



Code the Next Wave

Building Wikifunctions with WikiLambda's Power

James Forrester, Abstract Wikipedia team

Wikimedia Tech Safari Program, 2024

Agenda

- Wiki work, unshared
- Wikifunctions
- Functions for language, not just data
- Early use of Wikifunctions
- The Abstract Wikipedia vision

01

Wiki work, unshared

Wikipedias have the same work

- Creating and updating articles
- Patrolling changes and managing the flow
- Welcoming newbies and building a community
- Re-working content to be consistent and high-quality
- Curating the content for readers
- Agreeing ways forward as a community



Wikipedias don't have the same size

	English Wikipedia	Malay Wikipedia	Hausa Wikipedia
Monthly contributors	125,000	680	60
Module: pages	19,000	1,000	500
Speakers	1.5 billion	300 million	70 million
Unique devices	900 million	6 million	200,000



Malay Wikipedia's Modul:

- Modul:AFC submission catcheck
- Modul:Adjacent stations
- Modul:Adjacent stations/Amtrak
- Modul:Adjacent stations/BJS
- Modul:Adjacent stations/ERL
- Modul:Adjacent stations/JR East
- Modul:Adjacent stations/Jabatan Kereta Api Negeri Sabah
- Modul:Adjacent stations/KLRT
- Modul:Adjacent stations/KTM
- Modul:Adjacent stations/KTM Antarabandar
- Modul:Adjacent stations/KTM ETS
- Modul:Adjacent stations/KTM Komuter
- Modul:Adjacent stations/Kereta Api Bawah Tanah Beijing
- Modul:Adjacent stations/LIRR
- Modul:Adjacent stations/Long Island Rail Road
- Modul:Adjacent stations/Los Angeles Metro Rail
- Modul:Adjacent stations/NJ Transit
- Modul:Adjacent stations/Paris Métro
- Modul:Adjacent stations/RTD
- Modul:Adjacent stations/Rapid KL
- Modul:Adjacent stations/SEPTA
- Modul:Adjacent stations/SHM
- Modul:Adjacent stations/SMRT
- Modul:Adjacent stations/San Diego Trolley
- Modul:Citation/CS1/whitelist
- Modul:Citation/CS1/Whitelist/doc
- Modul:Citation/CS1/Whitelist/kotak pasir
- Modul:Citation/CS1/Whitelist/sandbox
- Modul:Citation/CS1/autofix
- Modul:Citation/CS1/doc
- Modul:Citation/CS1/kotak pasir
- Modul:Citation/CS1/kotak pasir/styles.css
- Modul:Citation/CS1/styles.css
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- Modul:Cite Q
- Modul:Cite iucn
- Modul:Cite tweet
- Modul:Cite web
- Modul:Clade
- Modul:Clade/example
- Modul:Clade/example/doc
- Modul:Clade/gallery
- Modul:Clade/labels
- Modul:CladeN
- Modul:Clickable button 2
- Modul:Collapsible list
- Modul:College color
- Modul:College color/contrast
- Modul:College color/data
- Modul:College contrast
- Modul:Find country
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- Modul:Find sources/links/new york times
- Modul:Find sources/links/wikipedia library
- Modul:Find sources/links/wikipedia reference search
- Modul:Find sources/templates
- Modul:Find sources/templates/Find sources
- Modul:Find sources/templates/Find sources mainspace
- Modul:FishRef
- Modul:Flag
- Modul:Flagg
- Modul:Flagg/Altvar data

<https://ms.wikipedia.org/wiki/Special:AllPages/Module>



Malay Wikipedia's Modul:Age

Modul:Age

🗺️ 84 bahasa ▾

Modul [Perbincangan](#)

[Baca](#) [Sunting sumber](#) [Lihat sejarah](#) ☆

Daripada Wikipedia, ensiklopedia bebas.

Pendokumenan untuk modul ini boleh diciptakan di [Modul:Age/doc](#)

```
1  -- Implement various "age of" and other date-related templates.
2
3  local mtext = {
4      -- Message and other text that should be localized.
5      -- Also need to localize text in table names in function dateDifference.
6      ['mt-bad-param1'] =      'Invalid parameter $1',
7      ['mt-bad-param2'] =      'Parameter $1=$2 is invalid',
8      ['mt-bad-show'] =        'Parameter show=$1 is not supported here',
9      ['mt-cannot-add'] =      'Cannot add "$1"',
10     ['mt-conflicting-show'] = 'Parameter show=$1 conflicts with round=$2',
11     ['mt-date-wrong-order'] = 'The second date must be later in time than the first date',
12     ['mt-dd-future'] =        'Death date (first date) must not be in the future',
13     ['mt-dd-wrong-order'] =    'Death date (first date) must be later in time than the birth date
14     (second date)',
15     ['mt-invalid-bd-age'] =     'Invalid birth date for calculating age',
16     ['mt-invalid-dates-age'] = 'Invalid dates for calculating age',
17     ['mt-invalid-end'] =       'Invalid end date in second parameter',
18     ['mt-invalid-start'] =     'Invalid start date in first parameter',
19     ['mt-need-jdn'] =          'Need valid Julian date number',
20     ['mt-need-valid-bd'] =     'Need valid birth date: year, month, day',
21     ['mt-need-valid-bd2'] =    'Need valid birth date (second date): year, month, day',
22     ['mt-need-valid-date'] =   'Need valid date',
```

