Tutorial: Linking, Extending, Exploiting and Enhancing Tabular Data with Wikidata

Part 1: Introduction to Wikidata

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Department of Computer Science

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Introduction To Wikidata (25-30 min)

Goals of the Wikidata project

The Wikidata data model

Comparison with DBpedia, YAGO and Cyc

Interesting statistics about Wikidata



Wikidata is a free, collaborative, multilingual, secondary database, collecting structured data to provide support for Wikipedia, Wikimedia Commons, the other wikis of the Wikimedia movement, and to anyone in the world.

https://www.wikidata.org/wiki/Wikidata:Introduction

Free

The data in Wikidata is published under the **Creative Commons Public Domain Dedication 1.0**.

Collaborative

Data is entered and maintained by Wikidata editors, who decide on the rules of content creation and management. Automated <u>bots</u> also enter data into Wikidata.

Multilingual

Editing, consuming, browsing, and reusing the data is fully multilingual. Data entered in any language is immediately available in all other languages.

A secondary database

Wikidata records not just statements, but also their sources, and connections to other databases.

Collecting structured data

Imposing a high degree of structured organization allows for easy reuse of data by Wikimedia projects and third parties, and enables computers to process and "understand" it.

Support for Wikimedia wikis

Wikidata assists Wikipedia with more easily maintainable information boxes and links to other languages.

Anyone in the world

Anyone can use Wikidata for any number of different ways by using its application programming interface, the SPARQL endpoint and the JSDN and RDF dumps.

Why I Wikidata



Marina del Rey (Q988140)

census designated place



Media		· ·
page banner	Marina del Rey banner.jpg ♂	>
locator map image	LA County Incorporated Areas Marina del Rey highlighted.svg 🗷	>
Commons category	Marina del Rey, California ♂	>
image	Marina Del Rey Looking South.jpg	>

Own s	tatements	From related entities	
category of associated people	Category:People from Marina del Rey, C	alifornia (Wikimedia category))
category for people born here	Q21000701 (Wikimedia category)		>
category for people who died here	Q21000703 (Wikimedia category))
topic's main category	Category:Marina del Rey, California (Wiki	media category))
Commons category	Marina del Rey, California 🗷		,



Links	
Wikidata page	
Wikipedia article	
Reasonator	

Identifiers		~
MusicBrainz area ID	2a24c23f0fdd ♂	>
archINFORM location ID	16300 ♂	>
DMOZ ID	RegionI_Rey/ ♂	>
FIPS 55-3 (locations in the US)	06-45806	>
WOEID	2445713 🗗	>
Who's on First ID	85928367 ⊡*	>
Freebase ID	/m/01zhsqk ♂	>
Library of Congress authority ID	n81081018 ♂	>
VIAF ID	247815515 🗗	>
GND ID	4418951-5 ♂	>
GNIS ID	1852255 ♂	>
GeoNames ID	5370542 🗗	>

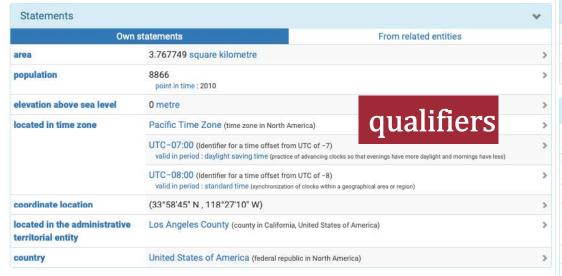




Marina del Rey (Q9881

Good data, and lots of it

census designated place



Media		· ·
page banner	Marina del Rey banner.jpg ♂	>
locator map image	LA County Incorporated Areas Marina del Rey highlighted.svg 🗗	>
Commons category	Marina del Rey, California ☑	>
image	Marina Del Rey Looking South.jpg	>

A Marie I I I Marie I	The Control of the		
Own s	atements	From related entities	
category of associated people	Category:People from Marina del Rey, Cal	fornia (Wikimedia category)	>
category for people born here	Q21000701 (Wikimedia category)		>
category for people who died here	Q21000703 (Wikimedia category)		>
topic's main category	Category:Marina del Rey, California (Wikim	dia category)	>
Commons category	Marina del Rey, California @		>



Links	
Wikidata page	
Wikipedia article	
Reasonator	

Identifiers		~
MusicBrainz area ID	2a24c23f0fdd ₫*	>
archINFORM location ID	16300 ♂	>
DMOZ ID	RegionI_Rey/ ☑*	>
FIPS 55-3 (locations in the US)	06-45806	>
WOEID	2445713 🗗	>
Who's on First ID	85928367 ☑*	>
Freebase ID	/m/01zhsqk ☑	>
Library of Congress authority ID	n81081018 ♂	>
VIAF ID	247815515 🗗	>
GND ID	4418951-5 ♂	>
GNIS ID	1852255 ☑*	>
GeoNames ID	5370542 🗗	>





Kristabel Doebel-Hickok (Q19757547)

American bicycle racer

instance of: Kristabel Doebel-Hickok is a(n) human

Statements			~
Ow	n statements	From related entities	
member of sports team	Rally Cycling (United States women's cycling team) start time: 2019		>
	Cylance Pro Cycling (United States women's cycling team) start time: 2016 end time: 2018		>
	Team TIBCO (women's cycling team) start time : 2014 end time : 2015		>
sport	cycle sport (competitive physical activity using bicycles)		>
country of citizenship	United States of America (federal republic in North America)	>
place of birth	Marina del Rey (census designated place)		>
date of birth	1989-04-28		>
occupation	sport cyclist (someone who competes in the sport of cycling)		>
sex or gender	female (human gender (use with P21))		>
Media			~
image	Krista Doebel-Hickok, Giro Rosa 2016.jpg media legend: Au Tour d'Italie 2016 [fr]		>



Links	
Wikidata page	
Wikipedia article	
Reasonator	

Identifiers		~
ProCyclingStats cyclist ID	179437 ♂	>
Cycling Archives cyclist ID	98235 ⊵*	>
CQ Ranking female cyclist ID	7931 ♂	>

Kristabel Doebe

American bicycle racer

instance of: Kristabel Doebel-Hickok is a

0	wn stateme
member of sports team	Rally
	Cylan start end t
	Team start end t
sport	cycle
country of citizenship	Unite
place of birth	Marin
date of birth	1989
occupation	sport
sex or gender	fema

Krista

medi

DBpedia ● Browse using ▼	► Formats ▼	Endpo
About: Kristabel	Doebel-Hickok	
An Entity of Type : cyclist, from Named Gra	aph: http://dbpedia.org, within Data Space: dbpedia.org	
Kristabel Doebel-Hickok (born	n April 28, 1989) is an American professional racing cyclist. She rides for Cylance Pro Cyclin	ıg.
Property	Value	
dbo:abstract	Kristabel Doebel-Hickok (born April 28, 1989) is an American professional racing cyclist. She rides for Cylance Pro Cycling. (en)	
dbo:birthDate	■ 1989-04-28 (paddate) ■ 1989-4-28	
dbo:thumbnail	wiki-commons:Special:FilePath/Krista_Doebel-Hickok,_Giro_Rosa_2016.jpg?width=300	
dbo:wikiPageID	46226373 (xxd:integer)	
dbo:wikiPageRevisionID	729299224 (xsd:integer)	
dbp:caption	Kristabel Doebel-Hickok during the Giro Rosa 2016	
dbp:role	• Rider	
dct:description	American bicycle racer (en)	
dctsubject	doc:1989_births doc:LVing_people doc:Place_of_birth_missing_(living_people) doc:American_female_cyclists	
http://purl.org/linguistics/gold/hypernym	der:Cyclist	
rditype	out/Person dut/Agent dut/AtturalPerson dut/AtturalPerson widdata/Q215827 widdata/Q22422998 widdata/Q8 duc/Agent duc/AtturalPerson widdata/Q215827 widdata/Q215827 duc/AtturalPerson duc/AtturalPerson duc/AtturalPerson duc/AtturalPerson duc/AtturalPerson duc/AtturalPerson	
rdfs:Comment	Kristabel Doebel-Hickok (born April 28, 1989) is an American professional racing cyclist. She rides for Cylance Pro Cycling, (en)	
rdfs:label	Kristabel Doebel-Hickok (en)	
owt:sameAs	freebase:Kristabel Doebel-Hickok wikidata:Kristabel Doebel-Hickok dopedia-rk:Kristabel Doebel-Hickok dopedia-rk:Kristabel Doebel-Hickok dopedia-wikidata:Kristabel Doebel-Hickok	
prov:wasDerivedFrom	wikipedia-en:Kristabel_Doebel-Hickok?oldid=729299224	
foat:depiction	wiki-commons:Special:FilePath/Krista_Doebel-Hickok,_Giro_Rosa_2016.jpg	
foaf:gender	• female (on)	
foat:IsPrimaryTopicOf	wikipedia-en:Kristabel_Doebel-Hickok	
foaf:name	Kristabel Doebel-Hickok (en)	
is abowkikiPageRedirects of	dur:Kristabel_Doebel_Hickok dur:Krista_Doebel-Hickok mo identifiers	
is toaf:primaryTopic of	wikipedia-ercKristabel_Doebel-Hickok	



Links	
ikidata page	
ikipedia article	
easonator	

Identifiers		~
roCyclingStats yclist ID	179437 ♂	>
ycling rchives cyclist	98235 ♂	>
Q Ranking emale cyclist	7931 ♂	>

by Wikidata Toolkit & Wikidata SPARQL Quer

Media

image

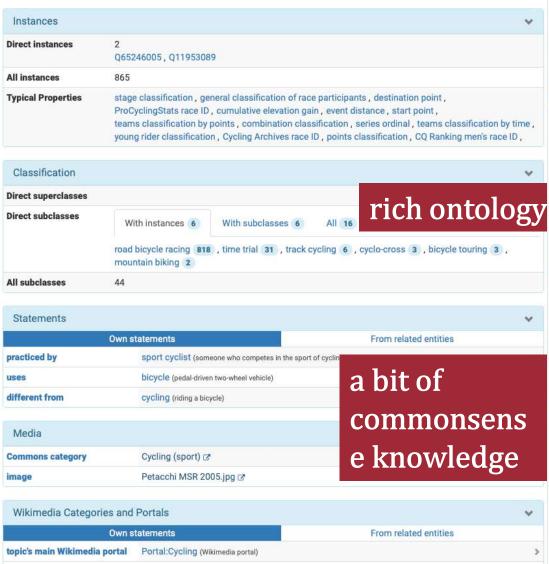
cycle sport (Q2215841)

bicycle sport | bike sport | cycling sport | sport cycling | sports cycling | cycling sports

competitive physical activity using bicycles

subclass of:

instance of: cycle sport is a(n) type of sport



Category: Cycle sport (Wikimedia category)

Cycling (sport) Z



Links	
Wikidata page	
Wikipedia article	
Reasonator	

Identifiers		~
Klexikon article ID	Radsport ♂	>
STW Thesaurus for Economics ID	29830-0 Cf mapping relation type: e match (SKOS mapping relations with P4390); two concepts equivalent meaning, and the lin be exploited across a wider an applications and schemes. The meant to be transitive.)	n (for have k can ge of
Encyclopædia Universalis ID	sportclisme ☑	>
Great Russian Encyclopedia Online ID	1906129 ₫	>
Encyclopædia Britannica Online ID	topic/cycling ☑*	>
lconclass notation	43C2132 ☑*	>
BabelNet ID	00010253n ☑*	>
OSM tag or key	Tag:spycling ₫	>
NE.se ID	cykelsport ♂	>
GND ID	4125280-9 ♂	>
Uppslagsverket Finland ID	Cykelsport 2	>

