Stopwatch Gallifreyan 1.2.0

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Introduction

Stopwatch Gallifreyan is a fanmade version of Gallifreyan, the fictional language from Doctor Who. It's inspired by teaser posters released with *Doctor Who Magazine* #611 for the episode "Joy To The World", and reuses some elements from Spinner Gallifreyan.

The illustration that inspired this script.

Structure

Stopwatch text consists of *discs* – large circles (the *outer edge* of the disc), invisibly split into *quarters*, where letters are formed. At the centre of each disc is a hollow circle of any size (this is the *inner edge* of the disc). Discs do not necessarily line up with words – words can split across discs, and multiple words can be written in one disc.
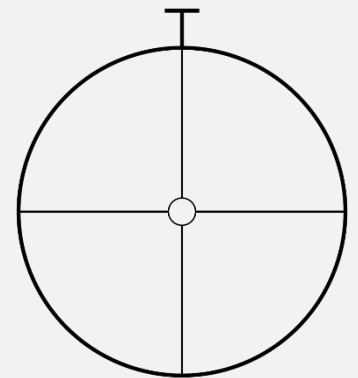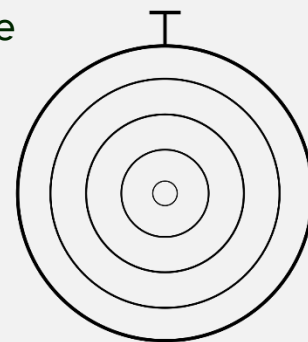

A blank disc, with dividing lines between quarters shown for clarity. The start marker is shown at the top.

At the beginning of a sentence, there is a *start marker*, connecting to the first disc with an *entry line*. The start marker is a T shape, perpendicular to the point where it connects to the disc – the *entry point*. The entry point is where the quarters are measured from, no matter the orientation of the piece. Quarters are read clockwise, starting from the entry point.

Most discs will also have an *exit line*, which can start from any point on a disc's outer edge. This connects to the next disc, becoming that disc's entry line, or ends the sentence with punctuation. These lines indicate reading order. If the end of the sentence has no punctuation, there will not be an exit line for the final disc.

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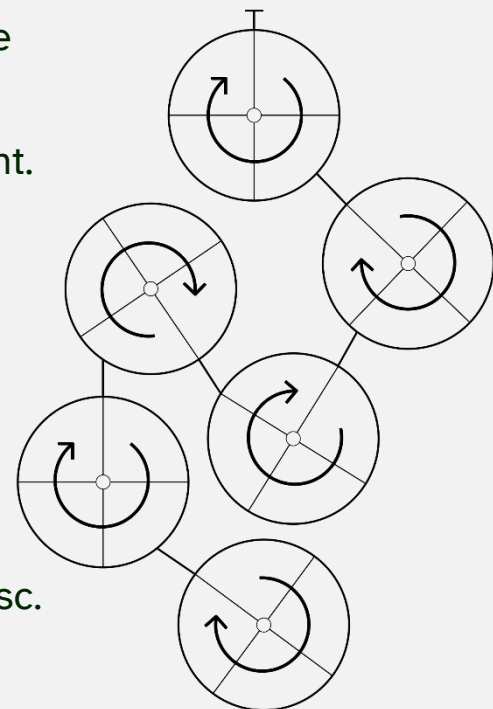
Lines can be straight or curved, but at the entry point it must be perpendicular to the outer edge of the disc it enters. Entry/exit lines should not cross over each other.

Within each disc are three *rings* – concentric circles that are interrupted by gaps in order to convey meaning. There may also be dots in the gaps on these rings.

A disc with three blank rings.

Letters

Many of the examples in this section have visible boundaries between quarters for clarity – remember that these should be invisible when actually writing.

