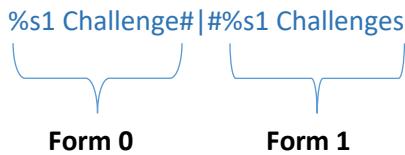# Pluralization in Source 2

Source 2 provides a way to handle plural forms for all the languages supported by Steam.

The plural forms required by the grammar of each language is condensed into a single token. Source 2 is able to pick the correct form depending on the quantity the token is referring to, as in the example below:

> "DOTA_TrophyUnits_Challenges:p"   "%s1 Challenge#|#%s1 Challenges"

➢ The token name includes the "**:p**" suffix to indicate that a multi-plural form is expected in the token value.
➢ "**#|#**" separates each plural form.
➢ **%s1** is a variable representing a quantity.

%s1 Challenge#|#%s1 Challenges

Form 0   **Form 1**

English has two plural forms: **form 0** is for singular and **form 1** for plural.
Depending on the value of %s1, the string will be rendered with form 0 or form 1:

"1 Challenge"
"2 Challenges"

Note that the system works with positive numbers including decimals.

🚩

1. Alternate form for plural tokens (value/quantity is embedded in the token name):
   "DOTA_TrophyUnits_Challenges:p{value}"   "{value} Challenge#|#{value} Challenges"

2. All the plural forms specified for a language need to be present in the token value.
   E.g although fish has the same form in singular and plural in English, the token value shows two forms because English is expected to provide a form 0 and a form 1: "%s1 fish#|#%s1 fish"

3. Languages with only one form don't need to use a separator:
   e.g. Korean: "DOTA_TrophyUnits_Challenges:p"   "도전 과제 %s1 개"

The table below provides a reference to determine how many forms the system expects per language:

Plural Forms per language

Language	Plural forms
Brazilian Portuguese	**Form 0 -** is within [0;2[including decimal numbers **Form 1 -** everything else: [2;∞[including decimal numbers
	"DOTA_TrophyUnits_Challenges:p" "%s1 desafio#|#%s1 desafios"
Bulgarian	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 предизвикателство#|#%s1 предизвикателства"
Czech	**form 0** - is 1: 1 **form 1 -** is 2-4: 2, 3, 4 **form 2 -** every other natural integer: 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, … **form 3 -** decimal numbers
	"DOTA_TrophyUnits_Challenges:p" "%s1 výzva#|#%s1 výzvy#|#%s1 výzev#|#%s1 výzvy"
Danish	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 udfordring#|#%s1 udfordringer"
Dutch	**form 0** - is 1 or decimal number in]0;2[with one '1' and any number of '0' as decimals: 1, 1.001 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 uitdaging#|#%s1 uitdagingen"
English	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 Challenge#|#%s1 Challenges"
Finnish	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 haaste#|#%s1 haastetta"
French	**Form 0 -** is within [0;2[including decimal numbers **Form 1 -** everything else: [2;∞[including decimal numbers
	"DOTA_TrophyUnits_Challenges:p" "%s1 défi#|#%s1 défis"
German	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 Herausforderung#|#%s1 Herausforderungen"
Greek	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 πρόκληση#|#%s1 προκλήσεις"

Hungarian	**form 0** - is 1 and any decimal number: 1, 2.1 **form 1** - everything else: 0, 1, 2, 3, 4, 5, 6, …
	"DOTA_Claim_Gift:p" "Itt tudod átvenni az ajándékodat.#|# Itt tudod átvenni az ajándékaidat." "DOTA_TrophyUnits_Challenges:p" "%s1 kihívás#|#%s1 kihívás"
Indonesian	**form 0** - everything including decimal numbers.
	"DOTA_TrophyUnits_Points:p" "%s1 Poin"
Italian	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 sfida#|#%s1 sfide"
Japanese	**form 0** - everything including decimal numbers.
	"DOTA_TrophyUnits_Points:p" "%s1 ポイント"
Korean	**form 0** - everything including decimal numbers.
	"DOTA_TrophyUnits_Challenges:p" "도전 과제 %s1 개"
Latin American Spanish	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 desafío#|#%s1 desafíos"
Norwegian	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 utfordring#|#%s1 utfordringer"
Polish	**form 0** - is 1: 1 **form 1** - ends in 2-4, excluding 12-14: 2, 3, 4, 22, 23, 24, 32, 33, 34, 42, 43, 44, 52, 53, 54, 62, 63, 64, 72, 73, 74, 82, 83, 84, 92, 93, 94, 102, 103, 104, 122, 123, 124, 132, 133, 134, 142, 143, 144, 152, 153, 154, 162, 163, 164, 172, 173, 174, 182, 183, … **form 2** - every other natural integer: 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 25, 26, 27, 28, 29, 30, 31, 35, 36, 37, 38, 39, 40, 41, 45, 46, 47, 48, 49, 50, 51, 55, 56, 57, 58, 59, 60, 61, 65, 66, 67, 68, … **form 3** - all decimal numbers
	"DOTA_TrophyUnits_Challenges:p" "%s1 wyzwanie#|#%s1 wyzwania#|#%s1 wyzwań#|#%s1 wyzwania"
Portuguese	**form 0** - is 1 or 1.0: 1 **form 1** - everything else including all decimal numbers except 1.0: 1.1, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 utfordring#|#%s1 utfordringer"
Romanian	**form 0** - is 1: 1 **form 1 -** is 0 or ends in 01-19, excluding 1: 0, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, … **form 2 -** everything else: 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 provocare#|#%s1 provocări #|#%s1 de provocări"

