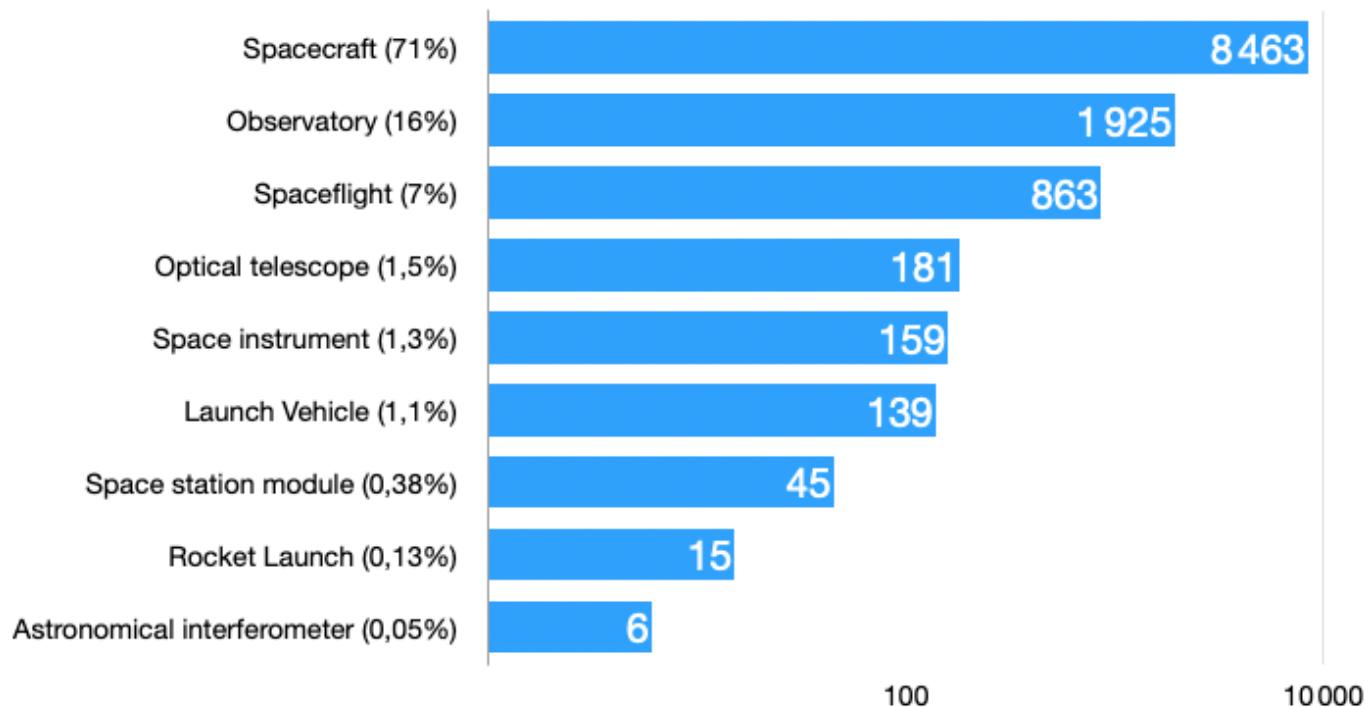


Here we observe that a *Space Observatory* is both a *Telescope*, an *Artificial satellite*, an *Astronomical observatory* and a *Space instrument*.  
Each of them also has a child.

Most of the predicates are often related to a Spacecraft.

After streamlining the list of all predicates, allowing us to cover a wider range to obtain the most important number of elements, we obtain a much smaller list of predicates.

Here is a graph showing the percentage of predicates that are either a spacecraft or an observatory ...



This list of predicates allows us to simplify the query. We add to the initial query:

```
?item wdt:P31/wdt:P279* wd:Q40218 . #spacecraft
```

Which means that we will search for all items whose nature of the element and its subclasses are a spacecraft.