The letters in Stopwatch are made from adding gaps, markers, and dots to each ring. Consonants are defined by a combination of gaps across all three rings, vowels are defined by the number of dots in a quarter, and the order of consonants and vowels within a quarter is defined by the placement of the vowel dots. Each quarter can contain up to one consonant and up to one vowel.
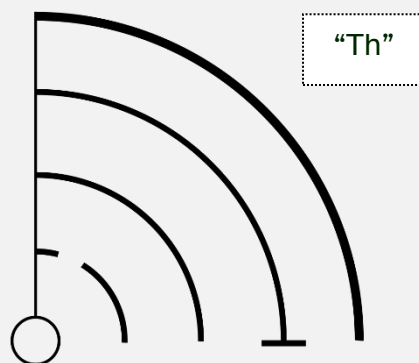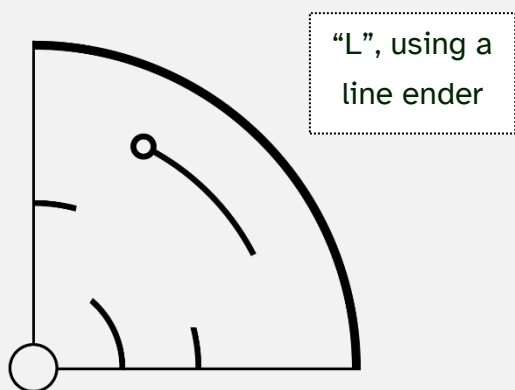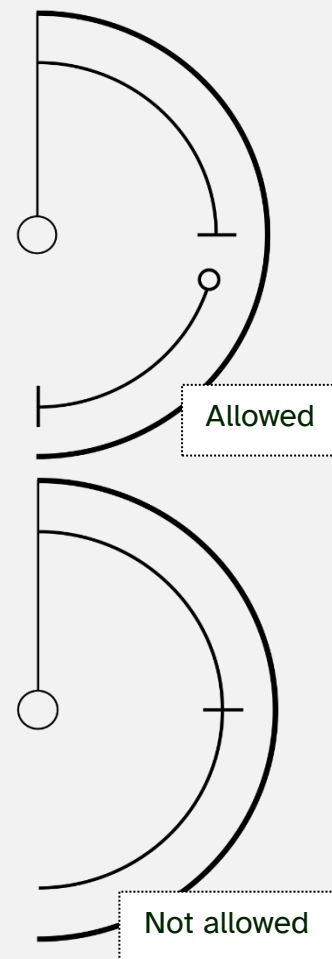
Consonants

Consonants have two components: the *type* (determined by endpoints on the two innermost rings – the *first ring* and the *second ring* respectively – and represented by Roman numerals; blue in the table) and the *category* (determined by endpoints on the outermost ring). Each is defined by the number of *endpoints* of each ring (or *line*) within the current quarter, meaning the number of times a gap starts and

		Category		
		1 w/o edge	1 w/ edge	2
Type	**I**	T	W	F
	II	N	G	Y
	III	S	P	B
	IV	H	V	K
	V	R	Wh	Ck
	VI	D	Th	Qu
	VII	L	Ng	Sk
	VIII	C	Q	Z
	IX	M	J	X

Types

		First ring		
Number of endpoints		0	1	2
Second ring	0	I	III	VI
	1	II	V	VIII
	2	IV	VII	IX

ends. One gap is two endpoints (the end of the line on one side of the gap, and the start of the line on the other side).

The "1 w/ edge" column of the consonants chart uses an endpoint called an *edge consonant*, marked with a perpendicular line at that endpoint (an *edge marker*). This must be at a boundary between quarters. Edge consonants cannot overlap.

Lines and gaps can persist across quarters, and a line crossing the boundary between quarters does not count as an endpoint. If a gap is required but there are too many endpoints, a *line ender* can be used – a small hollow circle at the end of a line that does not count as an endpoint.

Allowed

Not allowed

"L", using a line ender

"Th"

These examples assume that the lines that reach the boundaries continue into other quarters.

To calculate how to write a consonant:

1. Find the consonant in the main table.
2. Note the value at the top of the consonant's column. This tells you the category (how many endpoints are in the outermost line).
3. Note the value in the leftmost column of the consonant's row. This tells you the consonant's type.
4. In the types table, find the type you noted in step 3.
5. Note the values for the first ring's endpoints (the topmost row) and the second ring's endpoints (the leftmost column) corresponding to that type.

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For example, for the consonant K: the category is 2; the type is IV, which means that the first ring has 0 endpoints and the second ring has 2 endpoints.

Lines aren't required to cross between multiple quarters. It's perfectly valid to have each quarter be entirely self-contained, using line enders to manage the number of endpoints. However, it is encouraged to make use of lines crossing boundaries whenever possible.