external identifiers



topic's main category

Commons category

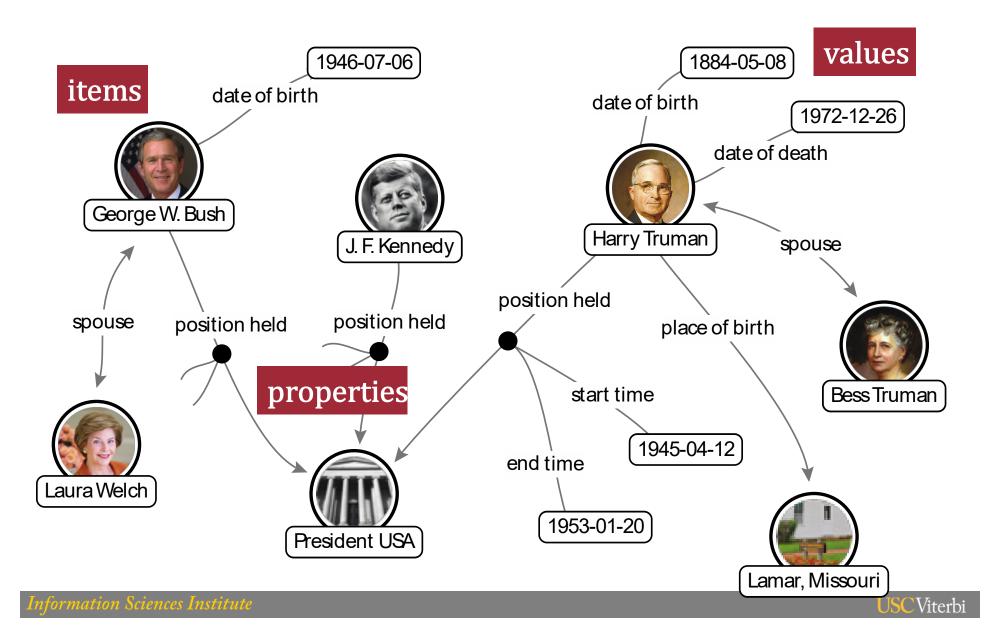
2		p_ 7. 0	1.4	
Language	Label	Description	Also known as	
English	Marina del Rey	census designated place		
Spanish	Marina del Rey	lugar de California		
Traditional Chinese	洛杉磯縣 (卡利福尼亞州)	No description defined	瑪麗安德爾灣 瑪麗安德爾灣(加州)	
Chinese	馬里納戴爾雷伊	No description defined	瑪瑞娜戴爾瑞	
Catalan	Marina del Rey	No description defined		
Cebuano	Marina del Rey	No description defined		
Czech	Marina del Rey	obec v Los Angeles County, Kalifornie		
Danish	Marina del Rey	No description defined		
German	Marina del Rey	Census-designated place im US-Bundesstaat Kalifornien	Marina del Rey, CA	
asque	Marina del Rey (Kalifornia)	No description defined		
ersian	مارینا دل ری، کالیفرنیا	No description defined		
rench	Marina Del Rey	census-designated place	multi	
ebrew	מרינה דל ריי	No description defined	multi	
roatian	Marina del Rey (Kalifornija)	No description defined	 	
alian	Marina del Rey	census-designated place statunitense della California		
apanese	マリナ・デル・レイ	No description defined	マリナデルレイ	
rean	머리나델레이	No description defined		
tin	Marina Del Rey	No description defined		
alagasy	Marina del Rey	No description defined		
n Nan Chinese	Marina del Rey	No description defined		
rwegian Bokmål	Marina del Rey	No description defined		
wari	मारिना डेल रे, क्यालिफोर्निया	No description defined	मारिना डेल रे (क्यालिफोर्निया)	
utch	Marina del Rey	plaats in Los Angeles County		
olish	Marina del Rey	No description defined		
ortuguese	Marina del Rey	No description defined		
omanian	Marina del Rey	loc desemnat pentru recensământ		
ussian	Марина-дель-Рей	No description defined		
erbo-Croatian	Marina del Rey	No description defined		
erbian	Марина дел Реј	No description defined		
vedish	Marina del Rey	No description defined		
vahili	Marina del Rey	No description defined	Mdr	
krainian	Марина-дель-Рей	переписна місцевість, США, штат California		
olapük	Marina del Rey	No description defined		
Varay	Marina del Rey, California	No description defined		
Chinese (China)	洛杉矶县 (卡利福尼亚州)	No description defined	玛丽安德尔湾	
Simplified Chinese	玛丽安德尔湾	No description defined	玛丽安德尔湾 (加州)	
200				

icycle sport I hike on	activity using bicycles cort I cycling sport I sport cycling I s	sports cycling I cycling sports	
 In more languages 	syoning open 1 open cyceffg 1 8		
Configure			
Language		Description	Also known as
English	cycle sport	competitive physical activity using bicycles	bicycle sport bike sport cycling sport sport cycling sports cycling cycling sports
Spanish	ciclismo de competición	competencia deportiva en donde se usan varios tipos de bicicletas No description defined	ciclismo de competicion
Traditional Chinese Chinese	自行車運動 自行車運動	No description defined 体管符	斯基萊康羊
Cilleon	E212 MH.JE260	WHISELX	單車競技 自由車 自由车 自行车运动
Arabic		No description defined	
Asturian	ciclismu de competición	competición deportiva onde s'usen bicicletes	deporte ciclista ciclismu deportivu
Azerbaijani	velosiped idmani	No description defined	
Belarusian Belarusian	Веласпорт	No description defined	
(Taraškievica orthography)	роварны спорт	No description defined	валяспорт
Catalan	ciclisme de competició	Esport	
Central Kurdish Czech	پاسکیل سواری sportovní cyklistika	No description defined sport používající bicykly	cyklosport
			závodní cyklistika
Welsh Danish	chwaraeon seiclo cykelsport	No description defined No description defined	
German	Radsport	Sportart, die mit dem Fahrrad ausgeführt wird	Velosport
Swiss High German	Radsport	No description defined	
Greek	ποδηλασία	άθλημα	
Canadian English	Bicycle racing	No description defined	
British English Esperanto	Bicycle racing bickla sport	No description defined No description defined	
Esperanto Estonian	jalgraftasport	No description defined	
Basque	txirrindularitza	No description defined	
Persian	ورزش دوجرخاسوارى	فعاليت بدنى رقابش با استفاده از دوبهرشه	
Finnish French	kilpapyörálly cyclisme	polkupyörän ajamista kilpaa sport de course à vélo	cyclisme sportif
rrenon	cycasme	opun de course à veco	cyclisme sportif sport cycliste cyclisme de compétition
Western Frisian	Hurdfytse	No description defined	cyclisme de competition
Irish	spórt rothaíochta	No description defined	
Hebrew		No description defined	
Hungarian	kerékpársport	No description defined	71.5.1
Armenian Interlingue	հեծանվային սպորտ Ciclisme	No description defined No description defined	հեծանվասպորտ
Italian	ciclismo	sport in cui si utilizza la bicicletta	
Japanese	自転車競技	No description defined	
Kabiye	Cerce sao alegya	No description defined	
Kazakh Korean	Велосипед спорты 자전거 경기	No description defined 자전거를 타고 서로 겨루는 운동 경기이다.	
Kyrgyz	Велосипед спорттун түрү	No description defined	
Luxembourgish	Vělossport	Sport dee mam Vélo gemaach gétt	
Limburgish	Fietsrenne	No description defined	
Lithuanian Latvian	Dviračių sportas riteribraukšanas sports	No description defined No description defined	
Macedonian	пефогацизалаз sports велосипедски спорт	No description defined	
Marathi	सायकलिंग	No description defined	
Min Nan Chinese	Thih-bé këng-châu	No description defined	
Norwegian Bokmål Low German	sykling Radsport	sport No description defined	sykkelsport
Low German Low Saxon	Hadsport Wielrennen (sport)	No description defined No description defined	
Dutch	wielersport	No description defined	wielrennen
Norwegian Nynorsk		No description defined	sykkelsport
Occitan	ciclisme	No description defined	
Polish Portuguese	wyścigi kolarskie ciclismo de competição	No description defined No description defined	competição de ciclismo
Portuguese Russian	велосипедный спорт	спортивные состязания на велосипедах	спорт на велосипедах
Slovak		druh športu, pri ktorom sa používajú bicykle	велоспорт
Slovak Slovenian	športová cyklistika športno kolesarstvo	druh športu, pri ktorom sa používajú bicykle No description defined	
Albanian	çiklizêm	aktivitet fizik konkurrues duke përdorur biçikleta	sport çiklizmi
Serbian	бициклистички спорт	No description defined	
Swedish	cykelsport of disease account augi	fysiska tävlingsaktiviteter med cyklar மிதிவண்டி வைத்து விளையாடப்படும் ஒரு	
Tamil Thai	เกิดโดยสักษุ ดูเว่าเรียนกับ การแต่งสันจักรยาน	மிதிவன்டி வைத்து விளைபாடப்படும் ஒரு விளைபாட்டு வகை No description defined	
Turkish	bisiklet sporu	bisiklet kullanılarak rekabet edilen fiziksel aktivite	
Tatar	Велосипед спорты	No description defined	
Ukrainian	велосипедні гонки	спортивні змагання на велосипедах	велоспорт
Uzbek Venetian	Velosiped sporti Xiclismo	No description defined No description defined	
Turnelidi I	xe dap thể thao	No description defined	đạp xe thể thao đua xe đạp
Vietnamese	0.000000	No description defined	
	自行车运动		
Vietnamese Chinese (China) Simplified Chinese	自行车运动	No description defined	
Vietnamese Chinese (China) Simplified Chinese Chinese (Hong Kong)	自行车运动 單車運動	No description defined	
Vietnamese Chinese (China) Simplified Chinese Chinese (Hong Kong) Chinese (Macau)	自行车运动 單車運動 單車運動	No description defined No description defined	
Vietnamese Chinese (China) Simplified Chinese Chinese (Hong Kong)	自行车运动 單車運動 單車運動	No description defined	