<https://ms.wikipedia.org/wiki/Modul:Age>



Malay Wikipedia's Modul:Age

Modul:Age: Sejarah semakan

Modul [Perbincangan](#)

[Baca](#) [Sunting sumber](#)

[Lihat log bagi laman ini](#) (lihat log salah guna)

▼ Tapis semakan

Pemilihan perbezaan: tandakan butang radio bagi versi-versi yang ingin dibandingkan dan tekan butang *enter* atau butang di bawah.

Petunjuk: **(kini)** = perbezaan dengan versi terkini, **(akhir)** = perbezaan dengan versi sebelumnya, **k** = suntingan kecil.

Bandingkan versi-versi yang dipilih

Sunting teg-teg s

Pilih: [Semua](#), [Tiada](#), [Songsang](#)

- (kini | akhir) 12:03, 14 Disember 2022 [Hayate891](#) (bincang | sumb.) . . (33,355 bait) **(+1,212)** . . (kemaskini) (batalkan | hargai) *(Terdapat perbezaan yang mudah alih, Suntingan web mudah alih, Advanced mobile edit)*
- (kini | akhir) 01:09, 20 April 2020 [SNN95](#) (bincang | sumb.) **k** . . (32,143 bait) (0) . . (kemaskini) (batalkan | hargai)
- (kini | akhir) 15:30, 14 April 2020 [SNN95](#) (bincang | sumb.) . . (32,143 bait) **(+12,552)** . . (kemaskini) (batalkan | hargai)
- (kini | akhir) 1 Modul:Age n 2017 [SNN95](#) (bincang | sumb.) . . (19,591 bait) **(+5)** . . (batalkan | hargai)
- (kini | akhir) 15:35, 27 April 2017 [Polar](#) (bincang | sumb.) . . (19,586 bait) **(+19,586)** . . (Mencipta laman baru dengan kandungan ' various "age of" and other date-related templates. local _Date, _current_date local function get_exports(frame) -- Return objects exported fr...)

Bandingkan versi-versi yang dipilih

Sunting teg-teg s

Pilih: [Semua](#), [Tiada](#), [Songsang](#)



Malay Wikipedia's Modul:Age

Semakan pada 15:35, 27 April 2017 (sunting)

Polar (bincang | sumb.)

'Mencipta laman baru dengan kandungan "-- Implement various "age of" and other date-related templates. local_Date, _current_date local function get_exports(frame) -- Return objects exported fr...'

Semakan pada 15:02, 20 Jun 2017 (sunting) (batalan) (harga)

SNN95 (bincang | sumb.)

Suntingan berikutnya →

aris 288:

```
local names = {
  abbr_off = {
    plural = 's',
    sep = '&nbsp;',
    y = 'year',
    m = 'month',
    w = 'week',
    d = 'day',
    H = 'hour',
    M = 'minute',
    S = 'second',
  },
```

Baris 288:

```
local names = {
  abbr_off = {
    plural = '',
    sep = '&nbsp;',
    y = 'tahun',
    m = 'bulan',
    w = 'minggu',
    d = 'hari',
    H = 'jam',
    M = 'minit',
    S = 'saat',
  },
```

<https://ms.wikipedia.org/w/index.php?title=Modul:Age&diff=prev&oldid=4036942>



English Wikipedia's Module:Age

Module:Age



Parameters

The following options are available:

Parameter	Description
<code>duration=on</code>	The finishing date is included in the result; that adds one day to the age.
<code>fix=on</code>	Adjust invalid time units. See Template:Extract#Fix .
<code>format=commas</code>	A value of 1,000 or more is displayed with commas.
<code>format=raw</code>	Numbers are displayed without commas and negative numbers are displayed with a hyphen for <code>{{#expr}}</code> . In addition, <code>{{age}}</code> outputs a plain number and will not include a span to indicate if the result relies on the current date.
<code>format=cardinal</code>	Display the resulting number using words such as "five" instead of 5. See below .
<code>format=ordinal</code>	Display the resulting number using words such as "fifth" instead of 5. See below .
<code>prefix=text</code>	Insert the given <i>text</i> before the result but after any sort key. For example, <code>{{age 23 July 1910 14 July 1976}}</code> outputs a hidden sort key.