"Ng" (self-contained)
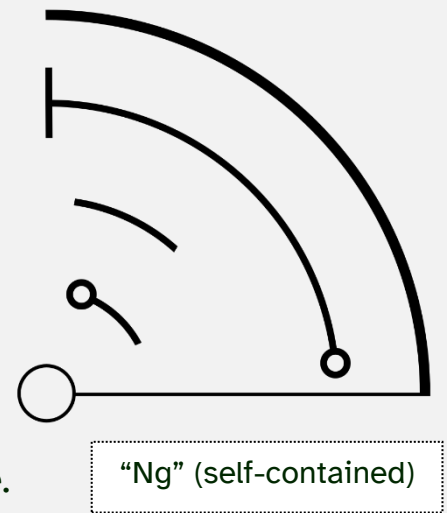
Vowels

Vowels are determined by the number of dots within a quarter. Dots must be placed within gaps and on a ring, not between rings or on lines. Using Y as a vowel is optional.

Dots in quarter					
1	2	3	4	5	6
E	A	O	I	U	Y

If a vowel must be placed alone in a quarter (e.g. the word "I"), follow the rules for blank quarters (see *Other techniques*) and place the dots in that quarter.

If the dots within a quarter are entirely on either the middle ring or the outermost ring (but not both at once), the vowel is placed after the consonant of that quarter. If the dots within a quarter are either spread across multiple rings or are exclusively on the innermost ring, the vowel is placed before the consonant.
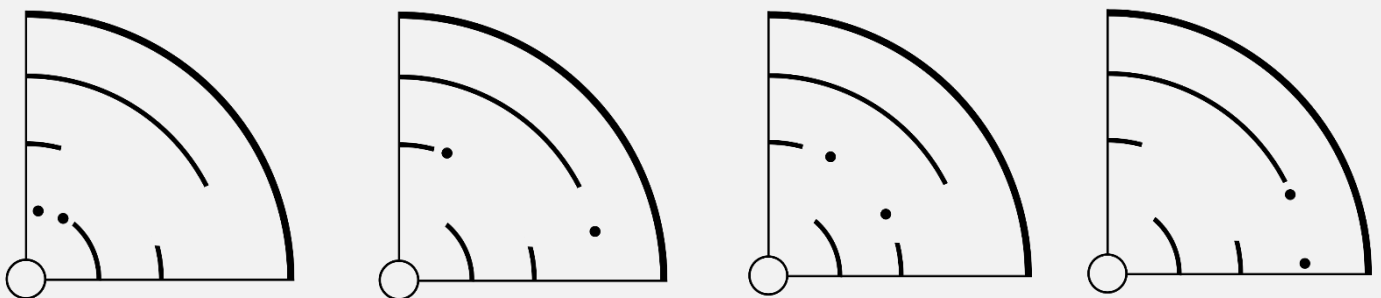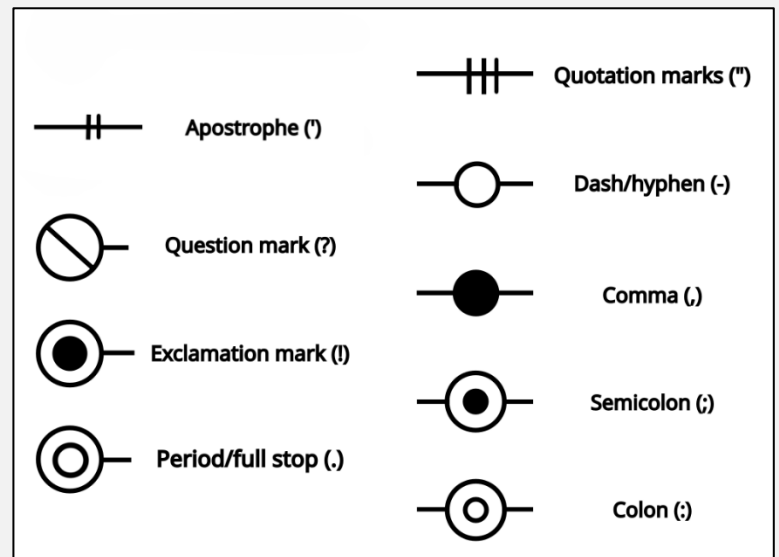

"al", "al", "la", "la"