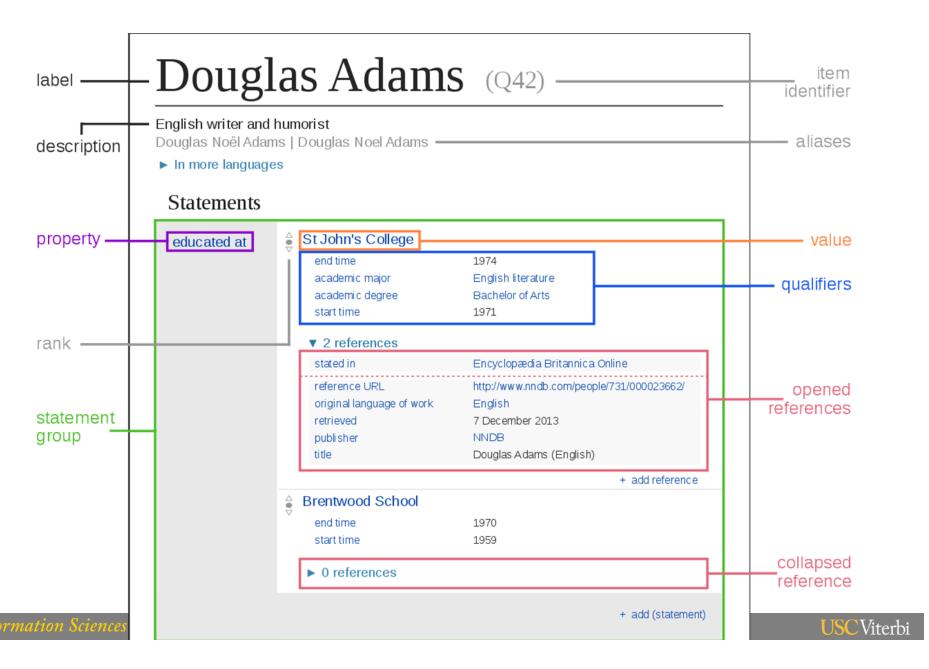


The Wikidata Data Model

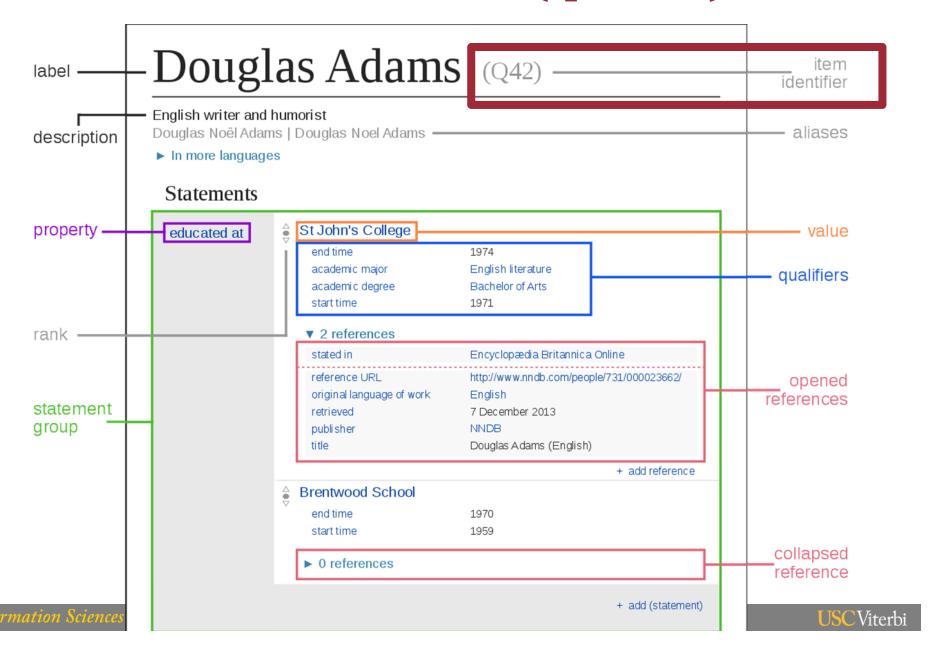
Wikidata Is A Knowledge Graph



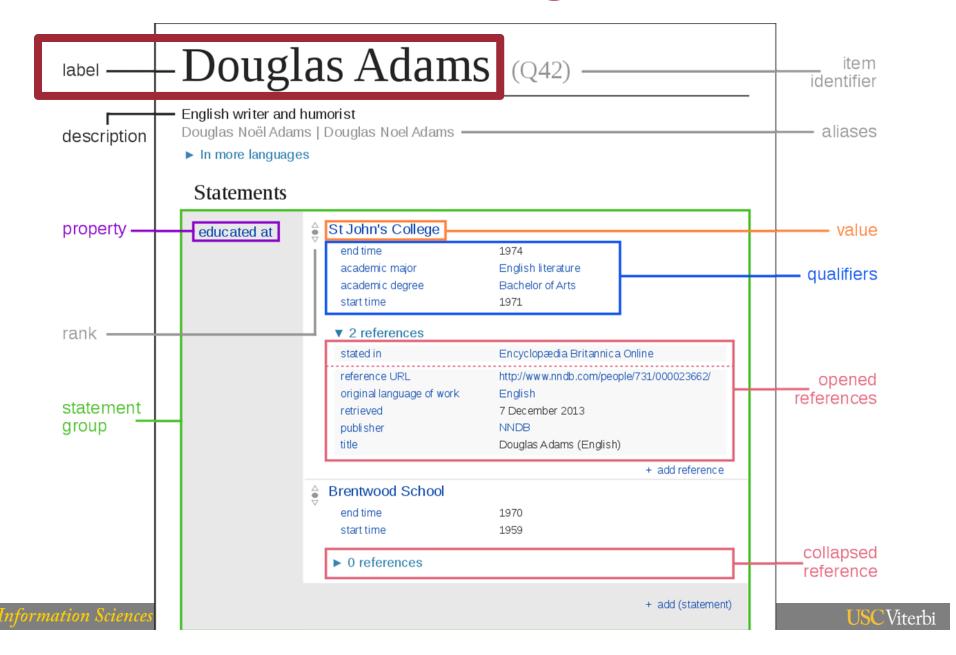
Data Model



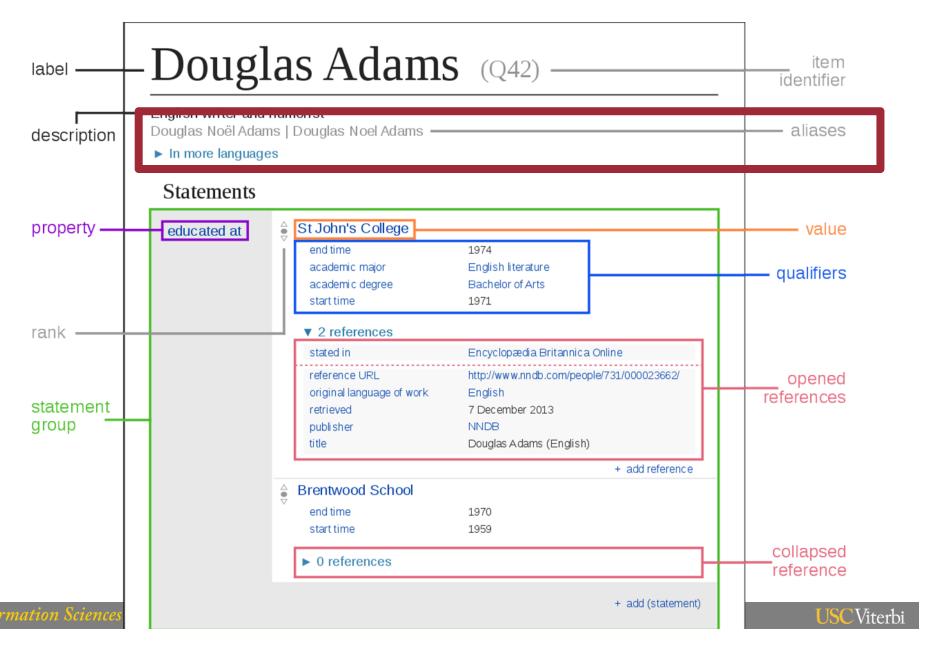
Data Model: Identifier (q-node)