English Wikipedia's Module:Age

Module:Age: Revision history

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For any version listed below, click on its date to view it. For more help, see [Help:Page history](#) and [Help:Edit summary](#). (cur) = difference from current version, (prev) = difference from preceding version, m = [minor edit](#), → = [section edit](#), ← = [automatic edit summary](#)

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Select: [All](#), [None](#), [Invert](#)

- [\(cur | prev\)](#) [23:16, 28 December 2023](#) [Johnuniq](#) ([talk](#) | [contribs](#) | [block](#)) .. (33,801 bytes) **(+337)** .. *(output nothing for Template:Birth_date_and_age + Template:Death_date_and_age if 'YYYY' is first parameter to avoid TemplateData auto value errors from Template:Infobox_musical_artist)* ([undo](#) | [thank](#))
- [\(cur | prev\)](#) [07:27, 11 June 2023](#) [Johnuniq](#) ([talk](#) | [contribs](#) | [block](#)) .. (33,464 bytes) **(+2)** .. *(change default for {{age}} from range=no to range=dash per Template talk:Age#Inaccurate age shown)* ([undo](#) | [thank](#))
- [\(cur | prev\)](#) [07:08, 21 May 2022](#) [Johnuniq](#) ([talk](#) | [contribs](#) | [block](#)) .. (33,462 bytes) **(+226)** .. *(update from Module:Age/sandbox: implement sortable=on + sortable=table for Template:Death date and age)* ([undo](#) | [thank](#))
- [\(cur | prev\)](#) [03:37, 24 April 2021](#) [Johnuniq](#) ([talk](#) | [contribs](#) | [block](#)) .. (33,236 bytes) **(+1,048)** .. *(update from Module:Age/sandbox; this aids localization; used at bnwiki + bswiki)* ([undo](#) | [thank](#))
- [\(cur | prev\)](#) [02:55, 3 August 2020](#) [Johnuniq](#) ([talk](#) | [contribs](#) | [block](#)) .. (32,188 bytes) **(+50)** .. *(update from sandbox: implement show=M (minutes) and show=s (seconds))* ([undo](#) | [thank](#))

<https://en.wikipedia.org/wiki/Module:Age?action=history>



Module:Age

🌐 86 languages ▾



Module:Age

Modul:Age

Modul [Perbincangan](#)

Daripada Wikipedia, ensiklopedia bebas.

Pendokumenan untuk modul ini boleh diciptakan di *Modul:Age/doc*

```
1 -- Implement various "age of" and other date-related templates.
2
3 local mtext = {
4     -- Message and other text that sh
5     -- Also need to localize text in
6     ['mt-bad-param1'] =
7     ['mt-bad-param2'] =
8     ['mt-bad-show'] =
9     ['mt-cannot-add'] =
10    ['mt-conflicting-show'] =
11    ['
12    모듈:Age
13    ['
14    모듈 토론
15    (secor
16    [' 위키백과, 우리 모두의 백과사전.
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988   ['
989   ['
990   ['
991   ['
992   ['
993   ['
994   ['
995   ['
996   ['
997   ['
998   ['
999   ['
1000  ['
```

Модуль:Age

Материал из Википедии — свободной энциклопедии

① ДОКУМЕНТАЦИЯ

[[просмотр](#) | [править](#) | [история](#) | [обновить](#)]

Во избежание поломок страниц, использующих этот модуль, экспериментируйте в *песочнице* (создать) или *песочнице для модулей*. Пожалуйста, добавляйте категории на подстраницу /doc. Подстраницы этого модуля.

```
1 -- Implement various "age of" and other date-related templates.
```

模組:Age

模块 [讨论](#)

维基百科，自由的百科全书

模块文档 [查看] [编辑] [历史] [清除缓存]



此模块被引用於約115,000個頁面。
為了避免造成大規模的影響，所有對此模块的編
測試後無誤的版本可以一次性地加入此模块中，
模板引用數量會自動更新。

Módulo:Edad

Módulo [Discusión](#)

Documentación del módulo [ver] [editar] [hist

Módulo Edad (código · doc) **Module:Age**

A continuación se muestra

Parameters

available:

Description

The finishing date is included in the result; that adds one day to the age.

Adjust invalid time units. See [Template:Extract#Fix](#).

A value of 1,000 or more is displayed with commas.