### 3.3 Exemple de requête complète

Here is the current working query after streamlining it:

```

PREFIX schema: <http://schema.org/>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
PREFIX wikibase: <http://wikiba.se/ontology#>
PREFIX bd: <http://www.bigdata.com/rdf#>
SELECT
  ?item
  ?itemLabel
  (GROUP_CONCAT(DISTINCT ?Unified_Astro_Thesaurus_ID; SEPARATOR="|") AS
  (GROUP_CONCAT(DISTINCT ?COSPAR_ID; SEPARATOR="|") AS ?all_COSPAR_ID)
  (GROUP_CONCAT(DISTINCT ?NAIF_ID; SEPARATOR="|") AS ?all_NAIF_ID)
  (GROUP_CONCAT(DISTINCT ?NSSDCA_ID; SEPARATOR="|") AS ?all_NSSDCA_ID)
  (GROUP_CONCAT(DISTINCT ?Minor_Planet_Center_observatory_ID; SEPARATOR=
  (GROUP_CONCAT(DISTINCT ?alias; SEPARATOR="|") AS ?aliases)

WHERE
{
  {?item wdt:P31/wdt:P279* wd:Q40218 .} # spacecraft
  UNION {?item wdt:P31/wdt:P279* wd:Q62832 .} # observatory
  UNION {?item wdt:P31/wdt:P279* wd:Q5916 .} # spaceflight
  UNION {?item wdt:P31 wd:Q35273 .} # optical telescope
  UNION {?item wdt:P31/wdt:P279* wd:Q697175 .} # Launch vehicle
  UNION {?item wdt:P31 wd:Q17004698 .} # astronomical interferometer
  UNION {?item wdt:P31 wd:Q18812508 .} # space station module
  UNION {?item wdt:P31 wd:Q100349043 .} # space instrument
  UNION {?item wdt:P31 wd:Q797476 .} # rocket launch

  OPTIONAL {?item wdt:P4466 ?Unified_Astro_Thesaurus_ID .}
  OPTIONAL {?item wdt:P247 ?COSPAR_ID .}
  OPTIONAL {?item wdt:P8913 ?NSSDCA_ID .}
  OPTIONAL {?item wdt:P2956 ?NAIF_ID .}
  OPTIONAL {?item wdt:P717 ?Minor_Planet_Center_observatory_ID .}
  OPTIONAL {?item skos:altLabel ?alias .}

  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE]" }
  GROUP BY ?item ?itemLabel
  ORDER BY ?item
}

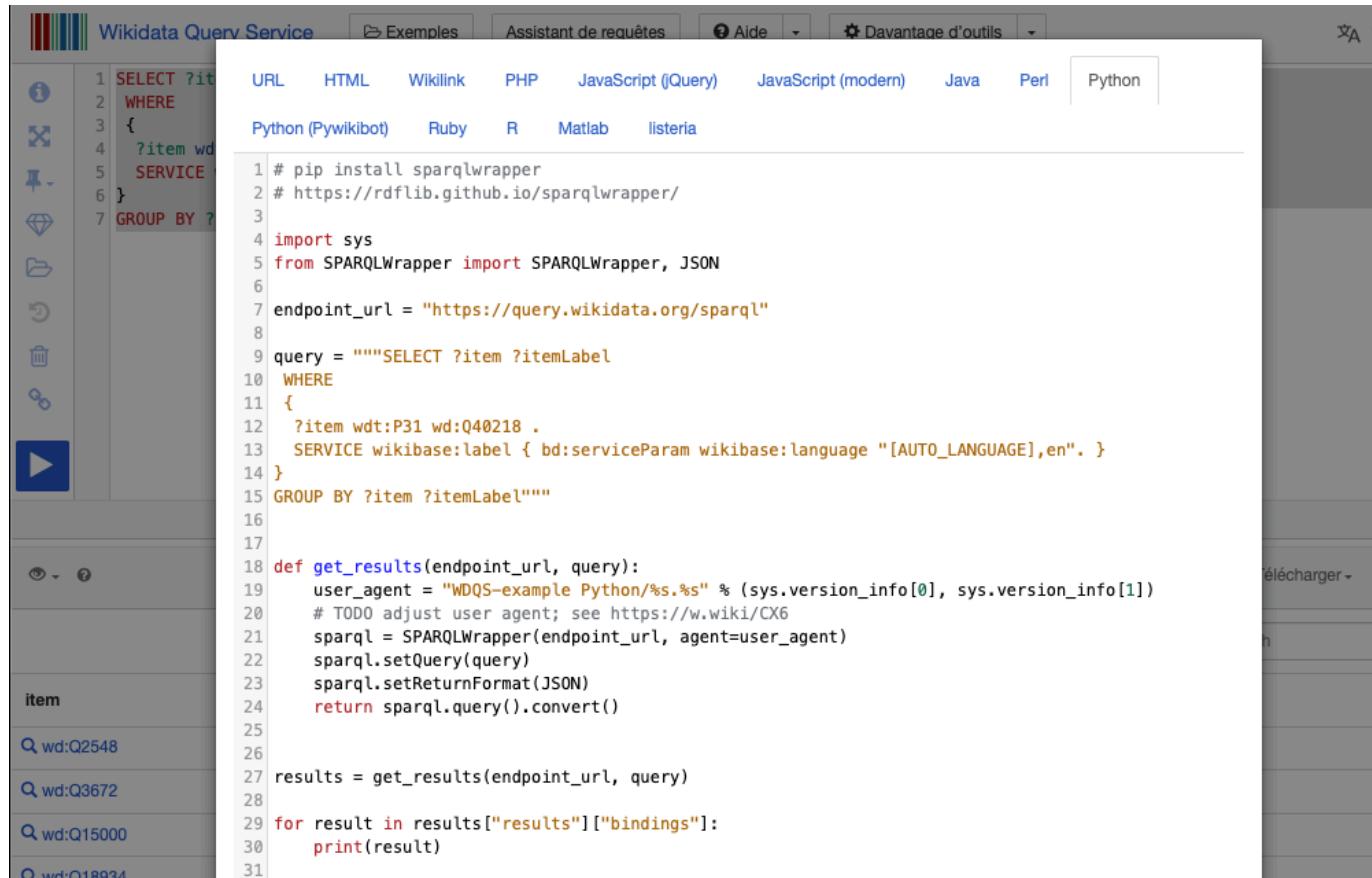
```

We Download the results in `.json` format. The file is renames `extract_wikidata.json` in the WIKIDATA folder.