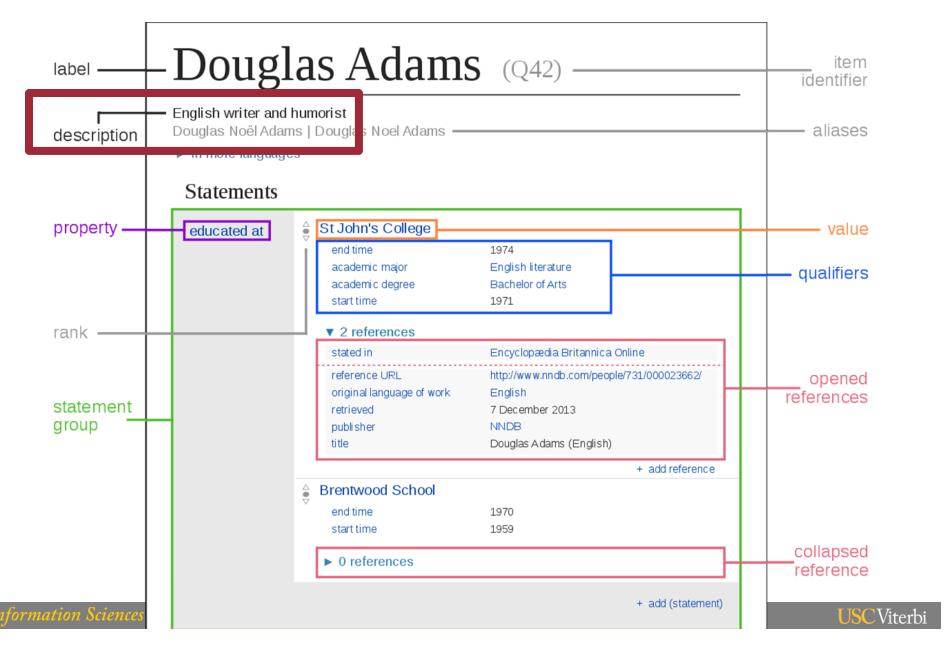
Data Model: Multi-Lingual Labels



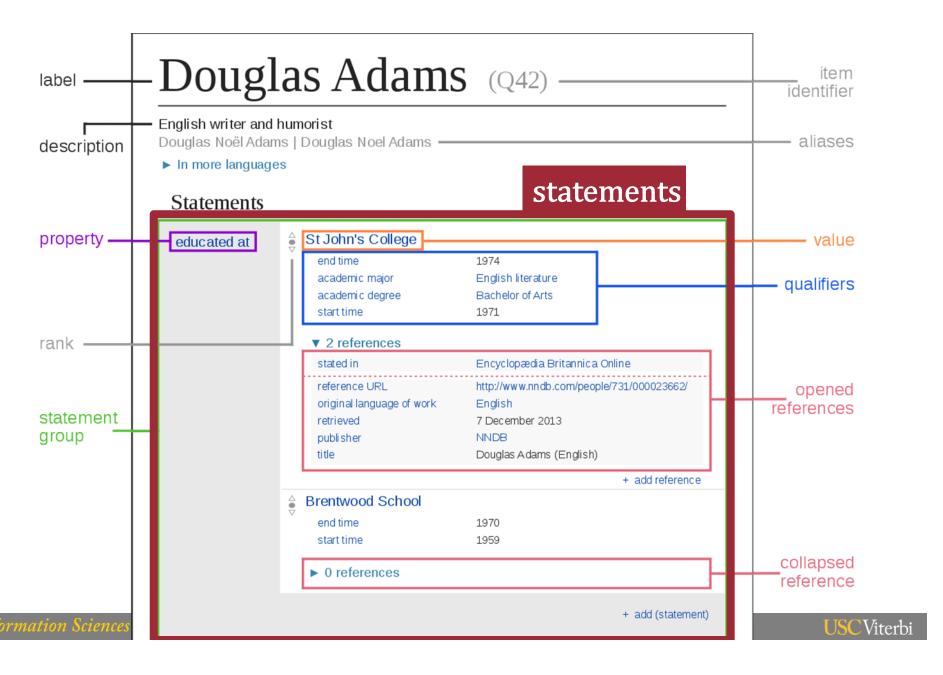
Data Model: Multi-Lingual Aliases



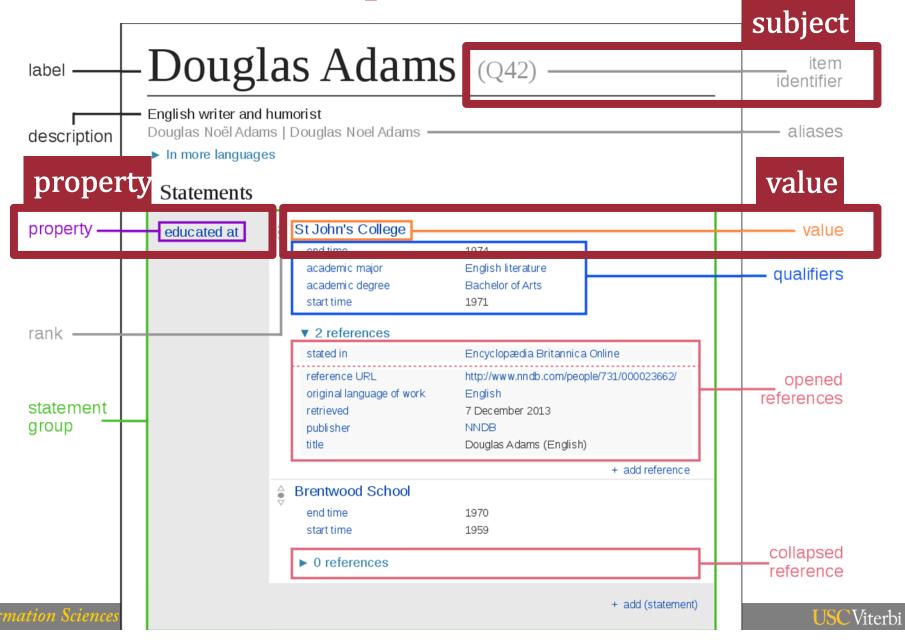
Data Model: Multi-Lingual Descriptions



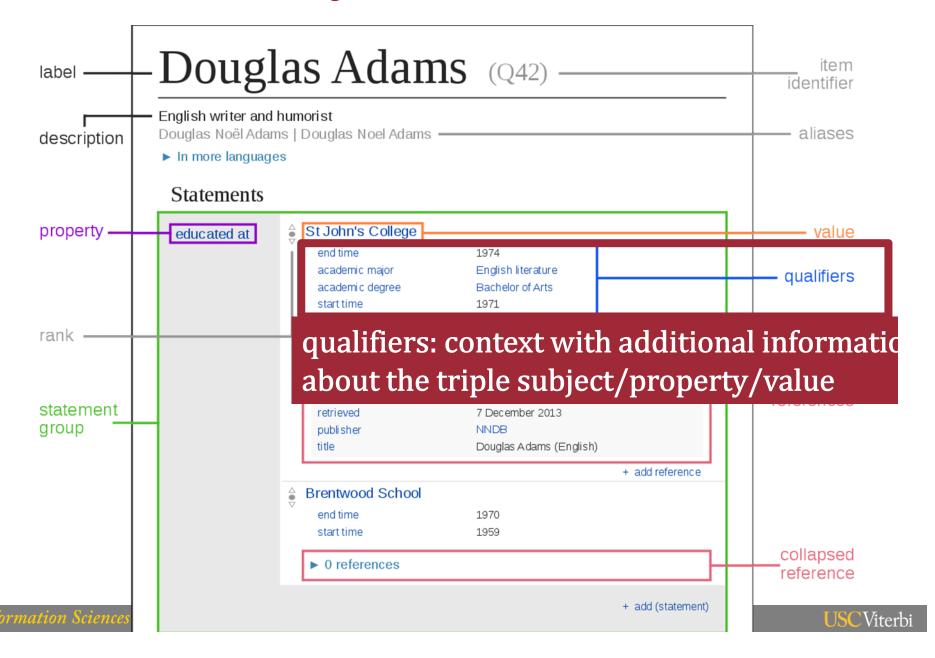
Data Model: Statements



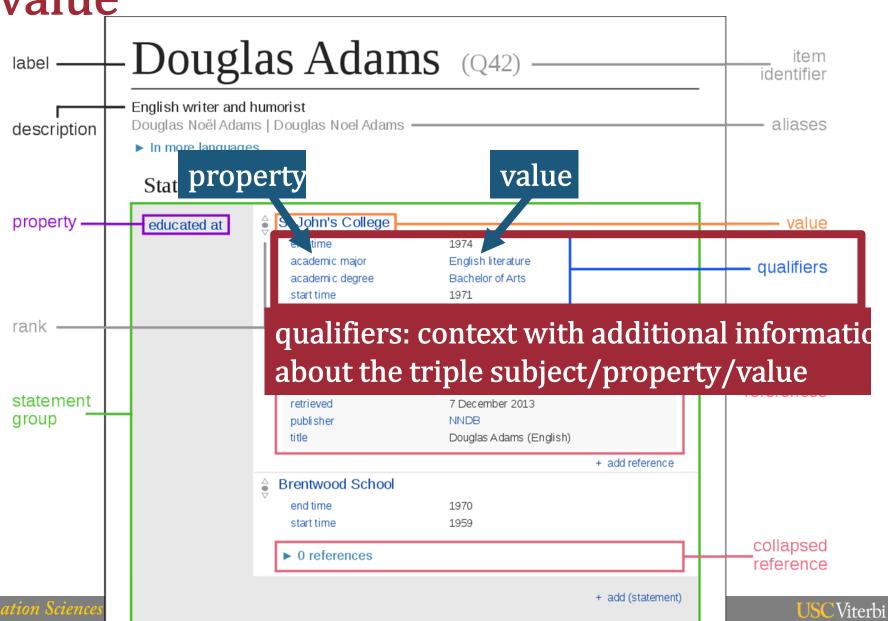
Data Model: Triples



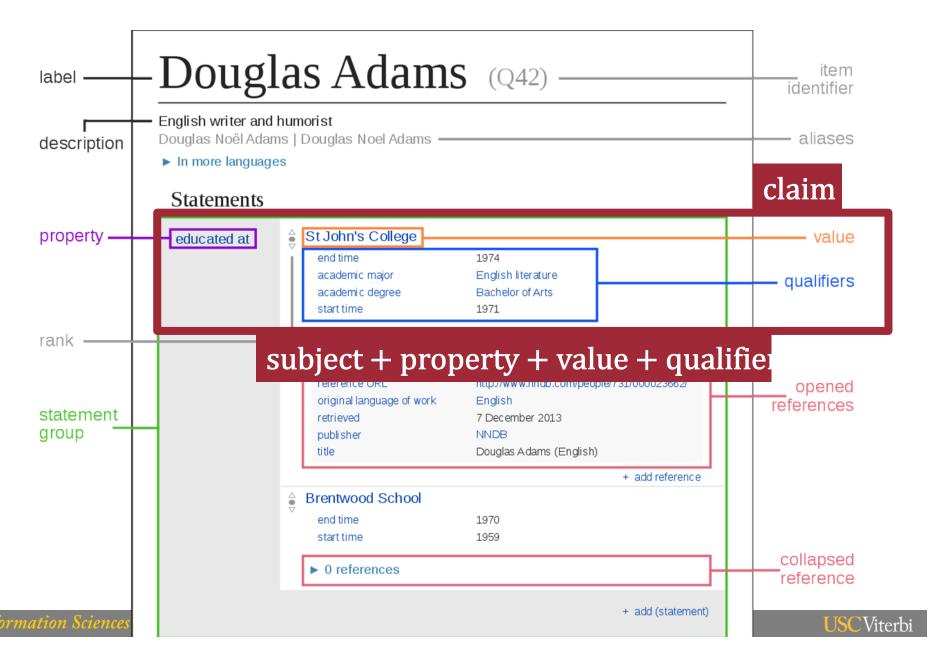
Data Model: Qualifiers



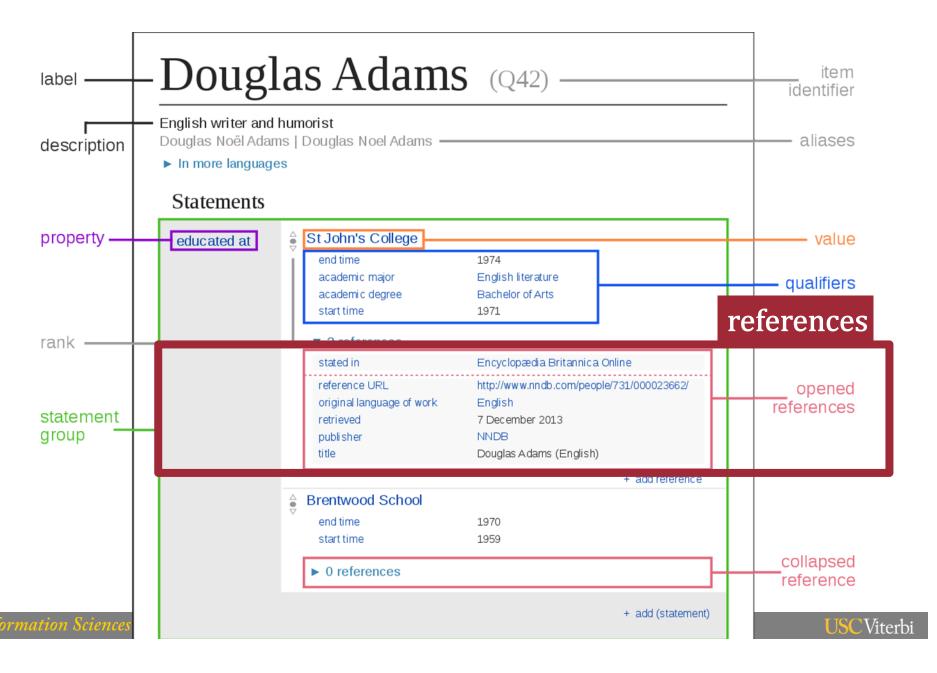
Data Model: Qualifiers = property + value