Numbers are displayed without commas and negative numbers are displayed with a hyphen for `##-###`. In addition `##(age)` outputs a

84 [bahasa](#) [▼]

84种语言 [▼]

[阅读](#) [查看源代码](#) [查看历史](#) [☆]

Vorlage:Alter

Dokumentation

[Werkzeuge] [Bearbeiten]

Mit dieser Vorlage wird die Anzahl der Jahre zwischen zwei Daten oder einem Datum und dem heutigen wiedergegeben, wodurch sich die Vorlage besonders zur Altersangabe eignet.

Inhaltsverzeichnis [Verbergen]

Dokumentation
[Verwendung](#)
[Syntax](#)
[Beispiele](#)
[Siehe auch](#)
[Werkzeuge](#)

Verwendung [Quelltext bearbeiten]

[TemplateData]

Diese Vorlage gibt das Alter in Jahren zwischen zwei Datumsangaben zurück. Falls der zweite Satz Parameter nicht übergeben wird, wird die Differenz zwischen dem





WIKIFUNCTIONS



02

Wikifunctions

An "age" function

Function: age (Z11206)

Function (Z8)

Page [Discussion](#)

Try this function

Enter inputs

- **date**
 - type
 -
 - **day of month**
 - type
 -
 - > value
 -
 - > month
 -
 - **year**
 - type
 -
 - > value
 -
 - > era
 -



Wikifunctions is here



Welcome to Wikifunctions

Wikifunctions is a [free](#) library of [functions](#) that anyone can edit.

Welcome!

Wikifunctions is a Wikimedia project for everyone to collaboratively create and maintain a library of code functions to support the Wikimedia projects and beyond, in the world's natural and programming languages.

A "function" is a sequence of programming instructions that makes a calculation based on data you provide. Functions can answer questions, such as how many days have passed between two dates, or the distance between two cities.

Get started



• [Run a Function](#) • [Project chat](#) • [Community portal](#) • [Suggest a function](#) • [Catalogue of available functions](#)

Functions to try out

- [reverse string \(Z10012\)](#): Inverts the order of the characters in a String (see Z10548 for one with Unicode grapheme support) • [is palindrome \(Z10096\)](#): test if a string is the same when read forward and backward (see Z10553 for one with Unicode grapheme support)
- [substring exists \(Z10070\)](#): Check if a substring exists within another string • [To Uppercase \(Z10018\)](#): Convert a string to uppercase letters • [To Lowercase \(Z10047\)](#): Convert a string to lowercase letters
- [join strings \(Z10000\)](#): combine two strings, one after the other • [Trim String \(Z10079\)](#): Remove starting and ending whitespaces • [is empty string \(Z10008\)](#): true if the input string is empty



A "not" function

Function: not (Z10216)

Function (Z8)

[Page](#) [Discussion](#)

[Read](#) [View history](#) [Tools](#) ▼

[About](#) [Details](#)

takes a truth value and returns its opposite

Name

 [Show name in other languages](#)

Aliases

[EN](#) negate

[EN](#) negation

[EN](#) !

Try this function

Enter inputs

> value to be negated ...

true false

[Run function](#)



... that anyone can run

Try this function

Enter inputs

> value to be negated ...

true false

Run function

Result

> false

[Details](#)

Try this function

Enter inputs

> value to be negated ...

true false

Run function

Result

> true

[Details](#)



... controlled by the community

Function: not (Z10216)

Function (Z8)

Page [Discussion](#)

[Read](#) [View history](#) [Tools](#) ▾

[About](#) [Details](#)

Anyone can propose a new implementation or test. Proposed code is reviewed by the Wikifunctions community before it becomes an available implementation or verified test. [Learn more about the review process.](#)

Function definition [Edit](#)

Input [Boolean](#)

Label value to be negated

Output [Boolean](#)

 [Show more languages](#)

[Add implementation](#)

[Add test](#)

Implementations				Connect	Disconnect
<input type="checkbox"/>	Name	Status	Language	Passed tests	
<input type="checkbox"/>	JavaScript negation	Connected	javascript	-	
<input type="checkbox"/>	negation as a composition	Connected	Composition	-	
<input type="checkbox"/>	Python negation	Connected	python	-	
<input type="checkbox"/>	negation in JavaScript function syntax	Connected	javascript	-	

Tests							Connect	Disconnect
<input type="checkbox"/>	Name	Status	JavaScript negation	negation as a composition	Python negation	negation in JavaScript function syntax		
<input type="checkbox"/>	false negated is true	Connected	Passed ⓘ	Passed ⓘ	Passed ⓘ	Passed ⓘ		
<input type="checkbox"/>	true negated is false	Connected	Passed ⓘ	Passed ⓘ	Passed ⓘ	Passed ⓘ		