## 3.4 Time of execution and pagination of results

It is necessary to improve the process of retrieving results.

we can find our query under different languages by clicking on "code". Here we will use Python.



The screenshot shows the Wikidata Query Service interface. On the left, there's a sidebar with various icons for navigation. The main area has tabs for URL, HTML, Wikilink, PHP, JavaScript (jQuery), JavaScript (modern), Java, Perl, and Python. The Python tab is selected. Below the tabs is a list of recent queries. The main content area contains a SPARQL query and its corresponding Python code:

```

1 SELECT ?item
2 WHERE
3 {
4   ?item wd
5   SERVICE
6 }
7 GROUP BY ?item
8
9
10
11
12
13
14
15
16
17
18 def get_results(endpoint_url, query):
19   user_agent = "WDQS-example Python/%s.%s" % (sys.version_info[0], sys.version_info[1])
20   # TODO adjust user agent; see https://w.wiki/CX6
21   sparql = SPARQLWrapper(endpoint_url, agent=user_agent)
22   sparql.setQuery(query)
23   sparql.setReturnFormat(JSON)
24   return sparql.query().convert()
25
26
27 results = get_results(endpoint_url, query)
28
29 for result in results["results"]["bindings"]:
30   print(result)
31

```

A time limit prevents the display of the query results. To avoid this constraint, we will "paginate" to display fewer elements. To do this, we will use `OFFSET{}` and `LIMIT{}` in the query, which will define the number of elements per page.

In the `query_wikidata.py` Python file, we find our query to retrieve all the results in the output file `extract_wikidata`.

[Verification of duplicates. In cases where there are duplicates, make sure that it is a duplicate and merge the two elements on Wikidata]

Language	Label	Description	Also known as
English	Hubble Space Telescope	NASA/ESA space telescope (launched 1990)	HST

## 4. Comparison of lists

We will compare all the elements that we find in the lists (NSSDC, NAIF, IAU, etc.) with the elements that we have in the Wikidata list. The elements that we find in each list do not have the same identifiers and require us to build a script that is adaptable to the data (NAIF\_ID, NSSDC\_ID, pds\_id).

The compare\_nomdelaliste\_wiki.py scripts are created for list comparison. To compare the lists, we will use the fuzzywuzzy library, which searches for string matches. A score is established, which determines if the match is satisfactory. A score of 100 defines a perfect match.

Les scripts compare\_nomdelaliste\_wiki.py sont créés pour la comparaison des listes.

Pour comparer les listes nous nous aiderons de la librairie fuzzywuzzy qui procéde à la recherche de correspondances de chaines de caractères. Un score est établi et permet de déterminer si la correspondance est satisfaisante. Un score de 100 défini une correspondance parfaitement égale.

The result of the Wikidata query includes more than 13,000 elements, and the comparison process is very slow (about 120 minutes). To improve the program's execution time, we will use the multiprocessing module. It involves parallelizing processes on 4 cores, significantly reducing the script's execution time (30 minutes).

Here is an example of a script for the NSSDC list:

```

from fuzzywuzzy import fuzz
from fuzzywuzzy import process
import json
import cProfile
from multiprocessing import Pool

def mon_scorer(q, c):
    r = fuzz.WRatio(q['Name'], c['itemLabel']) + fuzz.WRatio(q['Name'],
    if c['all_COSPAR_ID'] != "":
        if q['ID'] == c['all_COSPAR_ID']:
            r += 500
        else:
            r -= 100
    if c['all_NSSDCA_ID'] != "":
        if q['ID'] == c['all_NSSDCA_ID']:
            r += 500
        else:
            r -= 100
    return r

def dummy_proc(x):
    return x

```

Here, we will compare all the "Name" in the NSSDC list with the "itemLabel" and "alias" in the Wikidata list. We will also search for a match between the identifiers in the NSSDC list and those in Wikidata, if they exist. The COSPAR\_ID and NSSDCA\_ID are mostly identical (except for spacecraft that were not launched or whose mission failed, in which case only the NSSDCA\_ID is present). The results will appear in the file results.json.

## 4.1 Results of comparison

The results are in the file `results.json`

An example of results :

```
{"[1/1183]{'Name': '1962 Lambda 1', 'ID': '1962-011A'}": [({'item': 'ht
1116 : {'item': 'http://www.wikidata.org/entity/Q9207773', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q1681656', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q3200441', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q64691193', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q847714', 'itemLabel':
{"[2/1183]{'Name': '1962 Phi 1', 'ID': '1962-021A'}": [({'item': 'http:
1110 : {'item': 'http://www.wikidata.org/entity/Q9196224', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q1681656', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q1921511', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q56042842', 'itemLabel'
172 : {'item': 'http://www.wikidata.org/entity/Q605607', 'itemLabel':
```

The results are sorted according to the score. In the case of the NSSDC list, if the score is above 400, the comparison is a perfect match, and all results will appear in the `tres_certain` file. If the score is below 400, then the results will appear in the `non_trouve` file.