Data Model: Claims

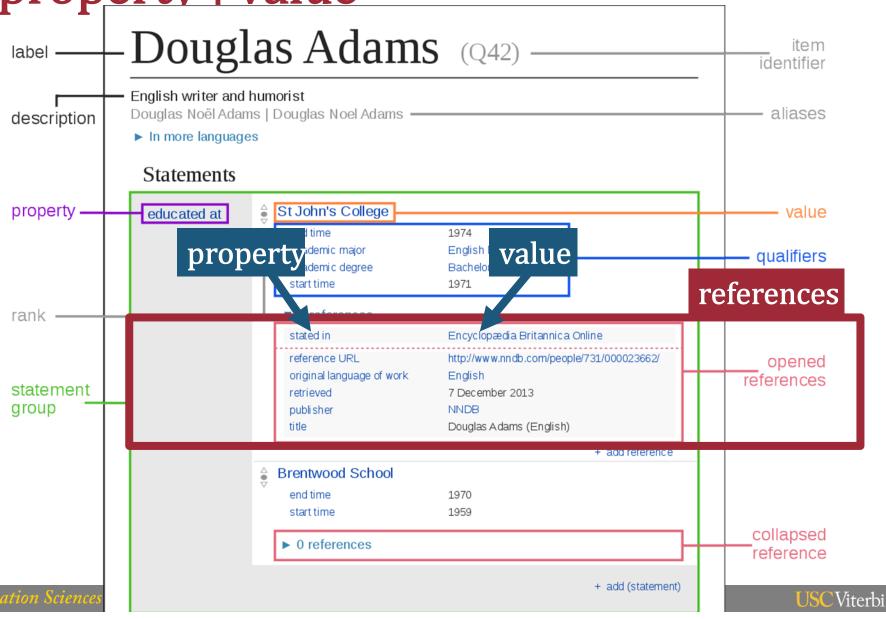


Data Model: References

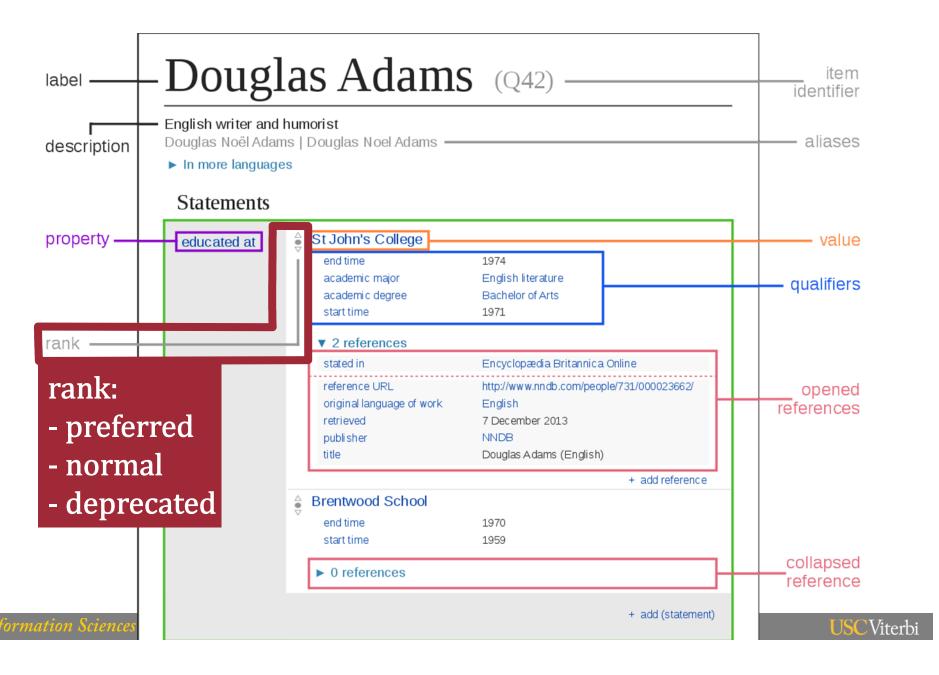


Data Model: Reference =

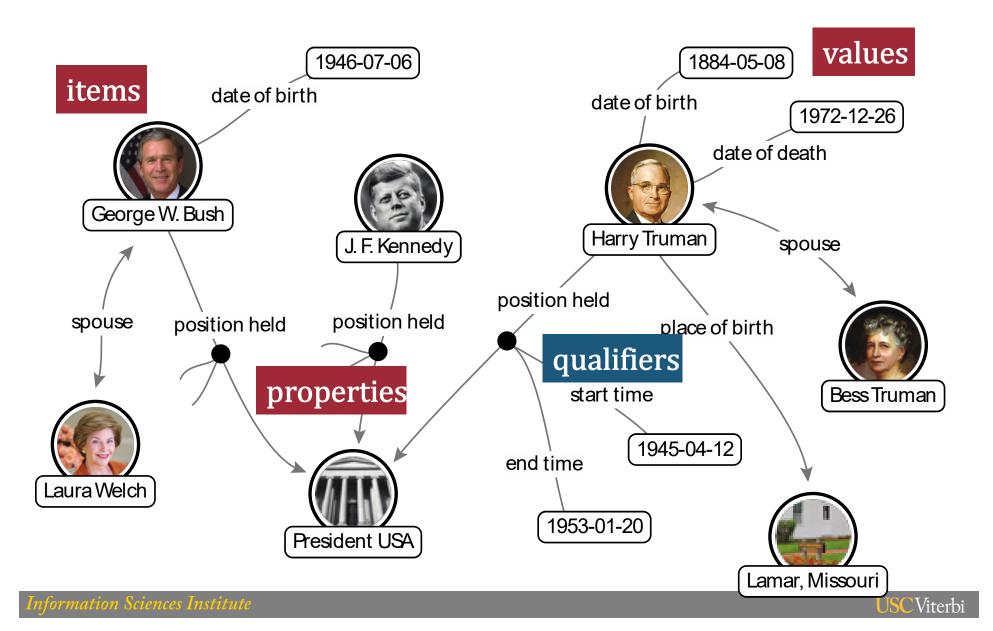
property+value



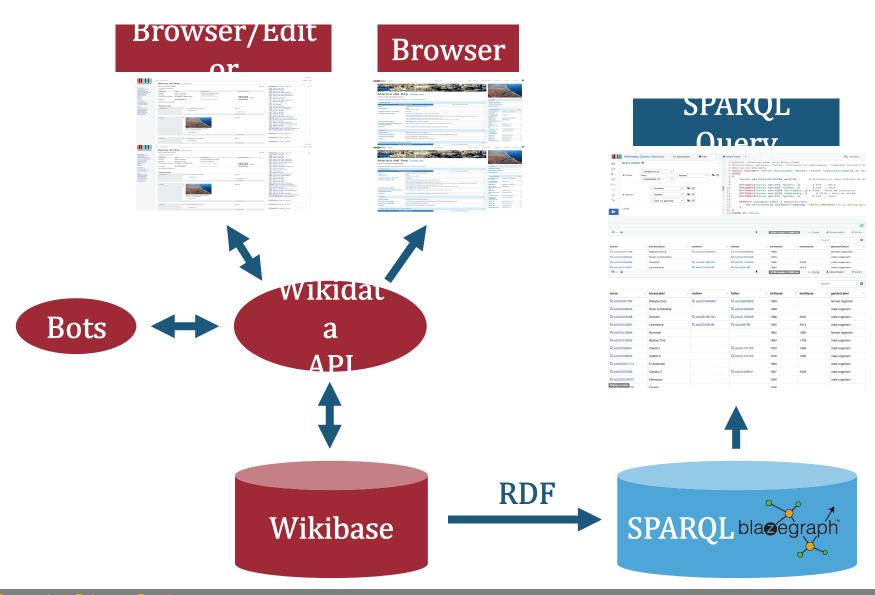
Data Model: Statement Rank



Wikidata Is A Knowledge Graph



Wikidata Architecture



Wikibase API

Main page Get MediaWiki

Support User help

FAQ

Get extensions Tech blog Contribute

Technical manual

Support desk

Development

Code repository

MediaWiki.org

Community portal

Recent changes Translate content

Random page

Current issues

Sandbox

Print/export

Create a book

Download as PDF

Drintable version

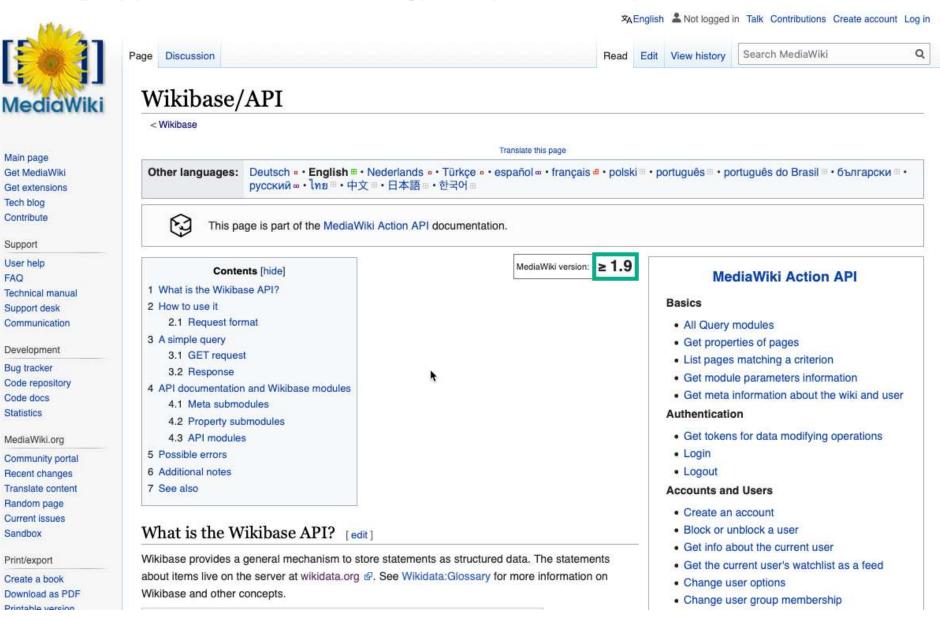
Bug tracker

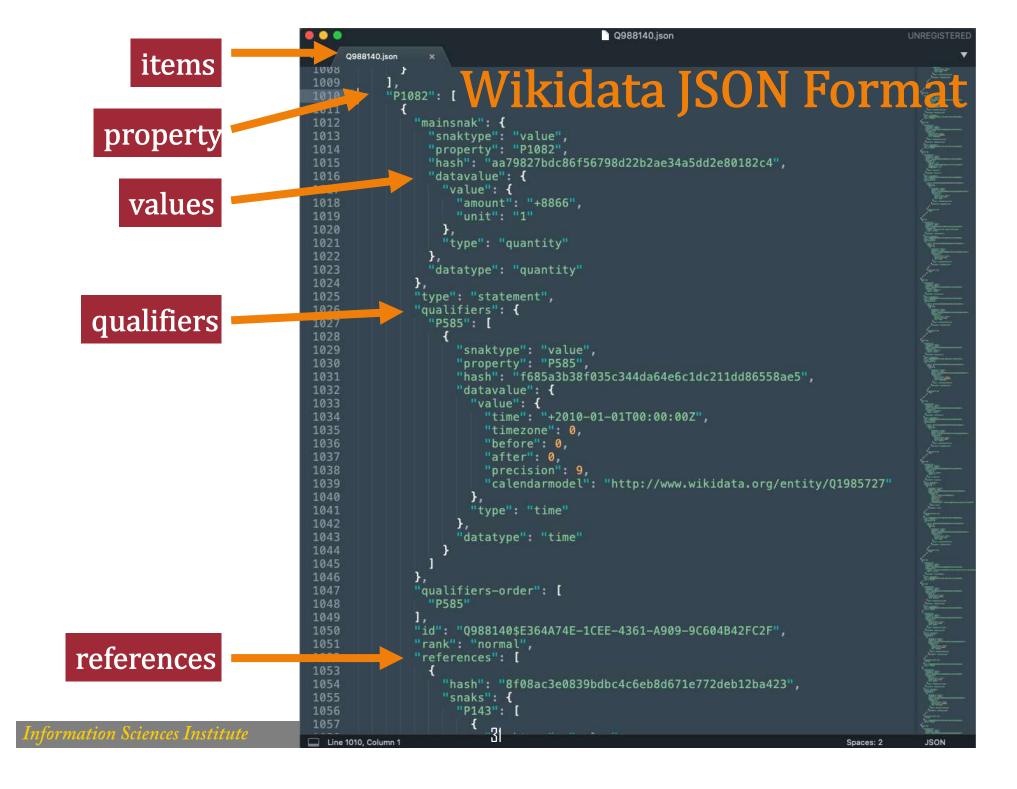
Code docs

Statistics

Communication

https://www.mediawiki.org/wiki/Wikibase/API





Comparison With DBpedia, YAGO and Cyc

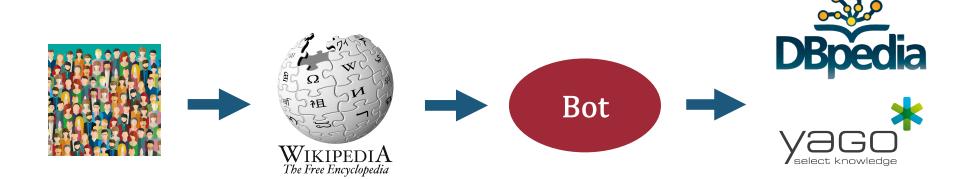
Wikidata Data Model

Dbpedia and YAGO: RDF Triples subject + property + value

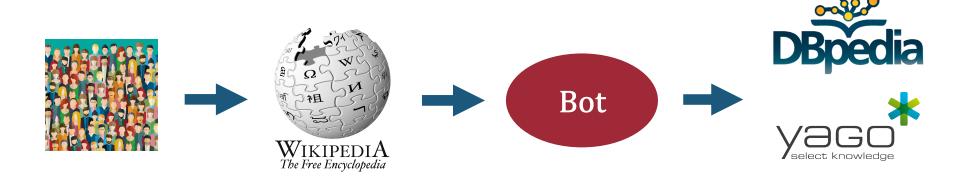
Wikidata Statements

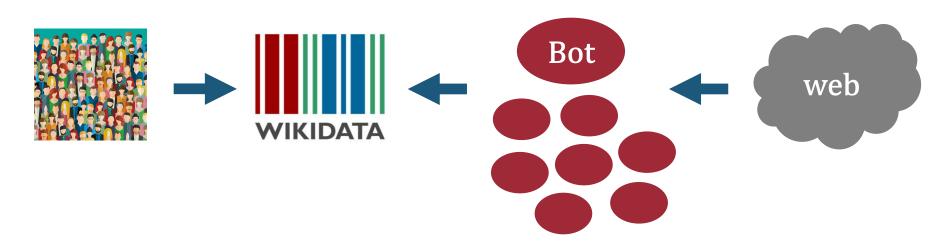
subject + property + value + qualifiers + references

DBPedia & YAGO: Built From Wikipedia

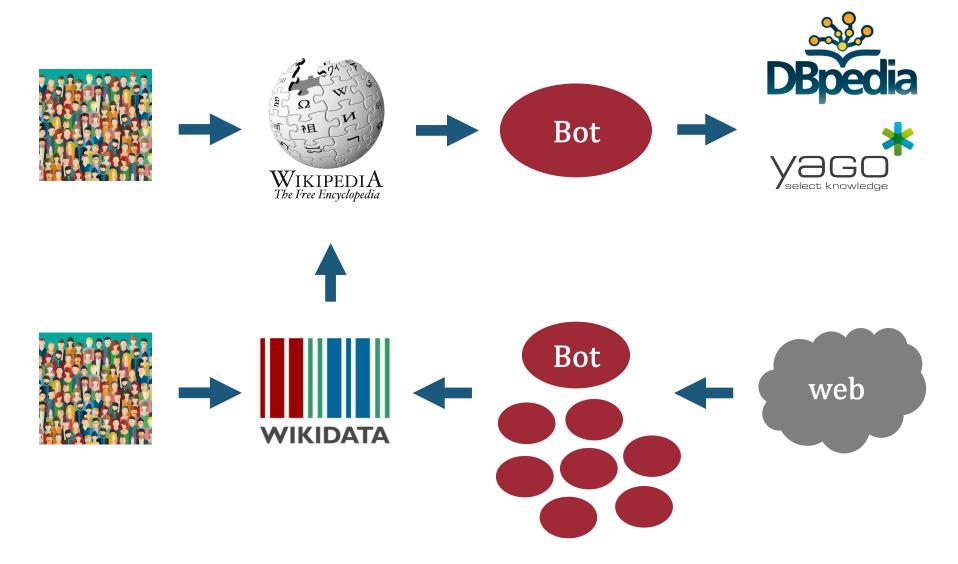


Wikidata: Crowdsourced + Bots





Wikidata Feeds Wikipedia Infoboxes



Cyc https://www.cyc.com/



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Request A Demo

Customer Login

CYC'S KNOWLEDGE BASE > 10,000 predicates > 25M assertions

The World's Broadest and Deepest Common Sense Knowledge Base

Practical, Retargetable, and Reusable Real-World Knowledge

Cyc has the world's broadest and deepest common sense knowledge base (KB), by orders of magnitude. The KB is not a database – it consists of real world axioms that Cyc uses to reason about the world and understand your data. Cyc's KB includes more than 10,000 predicates, millions of collections and concepts, and more than 25 million assertions. When coupled with the inference engines, Cyc can quickly prove trillions of bits of usable, real world knowledge.

While the size of the KB is impressive, Cycorp's chief goal is quality over quantity. Knowledge is represented as generally as possible so that it can be broadly reused and efficiently reasoned with. For example, rather than express that "nurses require medical training" and "doctors require medical training" and "paramedics require medical training", Cyc only has one assertion that all medical professionals require medical training. In terms of counting, this is just one piece of knowledge, but that knowledge can be efficiently re-targeted to prove the relevant claim for any particular type of medical professional. For another example, Cyc knows that "If a conduit is pinched, then pressure builds upstream and decreases downstream." This fact about fluid dynamics applies to blood in veins, oil in pipes, milkshakes in drinking straws, and so on.



Wikidata "Ontology"

No OWL file No RDF Schema file

... but there is a very large "Ontology"

instance of (P31)



Search Item

Q Start

Properties

Classes

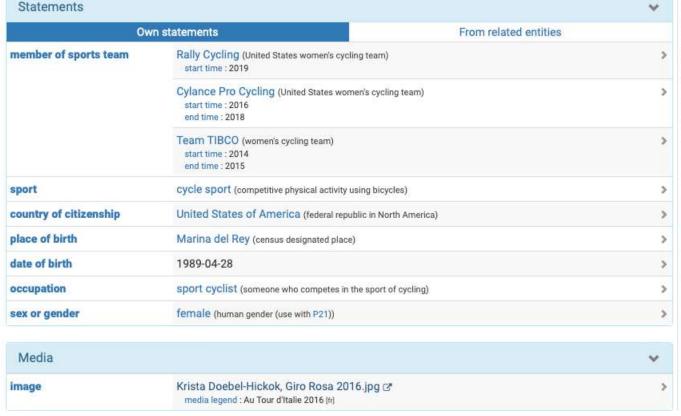
Rules About

Login

Kristabel Doebel-Hickok (Q19757547)

American bicycle racer

instance of: Kristabel Doebel-Hickok is a(n) human





Links	
Wikidata page	
Wikipedia article	
Reasonator	

Identifiers		~
ProCyclingStats cyclist ID	179437 🗷	>
Cycling	98235 ♂	>

subclass of (P279)

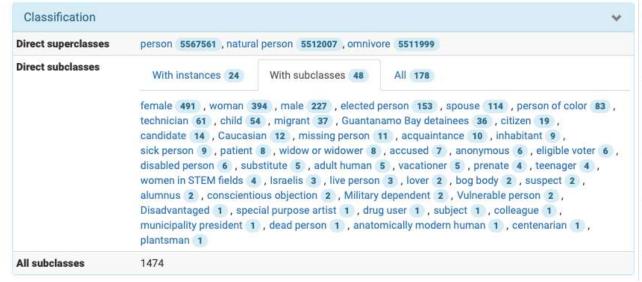
human (Q5)

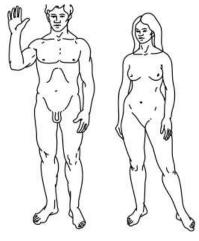
human being | humankind | people | homosapiens | person

common name of Homo sapiens, unique extant species of the genus Homo

subclass of: every human is also a(n) person, natural person, omnivore instance of: human is a(n) group of organisms known by one particular common name ①







Links	
Wikidata page	
Wikipedia article	
Reasonator	

Identifiers		~
Klexikon article	Mensch ♂	>
Wolfram Language entity type	Person ☑	>
PSH ID	2693 ♂	>
OmegaWiki Defined Meaning	2234 ♂	>
NicoNicoPedia article ID	r F &	>
JSTOR topic ID	humans ₫	>
Australian Educational	scot/1144 🗗	>

"Classes" Are Items (e.g., Human)

	Biologic Section 1	
Own	statements From related entities	
properties for this type	sex or gender	3
40 statements >	date of birth	3
	date of death	3
equivalent class	http://dbpedia.org/ontology/Person ☑	3
nodel item	Douglas Adams (English writer and humorist)	3
8 statements >	Marie Curie (Polish-French physicist and chemist)	2
	Leonardo da Vinci (Italian Renaissance polymath (1452-1519))	2
produced sound	human voice (sound made by a human being using the vocal folds for talking, singing, laughing, crying, screaming, etc)	,
studied by	anthropology (science of humanity)	3
	human ecology (interdisciplinary and transdisciplinary study of the relationship between humans and their natural, social, and built environments)	2
opic's main template	Template:Infobox person (Wikimedia template)	2
	Template:Infobox Biography2 (Wikipedia template page: LUA based infobox for biographic articles) use: English Wikipedia (English-language edition of Wikipedia)	2
	Q25990294 (Wikimedia template)	3
Wikidata property	Grammy Awards artist ID	3
permanent duplicated item	Q22828631 (Wikimedia permanent duplicate item)	-
nale form of label	homulo [io]	2
emale form of label	homino [eo]	2
	ser humana [es]	2
	homino [io]	2
	umana [it]	3
nas effect	artificial entity (anything created by humans (either material or mental))	2
lescribed by source	Catholic Encyclopedia (English-language encyclopedia) section, verse, paragraph, or clause: Human Race	1
5 statements >	Brockhaus and Efron Encyclopedic Dictionary (comprehensive multi-volume encyclopedia in Russian) statement is subject of: Q24515683 (encyclopedia article) statement is subject of: Q24515684 (encyclopedia article)	3

MeSH descriptor ID	D006801 @ named as : Humans	>
Panorama de l'art ID	I-humain 🗗	>
BabelNet ID	00044576n ☑*	>
Encyclopædia Britannica Online ID	topic/being ₫	>
MeSH code	B01.0500.400 🗗	>
Krugosvet article	biologapiens ♂	>
Gran Enciclopèdia Catalana ID	0187830 ♂	>
Quora topic ID	Humans ☑	>
Encyclopedia of Modern Ukraine ID	59900 ♂	>
NE.se ID	människan ⊉	>
Freebase ID	/m/0dgw9r ♂	>
Catholic Encyclopedia ID	12620b ♂	>
GND ID	4038639-9 ₫	>
National Library of Israel identifier	000710772 ♂	>
Giant Bomb ID	3015-810 ₫	>
Wolfram Language unit code	""	>
US National Archives Identifier	10639765 ₫	>