... implemented in JavaScript

Implementation: negation in JavaScript function syntax (Z10586)



Implementation (Z14)

Page [Discussion](#)

[Read](#) [View history](#) [Tools](#) ▾

About



labels

negation in JavaScript function syntax

2 languages

Function explorer

Name Z10216

not

Inputs

Boolean Z10216K1

value to be negated

Output

Boolean

Contents

function

[not](#)

Implementation

code

language

javascript

code

```
1 - function Z10216( Z10216K1 ) {  
2     return !Z10216K1;  
3 }
```

Tests



- true negated is false
Passed [Details](#)
- false negated is true
Passed [Details](#)

Try this implementation

Enter inputs

> value to be negated ...

true false

[Run function](#)



... or in Python

Implementation: Python negation (Z10538)

Implementation (Z14)



Page [Discussion](#)

[Read](#) [View history](#) [Tools](#) ▾

About 

labels
Python negation

 4 languages

Function explorer

Name	Z10216
not	
Inputs	
Boolean	Z10216K1
value to be negated	
Output	
Boolean	

Contents

function

[not](#)

Implementation

code

language

python

code

```
1 - def Z10216(Z10216K1):  
2     return not Z10216K1
```

Tests 

-  true negated is false
Passed [Details](#)
-  false negated is true
Passed [Details](#)

Try this implementation

Enter inputs

> value to be negated ...

true false

[Run function](#)



... or in a composition

Implementation: negation as a composition (Z10537)

[Implementation \(Z14\)](#)



[Page](#) [Discussion](#)

[Read](#) [View history](#) [Tools](#) ▾

About



labels

negation as a composition

3 languages

Function explorer

Name

not

Inputs

Boolean

value to be negated

Output

Boolean

Contents

function

[not](#)

Implementation

composition

composition

> If ([Argument reference](#) (value to be negated), [Boolean \(false\)](#), [Boolean \(true\)](#))

Tests



true negated is false
Passed [Details](#)

false negated is true
Passed [Details](#)

Try this implementation

Enter inputs

> value to be negated ...

true false

[Run function](#)



... or in a composition in Polish

Implementacja: negacja jako złożenie (Z10537)

Implementacja (Z14)

 Pomoc

Strona [Dyskusja](#)

[Czytaj](#) [Wyświetl historię](#) [Narzędzia](#) ▾

Informacje

etykiety

negacja jako złożenie

 3 języki

Ekspłorator funkcji

Nazwa

negacja logiczna

Wejścia

Wartość logiczna

wartość do zanegowania

Wyjście

Wartość logiczna

Zawartość

funkcja

[negacja logiczna](#)

Implementacja

złożenie funkcji

złożenie funkcji

>  jeśli

([Odwołanie do argumentu](#) (wartość do zanegowania), [Wartość logiczna \(fałsz\)](#),

[Wartość logiczna \(prawda\)](#))

Przypadki testowe

 prawda po zanegowaniu daje fałsz
Pozytywny [Szczegóły](#)

 fałsz po zanegowaniu daje prawdę
Pozytywny [Szczegóły](#)

Wypróbuj tę implementację

Wprowadź dane wejściowe

> wartość do zanegowania ...

prawda fałsz

[Wywołaj funkcję](#)



Status of Wikifunctions @ Feb 2024

Working

- You can create functions, implementations, & test cases
- You can use booleans, strings, and lists; more coming soon

Coming later

- Calling functions embedded within Wikipedia articles *etc.*
- Calling functions from tools, gadgets, and 3rd party apps
- Using Wikidata items and Lexemes



03

**Functions for
language, not
just data**

Functions on strings: toy examples

Try a function

Function

Reverse String ▾

Enter Inputs

> Value

diputs

Run function



Functions on strings: toy examples

Try a function

Function

Reverse String ▾

Enter Inputs

> Value

diputs

Run function

Result

- stupid

[Details](#)



Functions on strings: toy examples

Function: Encode NATO phonetic alphabet code (Z10309)

Function (Z8)

Page [Discussion](#)

[About](#) [Details](#)

Details

Try this function

Enter Inputs

> Value

[Run function](#)

Result

- WHISKEY INDIA KILO INDIA

[Details](#)



Functions to make model content?

Try this function

Enter inputs

> subject

> type

> location

Run function

Result

- Berlin is the largest city in Germany.

[Details](#)

Try this function

Enter inputs

> subject

> type

> location

Run function

Result

- Berlin ist die größte Stadt in Deutschland.