## 4.2 Results analysis

### 4.2.1 Verification of the found elements

Firstly, we verify if the results in the file `tres_certain` are coherent.

### 4.2.2 Verification of the unfound elements

We perform a quick search to determine the reasons why the elements are not found in the wikidata list.

Several cases may occur:

- The entry does not exist, so we need to create a new item in wikidata.
- The element exists on wikidata but does not appear in the query result. The ID or name is missing (add it to wikidata).

Before creating a new entry on wikidata, it is imperative to check if the element does not already exist or if it has another name.

We will start by querying the Wikidata knowledge base. For example, we will write a query that lists all the elements that have an NSSDCA identifier.

```
SELECT ?item ?itemLabel ?NSSDCA_ID
WHERE {
    ?item wdt:P8913 ?NSSDCA_ID
    SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE]" }
}
GROUP BY ?item ?NSSDCA_ID ?itemLabel
```

This way, we can check if the identifier already exists. Several websites where missions are listed can also be used to find all space missions.

Here are some examples:

<https://nssdc.gsfc.nasa.gov/planetary/chronology.html>

(<https://nssdc.gsfc.nasa.gov/planetary/chronology.html>)

<https://ofrohn.github.io/seh-doc/list-missions.html> (<https://ofrohn.github.io/seh-doc/list-missions.html>)

[https://en.wikipedia.org/wiki/List\\_of\\_observatory\\_codes](https://en.wikipedia.org/wiki/List_of_observatory_codes)

([https://en.wikipedia.org/wiki/List\\_of\\_observatory\\_codes](https://en.wikipedia.org/wiki/List_of_observatory_codes))

## 4.3 Adding on Wikidata base

### 4.3.1 Adding manually elements to wikidata

To add elements to Wikidata, it is necessary to create an account. This facilitates exchanges with wikidata administrators and contributors. Several means can be used to contact wikidata administrators on the Wikimedia France website:

<https://www.wikimedia.fr/contact-public/> (<https://www.wikimedia.fr/contact-public/>)

In particular, on the Wikimedia France community Discord server, a wikidata discussion thread allows discussion of project creation, SPARQL query construction, error reporting, and more.

#### 4.3.1.1 Creating a new wikidata entry

## Create a new Item

Please make sure that the item you want to create complies with our [notability policy](#) and that [it doesn't already exist](#).

If you want to create an item about a [living person](#), be mindful of their privacy.

We appreciate it if you create a [label](#) and a [description](#) for all of your new items.

The first letter of your label should only be capitalized if it is a [proper noun](#) (Q147276), and your description should *not* be phrased as a sentence.

To create a new lexeme ([read here first to learn how a lexeme is different from an item](#)), please use [Special:NewLexeme](#).

By clicking "Create", you agree to the [terms of use](#), and you irrevocably agree to release your contribution under the [Creative Commons CC0 License](#).

### Create a new Item

Language:

en

Label:

observatory Driesen

Description:

astronomical observatory

Aliases, pipe-separated:

enter some aliases in English

**Create**

When creating a new item, English is preferred. When searching on wikidata, the result found will be what is listed in the English label.

## Driesen observatory (Q113950890)...

astronomical observatory

 edit

► [Recoin: Most relevant properties which are absent](#)

▼ [In more languages](#)

Configure

Language	Label	Description	Also known as
English	Driesen observatory	astronomical observatory	
French	No label defined	No description defined	
Spanish	No label defined	No description defined	
German	No label defined	No description defined	

## Statements

[+ add statement](#)

Once created, we can edit the item using the "edit" button to add aliases or other labels in other languages.

We can also add "Statements". For example, Driesen Observatory is an instance of an astronomical observatory.

## Statements

instance of astronomical observatory ✓ publish X cancel ?  
+ add qualifier  
+ add reference  
▼ 0 references

We can add geographic coordinates, images, identifiers, and any other known information about the object.

It is advisable to add references for the source of the collected information.

### 4.3.1.2 Adding an ID

mino ✓ publish X cancel ?  
Minor Planet Center body ID identifier for an astronomical body in the Minor Planet Center database  
minor planet group is in grouping of minor planets according to similar orbital characteristics  
MLB.com player ID (Minor League Baseball ID) identifier for a Major League Baseball player  
**Minor Planet Center observatory code** identifier for an astronomical observatory assigned by the Minor Planet Center  
academic minor (minor) minor someone studied at college/university  
less than (minore di) instances of the item have a lesser value than corresponding instances of the object, for the given measure

### 4.3.2 Bulk add/remove tool

#### 4.3.2.1 Quickstatements

QuickStatements is a tool that allows modification of Wikidata items through a set of text commands. The tool can add and remove statements, labels, descriptions, and aliases; as well as adding statements with optional qualifiers and sources. The command sequence can be entered in the import window or created in a spreadsheet or text editor, then pasted. To add a label in a specific language to an item, use

#### Adding a Label

To add a label in a specific language to an item, use `Lxx` instead of a property, with `xx` as the language code.