Large Class Hierarchy

2,464,270 classes: items with a subclass of (P279) property

63,672 classes with instances: appear as values of instance of (P31) property

```
human (05) •225 ×5515220
  natural person (0154954) •49 ×10
    —legal person (Q3778211) •36 x13
         subject (0830077) •34 x1 tt
            entity (Q35120) •42 x17 ******
         agent (Q24229398) x8 ++
          —individual (023958946) †
               entity (035120) •42 x17 #### ...
         subject of a right (026720107) •4
            subject (0830077) •34 x1 tt ...
            agent (024229398) x8 tt ...
   omnivore (Q164509) •70
     consumer (Q72638) •24
         organism (07239) •142 ×13 +
            creature (01274979) •13
               entity (Q35120) •42 x17 ***** ...
            natural physical object (Q16686022) •2 x1
               physical object (Q223557) •45 x74
                  concrete object (04406616) •10 x28
                     spatio-temporal entity (Q58415929)
                        entity (035120) •42 x17 ttttt ...
               natural object (Q29651224)
                  object (Q488383) •39 x5
                     entity (Q35120) •42 x17 fffff ...
         heterotroph (0159344) •68
            organism (Q7239) •142 ×13 † ...
   person (Q215627) •70 x51
     individual (Q795052) •63
         individual (023958946) 1 ...
      subject (Q830077) ●34 x1 ++ ...
     item with given name property (Q18336849)
         entity (Q35120) •42 x17 fffff ...
     agent (024229398) x8 tt ...
```

Properties

inception (P571)

date founded | date created | incorporated | foundation | created | date of foundation | date of creation | established | establishment date | foundation date | creation date | incorporation date | date incorporated | date of incorporation | date of establishment | founding date | date of founding | date formed | formation date | formed on date | founded on date | incorporated on date | established on date | created on date | commencement date | date commenced | commenced on date | date of commencement | time of foundation or creation | date of foundation or creation | written on date | time of inception | year founded | year created | year incorporated | year written | year commenced | year established | date constructed | constructed | constructed | initiated | formation | dedication date | formed in | formed at | inaugurated | launch date | introduced | introduction | start date | completed | first issue | built | foundation/creation date | founded

date or point in time when the subject came into existence as defined

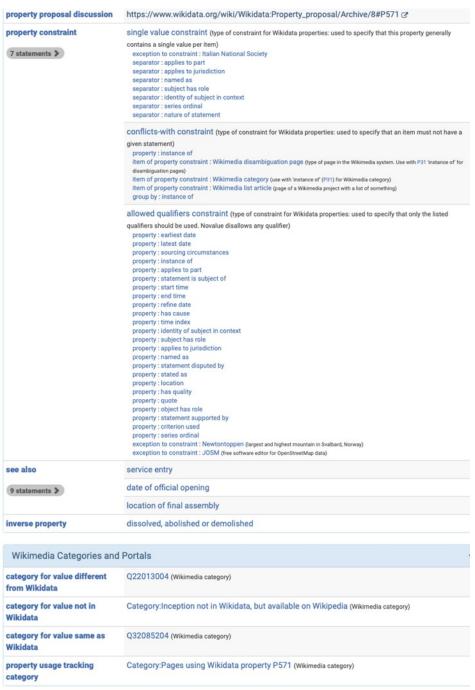
Type: Time

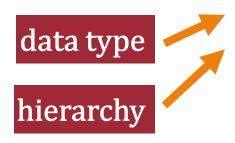
subproperty of: every inception is also a(n) start time

instance of: inception is a(n) Wikidata property for items about organizations, Wikidata property with datatype 'time'

Property Usage	•
Entitles	1713499 Venus of Petřkovice , Venus of Hohle Fels , Mehrgarh , Göbekli Tepe , Tel Megiddo , Venus of Laussel , Çatalhöyük , Knossos , Cave of Altamíra , Venus of Willendorf , further results
Typical Properties	creator, inventory number, collection, official website, width, height, material used, location, headquarters location, image, described at URL, country, dissolved, abolished or demolished, LfDS object ID, IIIF manifest, depicts, National Gallery of Art artwork ID, located in the administrative territorial entity, coordinate location, IUCN protected areas category,
Statements	1731900 (1.01 per entity)
Qualifiers	latest date 80852 , earliest date 79715 , sourcing circumstances 79150 , instance of 10430 , applies to part 8814 , stated as 4862 , start time 4458 , end time 4337 , refine date 2220 , statement is subject of 323 , has cause 151 , location 137 , object has role 123 , subject has role 103 , named as 98 , identity of subject in context 80 , of 70 ,
Uses as qualifier	1685
Uses in references	114

Statements			~
Own s	statements	From related entities	
equivalent property	http://schema.org/foundingDate @	; ★	
subproperty of	start time		
subject item of this property	date of establishment (date somethin	g was established)	
Wikidata property example	Society of Jesus (male religious congre inception: 1539	egation of the Roman Catholic Church)	
	Church of Saint Michael (church in Ol inception: 1300	omouc District of Olomouc region)	
	Dracula (1897 Gothic horror novel by Irish inception: 1890 start time: 1890-03-08 end time: 1897-05-26	author Bram Stoker)	





Type: Time

Statements

subproperty of: every inception is also a(n) start time

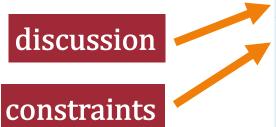
instance of: inception is a(n) Wikidata property for items about organizations, Wikidata property with datatype 'time'

Property Usage	
Entities	1713499 Venus of Petřkovice , Venus of Hohle Fels , Mehrgarh , Göbekli Tepe , Tel Megiddo , Venus of Laussel , Çatalhöyük , Knossos , Cave of Altamira , Venus of Willendorf , further results
Typical Properties	creator, inventory number, collection, official website, width, height, material used, location, headquarters location, image, described at URL, country, dissolved, abolished or demolished, LfDS object ID, IIIF manifest, depicts, National Gallery of Art artwork ID, located in the administrative territorial entity, coordinate location, IUCN protected areas category,
Statements	1731900 (1.01 per entity)
Qualifiers	latest date 80852, earliest date 79715, sourcing circumstances 79150, instance of 10430, applies to part 8814, stated as 4862, start time 4458, end time 4337, refine date 2220, statement is subject of 323, has cause 151, location 137, object has role 123, subject has role 103, named as 98, identity of subject in context 80, of 70,
Uses as qualifier	1685
Uses in references	114

Own	statements	From related entities
equivalent property	http://schema.org/foundingDate ♂ ★	
subproperty of	start time	
subject item of this property	date of establishment (date something was es	tablished)
Wikidata property example	Society of Jesus (male religious congregation of inception: 1539	the Roman Catholic Church)
	Church of Saint Michael (church in Olomouc Dinception: 1300	istrict of Olomouc region)
	Dracula (1897 Gothic horror novel by Irish author B inception: 1890 start time: 1890-03-08 end time: 1897-05-26	ram Stoker)



Information Sciences Institute



property proposal discussion

https://www.wikidata.org/wiki/Wikidata:Property_proposal/Archive/8#P571 @

property constraint

7 statements >

single value constraint (type of constraint for Wikidata properties; used to specify that this property generally

contains a single value per item)

exception to constraint: Italian National Society

separator: applies to part separator: applies to jurisdiction

separator: named as separator: subject has role

separator: identity of subject in context

separator: series ordinal separator: nature of statement

conflicts-with constraint (type of constraint for Wikidata properties: used to specify that an item must not have a given statement)

property : instance of

item of property constraint: Wikimedia disambiguation page (type of page in the Wikimedia system. Use with P31 'instance of for

item of property constraint; Wikimedia category (use with 'instance of' (P31) for Wikimedia category) item of property constraint; Wikimedia list article (page of a Wikimedia project with a list of something)

group by : instance of

allowed qualifiers constraint (type of constraint for Wikidata properties: used to specify that only the listed qualifiers should be used. Novalue disallows any qualifier)

property : earliest date

property: latest date

property: sourcing circumstances

property : instance of property: applies to part

property: statement is subject of

property: start time

property: end time

property: refine date

property: has cause property: time index

property: identity of subject in context

property: subject has role

property: applies to jurisdiction

property: named as

property: statement disputed by

property: stated as

property: location property: has quality

property: quote

property : object has role

property: statement supported by

property: criterion used

property: series ordinal

exception to constraint: Newtontoppen (largest and highest mountain in Svalbard, Norway)

exception to constraint; JOSM (free software editor for OpenStreetMap data)

inverse

see also

service entry

9 statements >

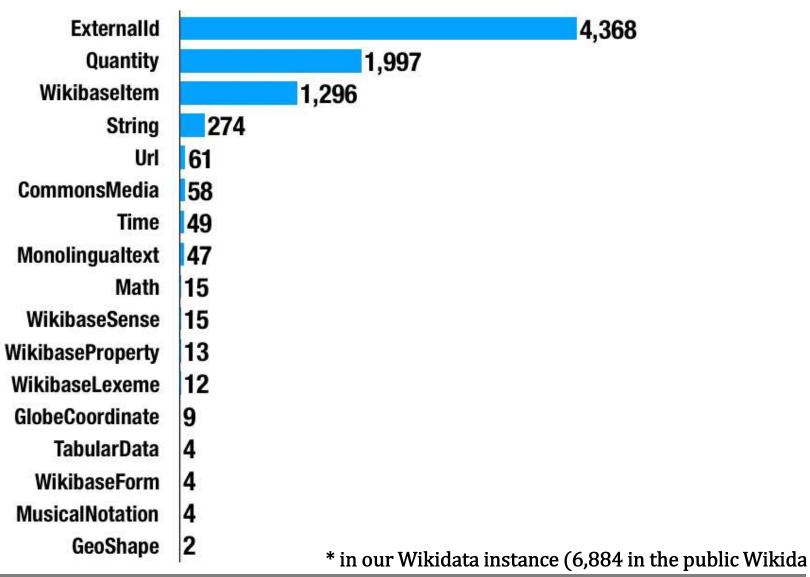
date of official opening

location of final assembly

inverse property

dissolved, abolished or demolished

Properties By Type (Total 8,228*)



Property Explorer

https://tools.wmflabs.org/prop-explorer/

ikidata Property Explorer Hor	ne	About			C) 本 English
earch the tree		ID	Label	Description	Туре
Show properties in sub-branches					All ▼
Wikidata property		P5972	translation	word in another language that	WikibaseSense
 Wikidata property about Wikimedia entities Wikidata property associated with people 				corresponds exactly to this meaning of the lexeme	
 Wikidata property for items about people or organisations property likely to be challenged Wikidata property encoding a vCard value 	>	P1074	fictional analog of fictional version of	used to link an entity or class of entities appearing in a creative work with the analogous entity or class of entities in the real world	WikibaseItem
 Wikidata property for Wikivoyage Wikidata property for a discontinued website 	>	P4200	Christie's creator ID	identifier for an artist in the Christie's online database	Externalld
 ▶ Wikidata property for an identifier Wikidata property for causes and effects Wikidata property for items about positions ▶ Wikidata property for items about works ▶ Wikidata property for perceptual properties ▶ Wikidata property for properties ▶ Wikidata property for quantities Wikidata property for spacecraft 	>	P5140	coordinates of geographic center geographical center geographical centre geographical midpoint coordinates of geographic centre geographic center geographic centre	coordinates of the center of an area. Use qualifier "determination method" (P459) to indicate how	GlobeCoordinate
Wikidata property for the relationship between classes	Þ	P5029	Researchmap ID	identifier for a researcher on researchmap.jp	Externalld
▶ Wikidata property in special need of sourcing Wikidata property linking to a representative	Þ	P6	head of government	head of the executive power of this town, city, municipality, state.	WikibaseItem

List Of Properties

https://www.wikidata.org/wiki/Wikidata:Database_reports/List_of_properties/all



Main page

Community portal
Project chat
Create a new Item
Create a new Lexeme
Recent changes
Random Item
Query Service
Nearby

Print/export

Help

Create a book

Download as PDF

Printable version

Tools

What links here Related changes Special pages Permanent link Page information

In Wikipedia

Add links

Project page Discussion Read Edit Edit source View history 🗘 Search Wikidata Q

AEnglish & Szeke

Talk Preferences Beta Watchlist Contributions Log out

Wikidata: Database reports/List of properties/all

< Wikidata: Database reports | List of properties

Afrikaans・ション・でであるのなどのでは、 (тарашкевіца)・でも проски валіа・ प्रदेश (тарашкевіца)・で проски валіа・ проски валіа валі

ID ¢	label ¢	description +	aliases +	Data type +	Count
P6	head of government	head of the executive power of this town, city, municipality, state, country, or other governmental body	chancellor, mayor, prime minister, governor, premier, first minister, executive power headed by, government headed by, head of national government	WikibaseItem	22,478
P10	video	relevant video. For images, use the property P18	animation, media, gif	CommonsMedia	3,267
P14	traffic sign	graphic symbol describing the item, used at the side of or above roads to give instructions or provide information to road users	highway shield, shield, highway marker, motorway sign, road marker, route marker, trail blazer	CommonsMedia	14,837
P15	route map	image of route map at Wikimedia Commons	schema, highway map, map of route, metro map, railroad map, railway map, road atlas, road map, street map, subway map, transit map, underground map	CommonsMedia	19,371
P16	highway system	system (or specific country specific road type) of which the highway is a part	transport network, network of routes, part of network, road type, routes system, system of routes	Wikibaseltem	39,952
P17	country	sovereign state of this item; don't use on humans	state, land, sovereign state, host country	WikibaseItem	12,016,889
P18	image	image of relevant illustration of the subject; if available, use more specific properties (sample: coat of arms image, locator map, flag image, signature image, loca image,	illustration, screen capture, screenshot, still, drawing, portrait, photo, picture, diagram, img, Commons image, Image on	CommonsMedia	Display a m

Wikidata Data Modeling

About: Dianne Feinstein

An Entity of Type: person, from Named Graph: http://dbpedia.org, within Data Space: dbpedia.org