[Details](#)



04

Early use of Wikifunctions

Functions to support languages

Function: Finnish nominative plural (Z11205)

Function (Z8)

[Page](#) [Discussion](#)

[About](#) [Details](#)

Input Finnish nominative singular. Output Finnish nominative plural.

Try this function

Enter inputs

> input

[Run function](#)

Result

• vanhemmat

[Details](#)



Functions to support languages

(L31797)

vanhempi

fi

Language [Finnish](#)

Lexical category [noun](#)

Forms

L31797-F1

vanhempi

fi

Grammatical features [nominative case](#), [singular](#)

Statements about L31797-F1

L31797-F2

vanhemmat

fi

Grammatical features [nominative case](#), [plural](#)

Statements about L31797-F2



Functions to support languages



Wiktionary
The free dictionary

Main Page
Community portal
Preferences
Requested entries
Recent changes
Random entry
Help
Glossary
Donations
Contact us

Tools

What links here
Related changes
Upload file
Special pages
Permanent link
Page information
Cite this page
Get shortened URL

Print/export

Create a book
Download as PDF
Printable version

Visibility

Show declension
Show possessive inflection
Show inflection

In other languages

Čeština
Français
Ido

DVrandecic (WMF) Talk Preferences

Entry [Discussion](#) [Citations](#) [Read](#) [Edit](#) [History](#)

vanhempi

Contents [\[show\]](#)

Finnish [\[edit\]](#)

Pronunciation [\[edit\]](#)

- **IPA**^(key): /ˈvanhempi/, [ˈvɑ̃hɛ̯mpɪ]
- Rhymes: **-anhempi**
- Syllabification^(key): van-hem-pi

Adjective [\[edit\]](#)

vanhempi

1. *comparative degree of vanha*
2. senior

vanhempi konstaapeli

senior constable

Declension [\[edit\]](#)

Inflection of vanhempi (Kotus type 16*/H/vanhempi, mp-mm gradation) [\[more ▼\]](#)

nominative	vanhempi	vanhemmat
genitive	vanhemman	vanhempien
partitive	vanhempaa	vanhempia
illative	vanhempaan	vanhempiin

Possessive forms of vanhempi (type vanhempi) [\[more ▼\]](#)

Derived terms [\[edit\]](#)

- vanhemmiten

Noun [\[edit\]](#)

vanhempi

1. parent



Functions to support languages

Wikidata Lexeme Forms

[Documentation](#)

[Wikimedia Toolforge](#)

[Source code](#)

[Settings](#)

suomen kielen substantiivi

yksikön nominatiivi

Tämä on .

monikon nominatiivi

Nämä .

yksikön genetiivi

Tämän .

monikon genetiivi

Näiden .

yksikön partitiivi

Tätä .

monikon partitiivi

Näitä .

yksikön essiivi

Tällaisena .

monikon essiivi

Tällaisina .

yksikön translatiivi

Yhdeksi .

monikon translatiivi

Moniksi .

yksikön inessiivi

Tässä .

monikon inessiivi

Näissä .

yksikön elatiivi

Tästä .

monikon elatiivi

Näistä .



Functions to support languages

582 lexemes

Part of speech

478 lexemes

Conditions

Property

[add condition](#)

Input form

[add feature](#) Leave blank to use lemma

Output form

[add feature](#) or [continue](#)

197 forms

Input filter (default operator =)

How many forms to check (limit)

At which one to start (offset)

Function

Lexeme	Lemma	Input	Recorded	Function	OK
L708940	borba	borba	borbe	borbe	✓
L683117	boca	boca	boce	boce	✓
L1010847	bitka	bitka	bitke	bitke	✓
L1012623	biskupica	biskupica	biskupice	biskupice	✓
L692268	beskonačnost	beskonačnost	beskonačnosti	beskonačnosti	✓
L683112	basna	basna	basne	basne	✓
L683203	baka	baka	bake	bake	✓
L683111	bajka	bajka	bajke	bajke	✓
L616895	babica	babica	babice	babice	✓
L683204	baba	baba	babe	babe	✓
L684121	astronomija	astronomija	astronomije	astronomije	✓
L683113	arterija	arterija	arterije	arterije	✓
L736557	aritmetika	aritmetika	aritmetike	aritmetike	✓
L1012810	arheologinja	arheologinja	arheologinje	arheologinje	✓
L1012813	arheologija	arheologija	arheologije	arheologije	✓
L683155	aorta	aorta	aorte	aorte	✓
L688516	anatomija	anatomija	anatomije	anatomije	✓
L736559	algebra	algebra	algebre	algebre	✓
L235530	ada	ada	ade	ade	✓
L986503	Wikipedija	Wikipedija	Wikipedije	Wikipedije	✓



05

The Abstract Wikipedia vision

Basic "natural language" functions...