**Example :** Q2513 TAB Len TAB "**Hubble Space Telescope**"

Meaning: add the label "Hubble Space Telescope" in English(Q2513)

## Adding an Alias

To add an alias in a specific language to an item, use Axx

**Example :** Q2513 TAB Afr TAB "**télescope spatial Hubble**"

Meaning: Add the French alias "télescope spatial Hubble" to Hubble Space Telescope (Q2513).

Several aliases can be added separated by the "|" character.

**Example :** Q2513 TAB Afr TAB "**télescope spatial Hubble|HST|Hubble**"

## Adding a description

To add a description in a specific language to an item, use Dxx

**Example :** Q2513 TAB Den TAB "**NASA/ESA space telescope (launched 1990)**"

Meaning: Add the English description "NASA/ESA space telescope (launched 1990)" to Hubble Space Telescope (Q2513).

To erase a label, description or site link, the value must be an empty string. The rest of the command works the same way.

## Creating a new item

We can create a new item by inserting the word CREATE . To add a statement to a newly created item, use the word LAST

Let's take an example:

CREATE

LAST TAB Len TAB "**Hubble Space Telescope**"

LAST TAB Lfr TAB "**télescope spatial Hubble**"

LAST TAB P31 TAB Q148578

LAST TAB P8913 TAB "**1990-037B**"

...

Meaning: We create an item whose label in English is "Hubble Space Telescope", the label in French is "télescope spatial Hubble", the nature is a "space observatory" (Q148578) and whose NSSDCA identifier is "1990-037B".

For more information on the QuickStatements tool:

<https://www.wikidata.org/wiki/Help:QuickStatements>

(<https://www.wikidata.org/wiki/Help:QuickStatements>)

The screenshot shows the QuickStatements web application. At the top, there is a navigation bar with links: 'QuickStatements' (selected), 'français' (language), 'Nouveau lot' (New batch), 'Derniers lots' (Recent batches), 'À propos/Problèmes' (About/Problems), 'Git', 'Aide' (Help, highlighted in blue), 'LDEBI', and 'Vos derniers lots'. Below the navigation bar is a search bar with the placeholder 'Créer une nouvelle commande de lot pour Wikidata avec le nom nom du lot'. At the bottom of the interface are two buttons: 'Importer des commandes dans le format V1' and 'Importer les commandes CSV'.

#### 4.3.2.2 OpenRefine

OpenRefine is a tool allowing load, clean, compare, merge or reconcile unstructured datasets. Has a Wikidata plugin allowing for mass contribution

**To download OpenRefine:**

<https://openrefine.org/download> (<https://openrefine.org/download>)

**Creating a new project**

You can load your data file in several formats from local storage, using an URL, or from a server. Click on **NEXT** button.



# OpenRefine

A power tool for working with messy data.

[Create project](#)  
[Open project](#)  
[Import project](#)  
[Language settings](#)  
  
 Version 3.7.1 [ecf4ff8]  
  
[Preferences](#)  
[Help](#)  
[About](#)

**Create a project by importing data. What kinds of data files can I import?**

TSV, CSV, \*SV, Excel (.xls and .xlsx), JSON, XML, RDF as XML, and Google Data documents are all supported. Support for other formats can be added with OpenRefine extensions.

Get data from	Locate one or more files on your computer to upload:
<a href="#">This Computer</a>	<a href="#">Choisir les fichiers</a> aucun fichi...sélectionné
<a href="#">Web Addresses (URLs)</a>	
<a href="#">Clipboard</a>	
<a href="#">Database</a>	
<a href="#">Google Data</a>	

[Next »](#)

If the format is incorrect when loading data, you can change it and select options that allow you to structure your data. Click on `Create project` button.

« start over Configure Project name  Tags Create project »

ID	Name
1. 000	Greenwich
2. 001	Crowborough
3. 002	Rayleigh

**Parse data as**

**JSON files**

- [Line-based text files](#)
- [CSV / TSV / separator-based files](#)
- [Fixed-width field text files](#)
- [PC-Axis text files](#)
- [MARC files](#)
- [JSON-LD files](#)

Please specify a record path first. [Update preview](#)

Disable auto preview

Load at most      0 row(s) of data

Preserve empty strings

Trim leading & trailing whitespace from strings

Attempt to parse cell text into numbers

Store file source

Store archive file

Once your data is loaded, you can reconcile it, meaning you can compare it to the Wikidata database.

**2335 rows**

Extensions Wikibase ▾

Show as: **rows** recordsShow: 5 10 25 50 100 500 **1000** rows

« first &lt; previous

1

next &gt;

last »

All	<u>_ - _ - ID</u>	<u>_ - _ - Name</u>
1.	Facet	
2.	Text filter	
3.		
4.	Edit cells	
5.	Edit column	
6.	Transpose	
7.	Sort...	
8.	View	
9.		
10.	Reconcile	
11.	010 Caussols	
12.	011 Wetzikon	
13.	012 Uccle	
14.	013 Leiden	
15.	014 Marseilles	
16.	015 Utrecht	

Choose English to reconcile the datas

## Reconcile column "\_ - \_ - ID"

### Services

Wikidata reconcil.link (en)

Wikidata reconcil.link (fr)

Select an object for the reconciliation and click on start reconciling button.