Dianne Goldman Berman Feinstein ('fainstain/; born Dianne Emiel Goldman; June 22, 1933) is the senior United States Senator from California. A member of the Democratic Party, she has served in the Senate since 1992. She also served as the 38th Mayor of San Francisco from 1978 to 1988.

operty	Value	rdf:type	owl:Thing
:abstract	 Dianne Goldman Berman Feinstein (/ˈfaɪnstaɪn/; born D California. A member of the Democratic Party, she has 		 foaf:Person dbo:Person
is dbp:afterElection of elections	 dbr:United_States_Senate_special_election_in_C life dbr:United_States_Senate_election_in_California, 2 dbr:United_States_Senate_election_in_California, 1 dbr:United_States_Senate_election_in_California, 2 dbr:United_States_Senate_election_in_California, 2 	0 9 0	 dul:Agent dul:NaturalPerson wikidata:Q215627 wikidata:Q24229398 wikidata:Q5
is dbp:alongside of	dbr:Barbara_Boxerdbr:Alan_Cranston		 dbo:Agent dbo:OfficeHolder schema:Person
is dbp:before of	■ dbr:Art_Agnos		 umbel-rc:PersonWithOccupation yago:WikicatFemaleUnitedStatesSenators
is dbp:beforeElection of	 dbr:United_States_Senate_election_in_California, dbr:United_States_Senate_election_in_California, dbr:United_States_Senate_election_in_California, dbr:United_States_Senate_election_in_California, 	9	 yago:WikicatJewishAmericanMayors yago:WikicatJewishUnitedStatesSenators yago:WikicatStanfordLawSchoolAlumni yago:WikicatStanfordUniversityAlumni
ormation Sciences Inst	titute 51		 yago:Adult109605289 yago:Advocate109774783

Dianne Feinstein (Q230733)

Dianne Goldman Berman Feinstein | Dianne Emiel Goldman

United States Senator from California



Statements			~
Own statements From related entit		From related entities	
work location	Washington, D.C. (capital city of the United	shington, D.C. (capital city of the United States)	
member of political party	Democratic Party (political party in the United States)		>
languages spoken, written or signed	English (West Germanic language originating in England with linguistic roots in French, German and Vulgar Latin)		>
position held 19 statements >	United States senator (member of the United States Senate) parliamentary term: 115th United States Congress (meeting of the legislative branch of the United States federal government) parliamentary group: Democratic Party (political party in the United States) start time: 2017-01-03 end time: 2019-01-03 electoral district: California (constituency of the United States Senate) elected in: 2012 United States Senate elections (United States Senate election of 2012)		>
	United States senator (member of the United States Cong parliamentary term: 114th United States Cong parliamentary group: Democratic Party (politic	ress (2015-2017 legislative term)	>

DBpedia Class Hierarchy (Person)

http://mappings.dbpedia.org/server/ontology/classes/

- Person (edit)
 - Archeologist (edit)
 - Architect (edit)
 - Aristocrat (edit)
 - Artist (edit)
 - Actor (edit)
 - AdultActor (edit)
 - VoiceActor (edit)
 - Comedian (edit)
 - ComicsCreator (edit)
 - Dancer (edit)
 - FashionDesigner (edit)
 - Humorist (edit)
 - MusicalArtist (edit)
 - BackScene (edit
 - ClassicalMusic
 - Instrumentalist
 - Guitarist

occupation

- Cleric (edit)
 - Cardinal (edit)
 - ChristianBishop (edit)
 - Archbishop (edit)
 - ChristianPatriarch (edit)
 - Pope (edit)
 - Priest (edit)
 - Saint (edit)
 - Vicar (edit)
 - Coach (edit)
 - AmericanFootballCoac
 - CollegeCoach (edit)
 - VolleyballCoach (edit)
 - Criminal (edit)
 - Murderer (edit)
 - SerialKiller (edit)

Politician (ed position held

- Ambassador (edit)
- Chancellor (edit)
- Congressman (edit)
- Deputy (edit)
- Governor (edit)
- Lieutenant (edit)
- Mayor (edit)
- MemberOfParliament (edit)
- Minister (edit)
- President (edit)
- PrimeMinister (edit)
- Senator (edit)
- VicePresident (edit)
- VicePrimeMinister (edit)
- PoliticianSpouse (edit)
- Presenter (edit)
 - RadioHost (edit)

Wikidata Models Use Roles



occupation role

occupation

politician (person involved in politics, person

Qualifiers used to provide context for the

position held role

position held

19 statements >

United States senator (member of the United States Senate

parliamentary term: 115th United States Congress (meeting of the parliamentary group: Democratic Party (political party in the United

start time: 2017-01-03 end time: 2019-01-03

electoral district: California (constituency of the United States Senate) elected in: 2012 United States Senate elections (United States Ser

Wikidata Occupations Hierarchy

```
D22ML-PSZEKELY:~ pedroszekely$ wd summary Q702269
id Q702269

label professional

Description person who is paid to undertake a specialized set of tasks and to complete them for a fee instance of (P31): occupation (Q12737077)

subclass of (P279): worker (Q327055)
```

```
D22ML-PSZEKELY:~ pedroszekely$ wdtaxonomy -c Q82955
politician (082955) •113 ×20 +
   president (030461) •136 x8 tt
   Provincial governor (of the Ming and Qing dynasties) (Q56911) •8 t
   minister (083307) •82 ×38 ††
   -Genrō (0254907) •20
   -independent politician (0327591) •52
   prefect (Q371909) •33 tt
      prefect (01285463) •12 x2 t
     -sub-prefect (03382119) •4 x1 ttt
   -statesperson (Q372436) •46
      posadnik (Q2587924) •15 ttt
   -cacique (0599898) •27 t
                                     politician (Q82955) hierarchy (59,421 subclasses
   party secretary (Q836971) •8 ×1
   pretender (0845929) •28
   -??? (Q1021222) •1 t
   -ruler (Q1097498) •9 ×8 ††
   Deputy mayor (01207353) •2 t
                                                                               USC Viterbi
```

Pluto Is Instance Of???



- owl:Thing
- dbo:Place
- dbo:Location
- wikidata:Q634
- dbo:CelestialBody
- dbo:Planet
- schema:Place
- umbel-rc:Planet
- yago:WikicatTrans-NeptunianObjects

Wikidata:

- Pluto was a planet until 2006-09-13
- Since 2006-09-13 it is a trans-Neptunian object



Information Sciences 1

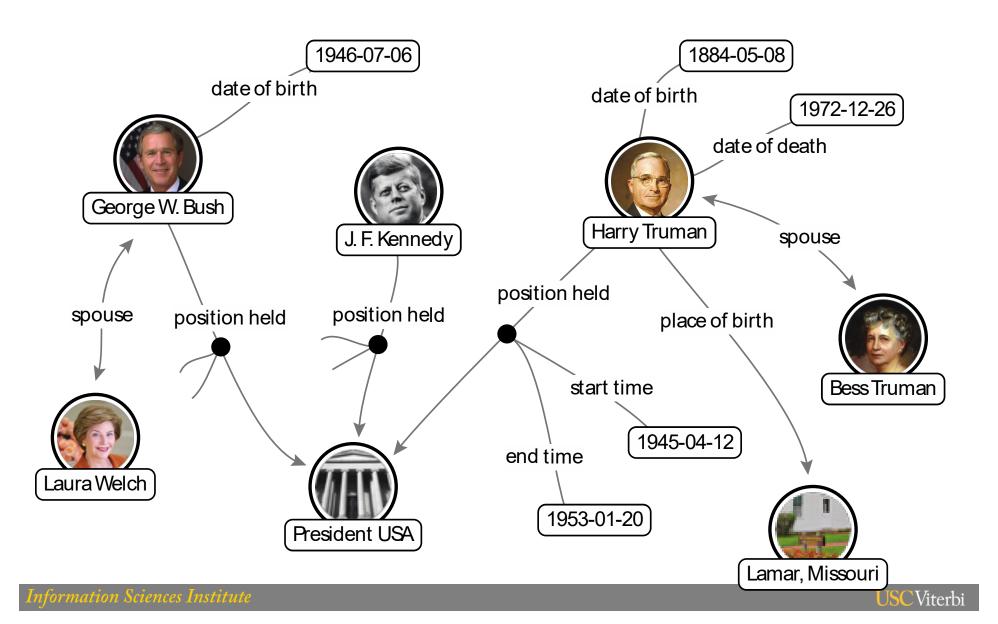
deprecated

Statements

preferred

RDF Data Model

Edges Are Statements (Reification)



Truthy Statements

All statements with rank = preferred

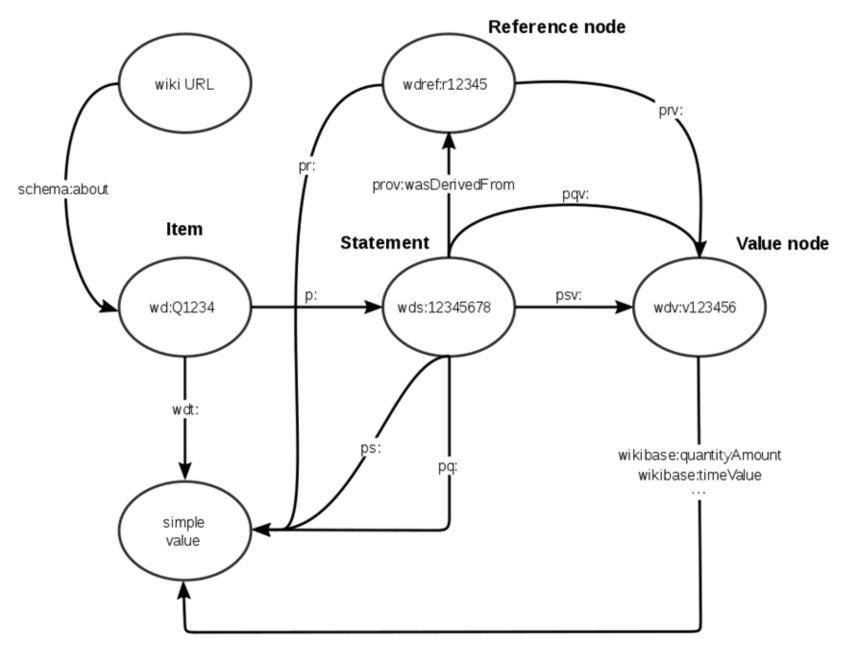
if there are any such statements

All statements with rank = normal

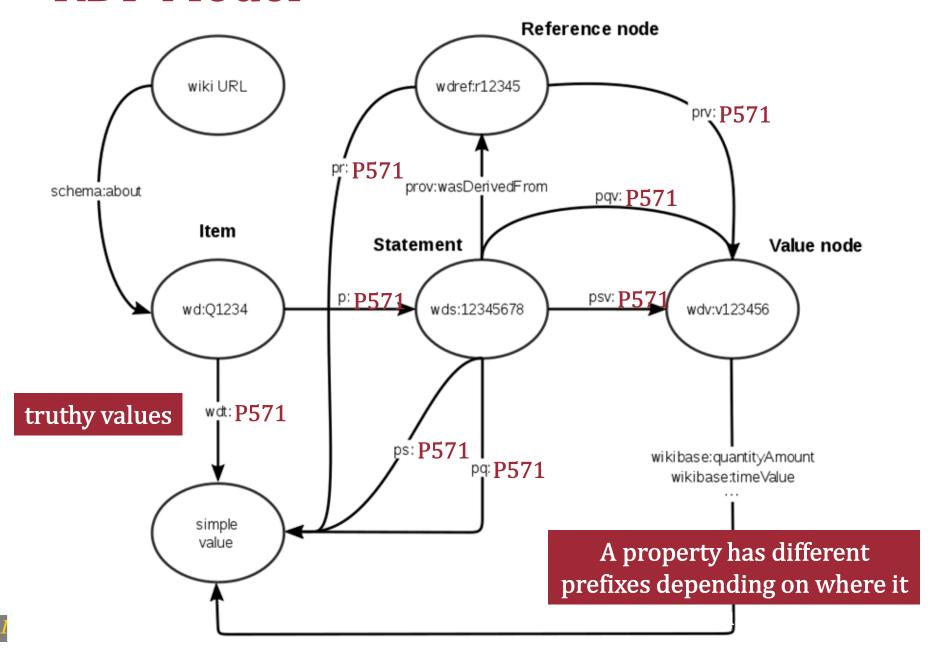
if there are no preferred statements and there are statements with rank = normal

Statements with rank = deprecated are not truthy

RDF Model



RDF Model



Wikidata RDF Format

https://www.mediawiki.org/wiki/Wikibase/Indexing/RDF_Dump_Format

```
wd:Q3 a wikibase:Item;
  rdfs:label "The Universe"@en;
  skos:prefLabel "The Universe"@en;
  schema:name "The Universe"@en;
  schema:description "The Universe is big"@en;
  skos:altLabel "everything"@en;
  wdt:P2 wd:Q3;
  wdt:P7 "value1", "value2";
  p:P2 wds:Q3-4cclf2d1-490e-c9c7-4560-46c3cce05bb7;
  p:P7 wds:Q3-24bf3704-4c5d-083a-9b59-1881f82b6b37,
      wds:Q3-45abf5ca-4ebf-eb52-ca26-811152eb067c
```