Function: smart paradigm for English plural (Z10241)

 Add languages 

Function (Z8)

Page [Discussion](#)

[Read](#) [Edit source](#) [View history](#)  [More](#) 

[About](#) [Details](#)

This is where the summary of the function's description will go, once that feature is available. It will let you explain why the function exists, how it is often used, and what alternatives might work better for different situations. In edit mode, this will be a multi-lingual editable wikitext box.

Examples for using the function

input	Output
Plural Of Chair Is Chairs	
Plural Of Fairy Is Fairies	

Details

Evaluate Function

function: *smart paradigm for English plural*

• input: String

[Call Function](#)

Orchestration result

Evaluation result

String babies

[Show metrics](#)



... can build together

Function: Statement of birth place (Z10132)

 Add languages ▾

Function *(Z8)*

Page [Discussion](#)

[Read](#) [Edit source](#) [View history](#)  [More](#) ▾

[About](#) [Details](#)

This is where the summary of the function's description will go, once that feature is available. It will let you explain why the function exists, how it is often used, and what alternatives might work better for different situations. In edit mode, this will be a multi-lingual editable wikitext box.

Details

Evaluate Function

function: *Statement of birth place*

• personName: String x ▾

Albert Einstein

• placeName: String x ▾

Ulm

Call Function

Orchestration result x ▾

Evaluation result

String Albert Einstein was born in Ulm.

Show metrics



Vision: Functions could create prose

Marie Curie was a Polish chemist and physicist. She was born 7 November 1867 in Warsaw and died 4 July 1934 in Passy. Marie Curie was a pioneer in the research of radioactivity. She researched radium. She was awarded the Nobel Prize in Physics in 1903, together with Pierre Curie and Henri Becquerel, for pioneering the research of radioactivity. She was awarded the Nobel Prize in Chemistry in 1909, for the discovery of polonium and radium. Marie Curie was the first woman to win the Nobel Prize.

מארי קירי הייתה כימאית ופיזיקאית פולנייה. היא נולדה ב-7 בנובמבר 1867 בוורשה ומתה ב-4 ביולי 1934 בפאסי (סבואה עילית). מארי קירי הייתה חלוצה בחקר הרדיואקטיביות. היא חקרה רדיום. היא זכתה בפרס נובל לפיזיקה ב-1903, יחד עם פייר קירי ואנרי בקרל, על חלוציות בחקר הרדיואקטיביות. היא זכתה בפרס נובל לכימיה ב-1909, על גילוי הפולוניום והרדיום. מארי קירי הייתה האישה הראשונה שזכתה בפרס נובל.



Vision: Functions could create prose

Marie Curie was a Polish chemist and physicist. She was born 7 November 1867 in Warsaw and died 4 July 1934 in Passy. Marie Curie was a pioneer in the research of radioactivity. She researched radium. She was awarded the Nobel Prize in Physics in 1903, together with Pierre Curie and Henri Becquerel, for pioneering the research of radioactivity. She was awarded the Nobel Prize in Chemistry in 1909, for the discovery of polonium and radium. Marie Curie was the first woman to win the Nobel Prize.

מארי קירי הייתה כימאית ופיזיקאית פולנייה. היא נולדה ב-7 בנובמבר 1867 בוורשה ומתה ב-4 ביולי 1934 בפאסי (סבואה עילית). מארי קירי הייתה חלוצה בחקר הרדיואקטיביות. היא חקרה רדיום. היא זכתה בפרס נובל לפיזיקה ב-1903, יחד עם פייר קירי ואנרי בקרל, על חלוציות בחקר הרדיואקטיביות. היא זכתה בפרס נובל לכימיה ב-1909 על גילוי הפולוניום והרדיום. מארי קירי הייתה האישה הראשונה שזכתה בפרס נובל.



... that updates across languages

Marie Curie was a Polish chemist and physicist. She was born 7 November 1867 in Warsaw and died 4 July 1934 in Passy. Marie Curie was a pioneer in the research of radioactivity. She researched radium. She was awarded the Nobel Prize in Physics in 1903, together with Pierre Curie and Henri Becquerel, for pioneering the research of radioactivity. She was awarded the Nobel Prize in Chemistry in 1911, for the discovery of polonium and radium. Marie Curie was the first woman to win the Nobel Prize.