**Reconcile column " - \_ - Name"**

Reconcile each cell to an entity of one of these types:

- commune of France Q484170
- big city Q1549591
- astronomical observatory Q1254933
- town Q3957
- scholarly article Q13442814
- asteroid Q3863
- civil parish Q1115575
- college town Q1187811
- human Q5

Also use relevant details from other columns:

**Column Include? As property**

\_ - \_ - ID  minor planet

Select an item from the list:

<b>Minor Planet Center body ID</b> P5736
identifier for an astronomical body in the Minor Planet Center database
<b>minor planet group</b> P196
is in grouping of minor planets according to similar orbital characteristics
<b>Minor Planet Center observatory code</b> P717
identifier for an astronomical observatory assigned by the Minor Planet Center

**Reconcile against type:** observatory

Reconcile against no particular type

Auto-match candidates with high confidence

Maximum number of candidates to return

Add standard service... Discover services... Start reconciling... Cancel

Reconciliation can take time depending on the amount of data.

**OpenRefine IAU MPC json** Permalink

Reconcile cells in column " - \_ - Name" to type Q62832  
2% complete Cancel

Facet / Filter Undo / Redo 0 / 0

**2335 rows**

Show as: rows records Show: 5 10 25 50 100 500 1000 rows

Using facets and filters

Use facets and filters to select subsets of your data to act on. Choose facet and filter methods from the menus at the top of each data column.

Not sure how to get started?  
[Watch these screencasts](#)

All	_ - _ - ID	_ - _ - Name
1.	000	Greenwich
2.	001	Crowborough
3.	002	Rayleigh
4.	003	Montpellier
5.	004	Toulouse
6.	005	Meudon
7.	006	Fabra Observatory, Barcelona
8.	007	Paris
9.	008	Algiers-Bouzareah

Once the reconciliation is complete, we notice that some elements have been reconciled while others have not.

## 2335 rows

Show as: **rows** records Show: 5 10 25 50 100 500 1000 rows

<input type="checkbox"/> All	<input type="checkbox"/> _ - _ - ID	<input type="checkbox"/> _ - _ - Name	
☆	?	1. 000	Royal Observatory Choose new match
☆	?	2. 001	Isaac Roberts' Observatory Choose new match
☆	?	3. 002	Observatory Raleigh Choose new match
☆	?	4. 003	Tour de la Babotte Choose new match
☆	?	5. 004	Toulouse Observatory Choose new match
☆	?	6. 005	Meudon Observatory Choose new match
☆	?	7. 006	Fabra Observatory Choose new match
☆	?	8. 007	Paris Observatory, PSL University Choose new match
☆	?	9. 008	Center of Research in Astronomy, Astrophysics and Geophysics Choose new match
☆	?	10. 009	Sternwarte Uecht Choose new match

We can use facets to select the unreconciled elements and associate them with an item on Wikidata or not.

**2335 rows**

Show as: **rows** **records** Show: **5** **10** **25** **50** **100** **500** **1000** rows

Extensions **Wikibase** ▾

<input checked="" type="checkbox"/> All	<input type="checkbox"/> ID	<input type="checkbox"/> Name
1. 000	Facet	
2. 001	Text filter	
3. 002	Edit cells	ry
4. 003	Edit column	
5. 004	Transpose	
6. 005	Sort...	
7. 006	View	
8. 007	Reconcile	
9. 008	Start reconciling...	
10. 009	Facets	By judgment
	Actions	Judgment action type
		Judgment action timestamp
		Best candidate's score
		Best candidate's type match
		Best candidate's name match
		Best candidate's name edit distance
		Best candidate's name word similarity
		Best candidate's types

## OpenRefine IAU MPC json Permal

Facet / Filter Undo / Redo 2 / 2

Refresh Reset all Remove all

**\_ - - - Name: judgment** change

2 choices Sort by: name count

matched 2282

none 53

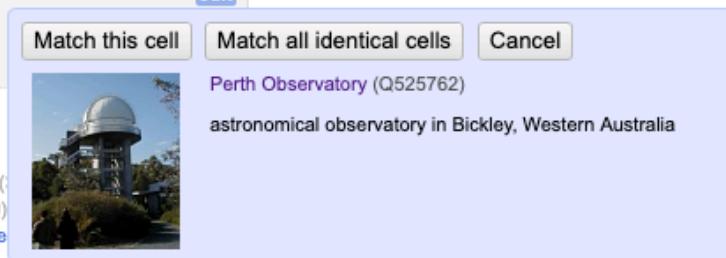
Facet by choice counts

We can match the missing elements by selecting the item from the list of Wikidata reconciliation proposals.