RDF Representation

RDF Representation

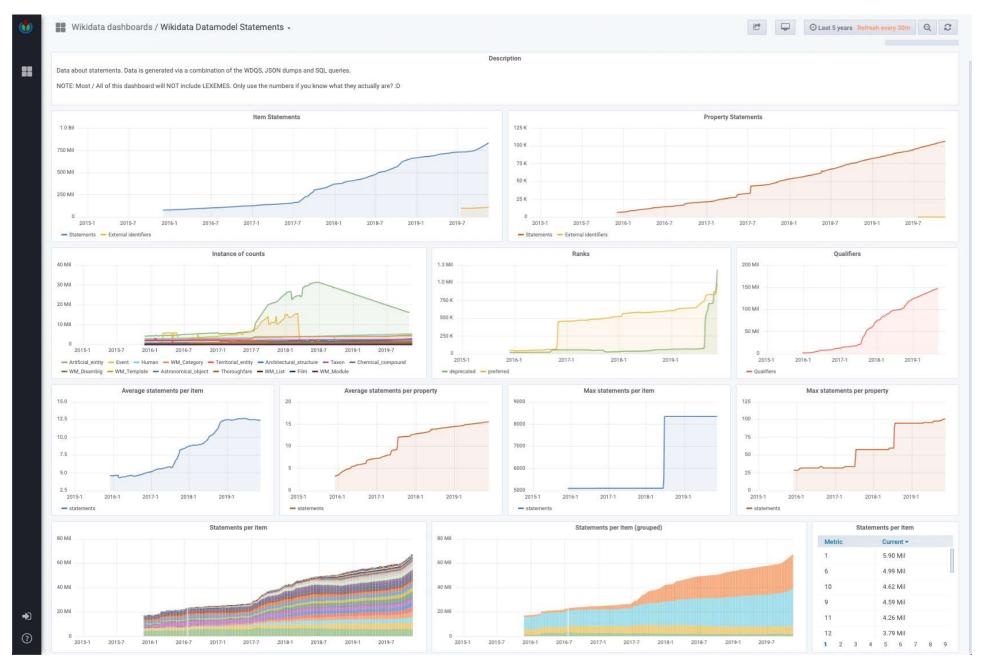
```
wds:03-24bf3704-4c5d-083a-9b59-1881f82b6b37 a
                                                         Statement
   wikibase:Statement, wikibase:BestRank ;
        ps:P2 wd:Q3 ;
        wikibase:rank wikibase:PreferredRank ;
        pq:P8 "-13000000000-01-01T00:00:00Z"^^xsd:dateTime ;
        pqv:P8 wdv:382603eaa501e15688076291fc47ae54 ;
        prov:wasDerivedFrom
   wdref:87d0dc1c7847f19ac0f19be978015dfb202cf59a.
            wdref:d95dde070543a0e0115c8d5061fce6754bb82280 .
wdv:b74072c03a5ced412a336ff213d69ef1 a wikibase:TimeValue ;
    wikibase:timeValue "+1976-01-12T00:00:00Z"^^xsd:dateTime ;
    wikibase:timePrecision "11"^^xsd:integer ;
    wikibase:timeTimezone "0"^^xsd:integer ;
                                                            Time
    wikibase:timeCalendarModel
<http://www.wikidata.org/entity/Q1985727> .
```

RDF Representation

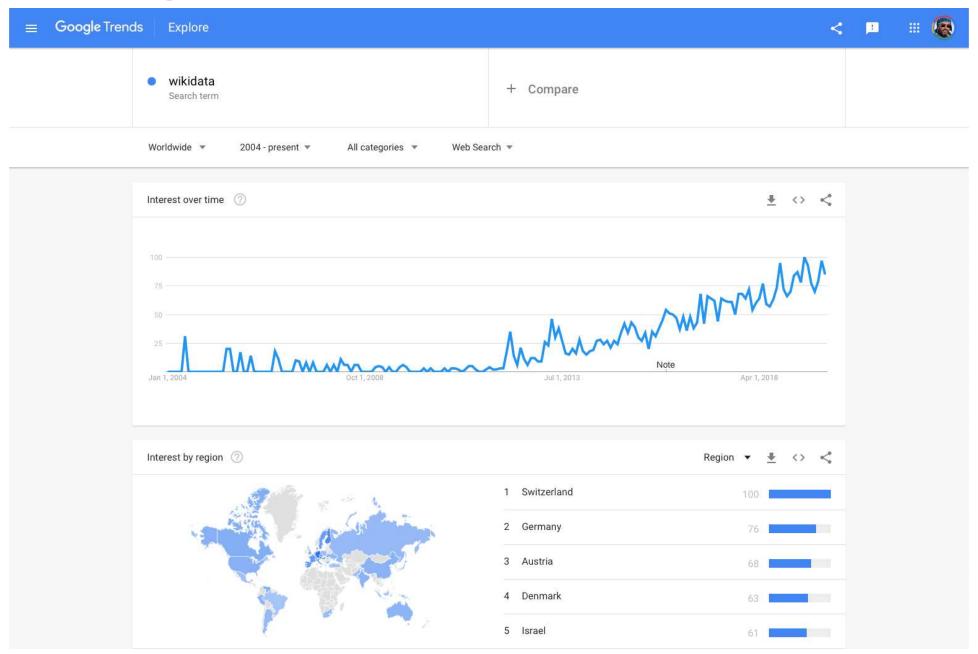
```
wds:03-24bf3704-4c5d-083a-9b59-1881f82b6b37 a
    wikibase:Statement, wikibase:BestRank;
                                                             Statement
         ps:P2 wd:Q3 ;
         wikibase:rank wikibase:PreferredRank ;
         pq:P8 "-13000000000-01-01T00:00:00Z"^^xsd:dateTime ;
         pqv:P8 wdv:382603eaa501e15688076291fc47ae54 ;
         prov:wasDerivedFrom
    wdref:87d0dc1c7847f19ac0f19be978015dfb202cf59a.
             wdref:d95dde070543a0e0115c8d5061fce6754bb82280 .
 wdv:b74072c03a5ced412a336ff213d69ef1 a wikibase:TimeValue :
     wikibase:timeValue "+1976-01-12T00:00:00Z"^^xsd:dateTime :
     wikibase:timePrecision "11"^^xsd:integer ;
     wikibase:timeTimezone "0"^^xsd:integer ;
                                                                Time
     wikibase:timeCalendarModel
<http://www.wikidata.org/entity/Q1985727> .
v:cb213eea7a0b90d1d7f65c6eabfab9da a wikibase:QuantityValue ;
  wikibase:quantityAmount "+123"^^xsd:decimal;
                                                              Quantity
  wikibase:quantityUpperBound "+124"^^xsd:decimal ;
                                                                Value
  wikibase:quantityLowerBound "+122"^^xsd:decimal ;
  wikibase:quantityUnit <a href="http://www.wikimedia.org/entity/Q199">http://www.wikimedia.org/entity/Q199</a>.
```

Wikidata Statistics

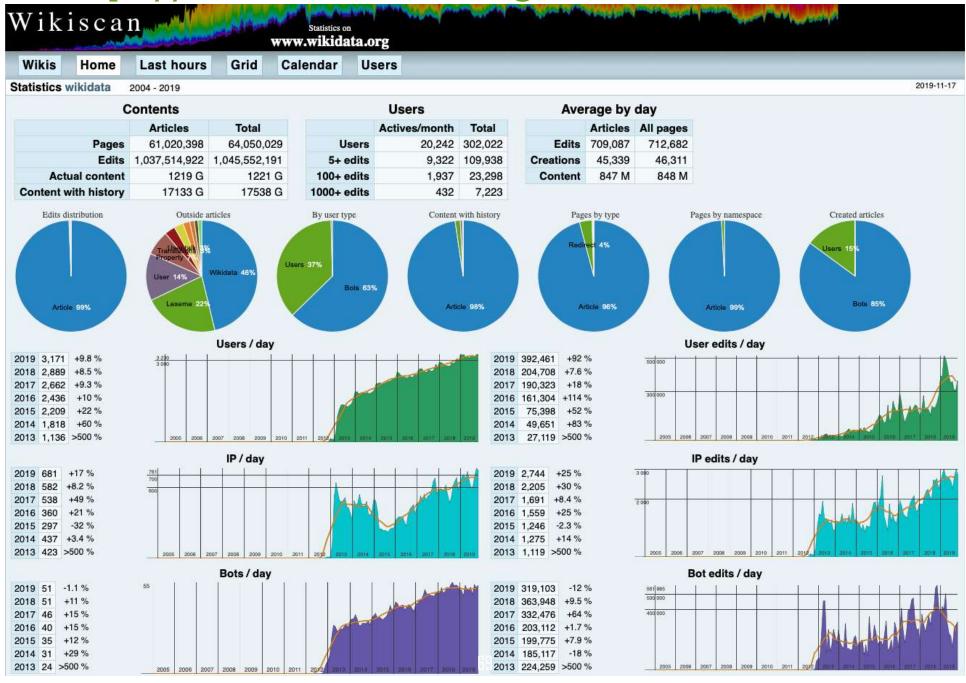
https://grafana.wikimedia.org/d/00000175/



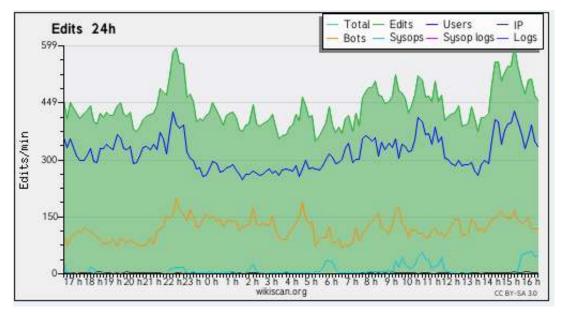
Google Trends



https://wikidata.wikiscan.org



https://wikidata.wikiscan.org/hours



~10 edits/second





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Wikidata:Status updates/2019 11 11

< Wikidata:Status updates

This is the Wikidata summary of the week before 2019-11-11.

Contents [hide]

- 1 Discussions
- 2 Events
- 3 Tool of the week
- 4 Other Noteworthy Stuff
- 5 Did you know?
- 6 Development
- 7 Monthly Tasks

https://www.wikidata.org/wiki/Wikidata:Status_updat

es

Discussions [edit | edit | source]

. New request for comments: Wikidata to use data schemas to standardise data structure on a subject

Events [edit | edit source]

- · Past: Wikidata office hour (notes)
- Past: "Using Wikidata to describe the structure of a book" Webinar by Martin Poulter for LD4P2 project (Video) ₽, (Slides) ₽, (Notes) ₽
- Upcoming: Wikidata Workshop OpenRefine in Prague on 12 November
- . Upcoming: Online editathon in Swedish 17 November

Tool of the week [edit | edit | source]

• Speedpatrolling is a tool to easily patrol Wikidata recent changes, typically on mobile devices.

Other Noteworthy Stuff [edit | edit | source]

- · Wikipedia Personality Infobox in Catalan and French now displays the Heritage Institution in charge of their archives via P485 (archives at).

Did you know? [edit | edit source]

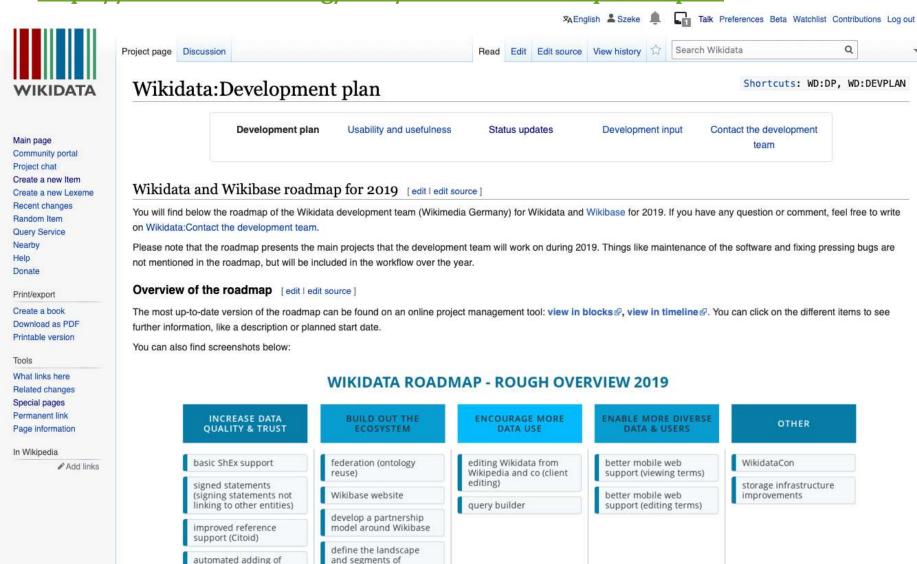
- · Newest properties:
 - · General datatypes: landscape architect, charge conjugation quantum number, statement is regarded as spoiler for, room number, scope and content
 - External identifiers: startrek.com Database ID, Alfred P. Sloan Foundation Grant ID, Chinese Professional Baseball League player ID, Software Preservation Society ID. Sega Retro ID, classicamiga ID, Filmový přehled film ID, Filmový přehled person ID, Gaming-History company ID, SK cinema authority ID, SK cinema film ID, CA PROP 65 ID, ePSD identifier, Czech cadastral area ID, dp.ru company ID, Fortuna liga player ID, MEA Indian Mission ID, AaRC person ID, MIC market code
- New property proposals to review:





Keeping Up With New Developments

https://www.wikidata.org/wiki/Wikidata:Development_plan



Wikibase users

references based on

semantic markup

Wikidata Summary

Free

Collaborative

Multilingual

A secondary database

Collecting structured data

Support for Wikimedia wikis

Anyone in the world

> 60M items

> 6,000 properties

> 2,000,000 classes

> 4,000 external id types

Model using statements Subject, property, value Qualifiers, references