מארי קירי הייתה כימאית ופיזיקאית פולנייה. היא נולדה ב-7 בנובמבר 1867 בוורשה ומתה ב-4 ביולי 1934 בפאסי (סבואה עילית). מארי קירי הייתה חלוצה בחקר הרדיואקטיביות. היא חקרה רדיום. היא זכתה בפרס נובל לפיזיקה ב-1903, יחד עם פייר קירי ואנרי בקרל, על חלוציות בחקר הרדיואקטיביות. היא זכתה בפרס נובל לכימיה ב-1911, על גילוי הפולוניום והרדיום. מארי קירי הייתה האישה הראשונה שזכתה בפרס נובל.



Controlled by Wikimedia communities



PlaceOfBirth

Person: Albert Einstein

Place: Ulm

“\$Person was born
in \$Place.”

Albert Einstein was
born in Ulm.



Controlled by Wikimedia communities



PlaceOfBirth

Person: Albert Einstein

Place: Ulm

“\$Person je rođen u
\$Place:locative.”

Albert Einstein je
rođen u Ulmu.



Starting gently: Item descriptions



- Main page
- Community portal
- Project chat
- Create a new Item
- Recent changes
- Random item
- Query Service
- Nearby
- Help
- Donate
- Lexicographical data
- Create a new Lexeme
- Recent changes
- Random Lexeme
- Tools
- What links here
- Related changes
- Special pages
- Permanent link
- Page information
- Concept URI
- Cite this page

University of Lagos (Q1782980)

Nigerian public university
Unilag | UNILAG

> In more languages

Language	Label	Description	Also known as
English	University of Lagos	Nigerian public university	Unilag UNILAG
German	University of Lagos	Universität in Nigeria	Universität Lagos Unilag
Croatian	No label defined	No description defined	
Uzbek	No label defined	No description defined	
Arabic	جامعة لاغوس	جامعة في لاغوس، نيجيريا	جامعة لاغوس
Asturian	Universidá de Lagos	universidá de Nixeria	Unilag
South Azerbaijani	ئونیورسیتی ییلایووردو	No description defined	
Belarusian	Лагаскі ўніверсітэт	No description defined	Універсітэт Лагаса
Catalan	Universitat de Lagos	No description defined	
Welsh	Prifysgol Lagos	No description defined	
Danish	Lagos Universitet	nigeriansk universitet	
Greek	Πανεπιστήμιο του Λάγος	No description defined	
Esperanto	Universitato de Lagoso	No description defined	
Spanish	Universidad de Lagos	Una universidad en Lagos	
Estonian	Lagose Ülikool	No description defined	
French	université de Lagos	université au Nigeria	
Irish	Oliscóil Lagos	No description defined	
Scottish Gaelic	Ollthigh Lagos	No description defined	
Hausa	Jami'ar Lagos	Jami'ar a'umma a Najeriya	JL Unilag
Hebrew	אוניברסיטת לאגוס	אוניברסיטה בניגריה	

Wikipedia (12 entries) edit

- ar جامعة لاغوس
- azb لاغوس بیلیم‌یوردو
- de University of Lagos
- en University of Lagos
- eo Universitato de Lagoso
- es Universidad de Lagos
- et Lagose Ülikool
- fr Université de Lagos
- it Lagoso universitetas
- pt Universidade Moshood Abiola
- simple University of Lagos
- yo Yunifásití Ilú Èkó

Wikibooks (0 entries) edit

Wikinews (0 entries) edit

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Wikisource (0 entries) edit

Wikiversity (0 entries) edit

Wikivoyage (0 entries) edit



Later, harder work: Automatic lists

☰ List of national capitals by population

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This is a **list of national capitals, ordered according to population**. [Capitals of dependent territories](#) and [disputed territories](#) are marked in *italics*. The population statistics given refer only to the official capital area, and do not include the wider metropolitan/urban district.

Table [[edit](#) | [edit source](#)]

* indicates "**Cities of COUNTRY or TERRITORY**" links.

	Country (or territory) [↕]	Capital [↕]	Population [▲]	% of country [↕]	Source [↕]
1	 Palau	Ngerulmud	0	0.0%	2010
2	 South Georgia and the South Sandwich Islands (UK)	King Edward Point	22	73.3%	2018
3	 Pitcairn Islands (UK)	Adamstown	40	100.0%	2021
4	 Cocos (Keeling) Islands (Australia)	West Island	134	24.6%	2011



More contentious work: Infoboxes

Audrey Tang Feng

唐鳳



Minister of Digital Affairs

Incumbent

Personal details

Born	Autrijus Tang Tsung-han (唐宗漢) 18 April 1981 (age 42) Taipei, Taiwan
Political party	Independent
Parents	Tang Kuang-hua (father) Li Ya-ching (mother)
Relatives	Bestian Tang Tsung-hao (brother)





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