## 52 matching rows (2335 total)

Show as: [rows](#) [records](#) Show: [5](#) [10](#) [25](#) [50](#) [100](#) [500](#) [1000](#) rows

<input type="checkbox"/> All	<input type="checkbox"/> -- ID	<input type="checkbox"/> -- Name	
		245.	244 Geocentric Occultation Observation <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		270.	278 Peking, Transit of Venus site <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		279.	290 Mt. Graham-VATT <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		280.	291 LPL/Spacewatch II <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		298.	310 Minor Planet Center Test Code <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		304.	322 Perth Observatory, Bickley-MCT <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		305.	323 Perth Observatory, Bickley <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Perth Observatory</a> (81) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		472.	500 Geocentric <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> geocentric model (50) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> ECEF (40) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> geocentric conjunction (29) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Concentric spheres (29) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Barycentric celestial refe <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		533.	561 Piszkesteto Stn. (Konkoly) <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>
		573.	601 Engelhardt Observatory, Dresden <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item <a href="#">Search for match</a>



We can add columns based on reconciled values. This allows us to enrich our database by adding data recorded in Wikidata.



## 2282 matching rows (2335 total)

Show as: **rows** records

Show: 5 10 25 50 100 500 1000 rows

All		_ - - ID	_ - - Name
		1. 000	Facet ▶
		2. 001	Text filter ▶
		3. 002	Edit cells ▶
		4. 003	Edit column ▶
		5. 004	Transpose ▶
		6. 005	Sort... ▶
		7. 006	View ▶
		8. 007	Reconcile ▶
		9. 008	<a href="#">Paris Observatory, PSL University</a> Choose new match
		10. 009	<a href="#">Center of Research in Astronomy, Astrophysics and Cosmology</a> Choose new match
			<a href="#">Sternwarte Uecht</a> Choose new match

### Add columns from reconciled column \_ - - Name

Add property

Preview

Reset

Suggested properties

- [architect](#)
- [architectural style](#)
- [chief executive officer](#)
- [COAM structure ID](#)
- [coordinate location](#)
- [country](#)
- [country](#)
- [CTBUH Skyscraper Center building ID](#)
- [founded by](#)
- [has subsidiary](#)
- [has use](#)
- [headquarters location](#)
- [ISNI](#)
- [located in the administrative territorial entity](#)
- [logo image](#)

_ - - Name	instance of <a href="#">remove</a> <a href="#">configure</a>
Royal Observatory	astronomical observatory
Isaac Roberts' Observatory	tourist attraction
Observatory Raleigh	astronomical observatory
Tour de la Babotte	astronomical observatory
Toulouse Observatory	tower
Meudon Observatory	astronomical observatory
Fabra Observatory	astronomical observatory
Paris Observatory, PSL University	double telescope
	grand établissement
	astronomical observatory
Center of Research in Astronomy, Astrophysics and Cosmology	astronomical observatory

## 2282 matching rows (2490 total)

Show as: **rows** records

Show: 5 10 25 50 100 500 1000 rows

<input type="checkbox"/> All	<input type="checkbox"/> _ -- ID	<input type="checkbox"/> _ -- Name	<input type="checkbox"/> instance of
		1. 000 Royal Observatory Choose new match	astronomical observatory Choose new match
		3. 001 Isaac Roberts' Observatory Choose new match	astronomical observatory Choose new match
		4. 002 Observatory Raleigh Choose new match	astronomical observatory Choose new match
		5. 003 Tour de la Babotte Choose new match	astronomical observatory Choose new match
		7. 004 Toulouse Observatory Choose new match	<input type="button" value="edit"/> astronomical observatory Choose new match
		8. 005 Meudon Observatory Choose new match	astronomical observatory Choose new match
		9. 006 Fabra Observatory Choose new match	astronomical observatory Choose new match
		11. 007 Paris Observatory, PSL University Choose new match	grand établissement Choose new match
		13. 008 Center of Research in Astronomy, Astrophysics and Geophysics Choose new match	astronomical observatory Choose new match
		14. 009 Sternwarte Uecht Choose new match	astronomical observatory Choose new match
		15. 010 Centre de recherches en géodynamique et astrométrie Choose new match	astronomical observatory Choose new match
		16. 011 Sternwarte Wetzikon Choose new match	astronomical observatory Choose new match
		17. 012 Royal Observatory of Belgium Choose new match	Federal Scientific Institute Choose new match
		19. 013 Leiden Observatory Choose new match	university observatory Choose new match
		20. 014 Marseille Observatory Choose new match	astronomical observatory Choose new match
		21. 015 Utrecht Observatory Choose new match	museum Choose new match
		23. 016 Besançon Astronomical Observatory Choose new match	astronomical observatory Choose new match
		24. 017 Hoher List Observatory Choose new match	astronomical observatory Choose new match
		25. 018 Düsseldorf-Bilk Observatory Choose new match	destroyed building or structure Choose new match
		27. 019 Neuchâtel Observatory Choose new match	astronomical observatory Choose new match
		28. 020 Nice Observatory Choose new match	astronomical observatory Choose new match
		29. 021 Karlsruhe Observatory Choose new match	public observatory Choose new match