Russian	**form 0**: ends in 1, excluding 11: 1, 21, 31, 41, 51, 61, 71, 81, 91, 101, 121, 131, 141, 151, 161, 171, 181, 191, 201, 221, 231, 241, 251, 261, 271, 281, 291, … **form 1**: ends in 2-4, excluding 12-14: 2, 3, 4, 22, 23, 24, 32, 33, 34, 42, 43, 44, 52, 53, 54, 62, 63, 64, 72, 73, 74, 82, 83, 84, 92, 93, 94, 102, 103, 104, 122, 123, 124, 132, 133, 134, 142, 143, 144, 152, 153, 154, 162, 163, 164, 172, 173, 174, 182, 183, … **form 2**: Everything not covered by forms 0, 1 ,3, 4: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 26, 27, 28, 29, 30, 35, 36, 37, 38, 39, 40, 45, 46, 47, 48, 49, 50, 55, 56, 57, 58, 59, 60, 65, 66, 67, 68, 69, 70, 75, 76, …, 100, …,112, 113, …, 212, 213… **form 3**: zero or ends in 000, 000,000, 000,000,000… e.g. 0… 1000, 2000, 3000, … 11,000, 12,000, 13,000 … 21,000, … 32,000, … 45,000, …, 1,000,000, 2,000,000, 3,000,000 … 11,000,000, 12,000,000… 21,000,000, … 38,000,000, …, 1,000,000,000, 2,000,000,000, 3,000,000,000 … 11,000,000,000, … 27,000,000,000, … 39,000,000,000, … **form 4**: All decimal numbers
	"DOTA_TrophyUnits_Challenges:p" "%s1 испытание#|#%s1 испытания#|#%s1испытаний#|#%s1испытаний#|#%s1испытания"
Simplified Chinese[*]	**form 0** - is [0;1] **form 1** - is]1;∞[
	"DOTA_TrophyUnits_Challenges:p" "%s1 项挑战#|#%s1 项挑战"
	[*]*Chinese generally doesn't have plurals but pronouns do change based on quantity so we model that as Chinese having two variant forms. For all cases other than pronouns, where pluralization doesn't apply, both variants need to be present but would have the same text.*
Spanish	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 desafío#|#%s1 desafíos"
Swedish	**form 0** - is 1: 1 **form 1** - everything else including all decimal numbers: 1.0, 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, …
	"DOTA_TrophyUnits_Challenges:p" "%s1 utmaning#|#%s1 utmaningar"
Traditional Chinese[*]	**form 0** - is [0;1] **form 1** - is]1;∞[
	"DOTA_TrophyUnits_Challenges:p" "已完成 %s1 項挑戰#|#已完成 %s1 項挑戰"
	[*]*Chinese generally doesn't have plurals but pronouns do change based on quantity so we model that as Chinese having two variant forms. For all cases other than pronouns, where pluralization doesn't apply, both variants need to be present but would have the same text.*
Thai	**form 0** - everything including decimal numbers.
	"DOTA_TrophyUnits_Challenges:p" "%s1 การท้าทาย"
Turkish	**form 0** - is 1 and any decimal number: 1, 2.1
	form 1 - is everything else: 0, 2, 3, 4, 5, 6, …
	"DOTA_Creep_kills:p" "Yaratık Leşi: %s1 #|# Yaratık Leşleri: %s1"

Ukrainian	**form 0**: ends in 1, excluding 11: 1, 21, 31, 41, 51, 61, 71, 81, 91, 101, 121, 131, 141, 151, 161, 171, 181, 191, 201, 221, 231, 241, 251, 261, 271, 281, 291, … **form 1**: ends in 2-4, excluding 12-14: 2, 3, 4, 22, 23, 24, 32, 33, 34, 42, 43, 44, 52, 53, 54, 62, 63, 64, 72, 73, 74, 82, 83, 84, 92, 93, 94, 102, 103, 104, 122, 123, 124, 132, 133, 134, 142, 143, 144, 152, 153, 154, 162, 163, 164, 172, 173, 174, 182, 183, … **form 2**: Everything not covered by forms 0, 1 ,3, 4: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 26, 27, 28, 29, 30, 35, 36, 37, 38, 39, 40, 45, 46, 47, 48, 49, 50, 55, 56, 57, 58, 59, 60, 65, 66, 67, 68, 69, 70, 75, 76, …, 100, …,112, 113, …, 212, 213… **form 3**: zero or ends in 000, 000,000, 000,000,000… e.g. 0… 1000, 2000, 3000, … 11,000, 12,000, 13,000 … 21,000, … 32,000, … 45,000, …, 1,000,000, 2,000,000, 3,000,000 … 11,000,000, 12,000,000… 21,000,000, … 38,000,000, …, 1,000,000,000, 2,000,000,000, 3,000,000,000 … 11,000,000,000, … 27,000,000,000, … 39,000,000,000, … **form 4**: All decimal numbers
	"DOTA_TrophyUnits_ContractsFilled:p" "%s1 контракт#|#%s1 контракти#|#%s1 контрактів#|#%s1 контрактів#|#%s1 контракту"
Vietnamese	**form 0** - everything including decimal numbers.
	"DOTA_TrophyUnits_Challenges:p" "%s1 thử thách"