**1519 matching records (1571 total)**

Show as: rows records Show: 5 10 25 50 100 500 1000 records

1. Corona 39 Choose new match	1962-011A	1962-011A	1962-011A
2. Corona 42 Choose new match	1962-021A	1962-021A	1962-021A
3. 1964-031A Choose new match		1964-031A	1964-031A
4. 1964-083C Choose new match		1964-083C	1964-083C
5. 1971-054A Choose new match		1971-054A	1971-054A
6. A Broadband Imaging X-ray All-sky Survey Choose new match	1999-022A	1999-022A	1999-022A
7. AFP-675 Choose new match	APP-675		APP-675
8. AFP-888 Choose new match	APP-888		APP-888
9. AGILE Choose new match	2007-013A	2007-013A	2007-013A
10. Akari (satellite) Choose new match	2006-005A	2006-005A	2006-005A
11. Array of Low-Energy X-ray Imaging Sensors Choose new match	1993-026A	1993-026A	1993-026A

ink Perform Wikibase edits 21% complete Cancel Open... Export... Help

**2270 matching rows (2645 total)** Schema Issues 2265 Preview Extensions Wikibase ▾

Target Wikibase instance: Wikidata Save schema Discard changes

The schema below specifies how your tabular data will be transformed into Wikidata edits.

Start from an existing schema: Select schema... Save new...

- - ID - - Name coordinate location country instance of

- - Name remove

**Terms**  
no labels, descriptions or aliases added + add term

**Statements**

instance of	Observation facility	remove
▶ 0 references		+ add reference + add value + add statement

Add item

link 21% complete Cancel Open... Export... Help

**2270 matching rows (2645 total)** Schema Issues 2265 Preview OpenRefine project archive to file base ▾

Target Wikibase instance: Wikidata

The schema below specifies how your tabular data will be transformed into Wikidata edits.

Start from an existing schema: Select schema... Save new...

- - ID - - Name coordinate location country instance of

- - Name remove

**Terms**  
no labels, descriptions or aliases added + add term

**Statements**

instance of	Observation facility	remove
▶ 0 references		+ add reference + add value + add statement

Add item

OpenRefine project archive to Google Drive... Google Sheets... Wikibase edits... QuickStatements file Wikibase schema

### 4.3.2 Wikidata Gadgets

Gadgets are programs that can also help perform various tasks on Wikidata more easily and efficiently. They can be activated in the Preferences menu under the "Gadgets" section.

Some examples include:

- slurpInterwiki: Imports interwiki links from a Wikipedia project.
- Merge: This script adds a tool for merging entries.
- SitelinkCheck: Displays a form to check if a particular link is already used and gives the item identification number if it is.
- autoEdit: Automatically adds labels through existing interwiki links and descriptions through a customizable list.

#### 4.3.4 Merging similar items on Wikidata

Multiple items that concern the same subject, concept, or object are merged.

Merges can be done manually or automatically by moving interlanguage links and statements into one item and then redirecting the obsolete item(s).

We prefer automatic merges, despite the risk of errors during data transfer or modifying an item that is not exactly the same. For automatic merges, we will use the Merge gadget on Wikidata.

The screenshot shows a Wikidata item page for "Kochi observatory" (Q114381). The top navigation bar includes tabs for "Item", "Discussion", "Read", "Labels list", "More", and "Search Wikidata". Below the title, there's a summary box with the name and its Q identifier. The main content area lists the item as an "astronomical observatory" and provides a link to "Recoin: Most relevant properties which are abs". To the right, a sidebar menu is open, showing options: "View history", "Request deletion", "Merge with...", and "Select for merging". There's also a red "edit" button and a small icon.

We access the Merge tool in the More tab. Simply enter the Q identifier. We will preferably keep the best-referenced Q, often the oldest.

<b>Cancel</b>	<b>Merge Wizard</b>	<b>Merge</b>
Merge with:	<input type="text" value="Q....."/>	
Append the following text to the auto-generated edit summary:		
<input checked="" type="checkbox"/> Always merge into the older entity (uncheck to merge into the "Merge with" entity) <input checked="" type="checkbox"/> Create a redirect <input type="checkbox"/> Remove merged entity from your watchlist (if watched) <input checked="" type="checkbox"/> Load merge destination on success		
<b>Postpone</b>		

The merged Q identifiers will not be assigned again, they will be redirected to the chosen Q identifier.

#### 4.3.5 Adding erroneous information to Wikidata

It can happen inadvertently to introduce errors when enriching Wikidata's database (property, ID, duplication with another item...).

Wikidata has set up bots to verify if there are aberrations in the addition of a new item to their

If the error is isolated, it will be deleted. However, if it is recurring, it will be flagged to the contributor.

In this case, an administrator will contact the contributor by email. The latter will have to correct the erroneous information.

#### 4.3.6 Wikidata robots

Contributors can have a robot to simplify and save time when adding items. To do this, a separate account must be created for it.

In general, it takes the contributor's name followed by `bot`.

Wikidata robots allow modifications to be made without human assistance. They can add interwiki links, labels, descriptions, and even create items.

Warning! Robots are extremely fast and can disrupt Wikidata's operation if poorly designed or used. The contributor is therefore responsible for their robot's contributions. In case of malfunction caused by a bot, it must be stopped by the contributor, otherwise it will be blocked by an administrator.

A request must be made to the administrators for approval and the robot status, detailing the tasks performed.