Sentences

Multiple words can be written in one disc. To do this, place a straight line (the *dividing line*), perpendicular to the inner and outer edges of the disc, at the boundary between the quarters containing the last letters of the previous word and the first letters of the next word. The dividing line should not touch the inner or outer edge, and should not obscure edge consonants.
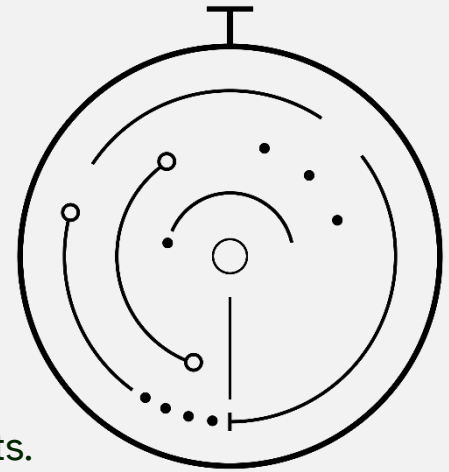
"bow ties"

Discs are connected together to form sentences, as described in the **Structure** section above. If there should be a space between the last letter of the previous disc and the first letter of the next, add one short line crossing through the entry/exit line.

In addition to the entry and exit line, if there should be punctuation between two discs, add another line between the discs (the *punctuation line*) with the marking(s) corresponding to the punctuation. If the exit line is at the end of a sentence, place the punctuation at the end of the exit line. Multiple punctuation marks can be placed on one punctuation line, and only one punctuation line may exist between any two discs.

Apostrophe (')

Question mark (?)

Exclamation mark (!)

Period/full stop (.)

Quotation marks (")

Dash/hyphen (-)

Comma (,)

Semicolon (;)

Colon (:)

To write contractions (e.g. "they've"), separate the word into its parts ("they", "ve") and write them in separate discs, connected with an apostrophe.

Other techniques

Blank quarters

Quarters can be left blank, either for stylistic reasons or in order to place punctuation. This is done by simply using endpoint combinations that don't correspond to any letter, such as no endpoints at all or more than two endpoints in one line. Optionally, the outer edge can be erased for that quarter if no lines connect to it. This technique is also used for quarters that only contain vowels – in this case, do not erase the outer edge.

Reading order

Reading order can be defined for multiple sentences by adding multiple perpendicular lines (*notches*) to the start marker of each sentence. Sentences are read from least notches to most notches.

This would be read in the order: bottom-right, top-left, bottom-left, top-right.
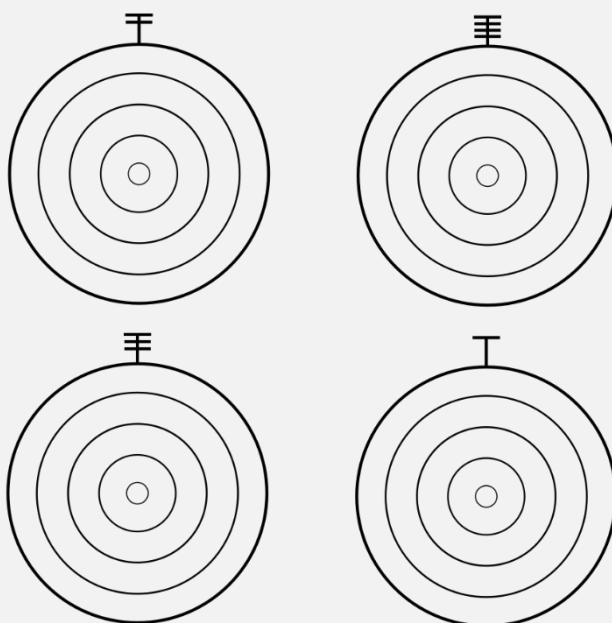
Alternative disc and ring shapes

Discs do not need to be circular and rings do not need to be co-radial (all parts of the ring having the same radius), as long as the meaning is entirely unambiguous. If non-coradial rings are used, there should never be more than three lines running parallel to each other at any one time (i.e. lines within one ring should not overlap).
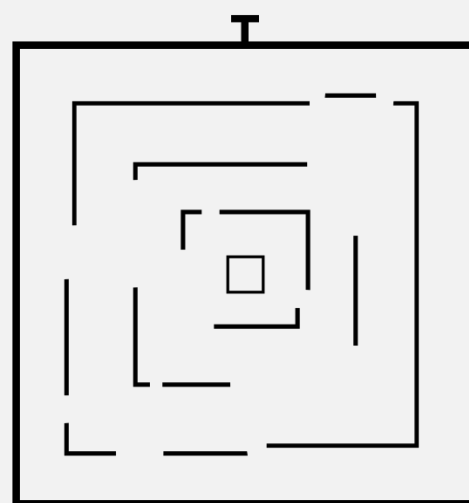
An example of a disc with an unusual shape and a combination of co-radial and non-coradial rings.
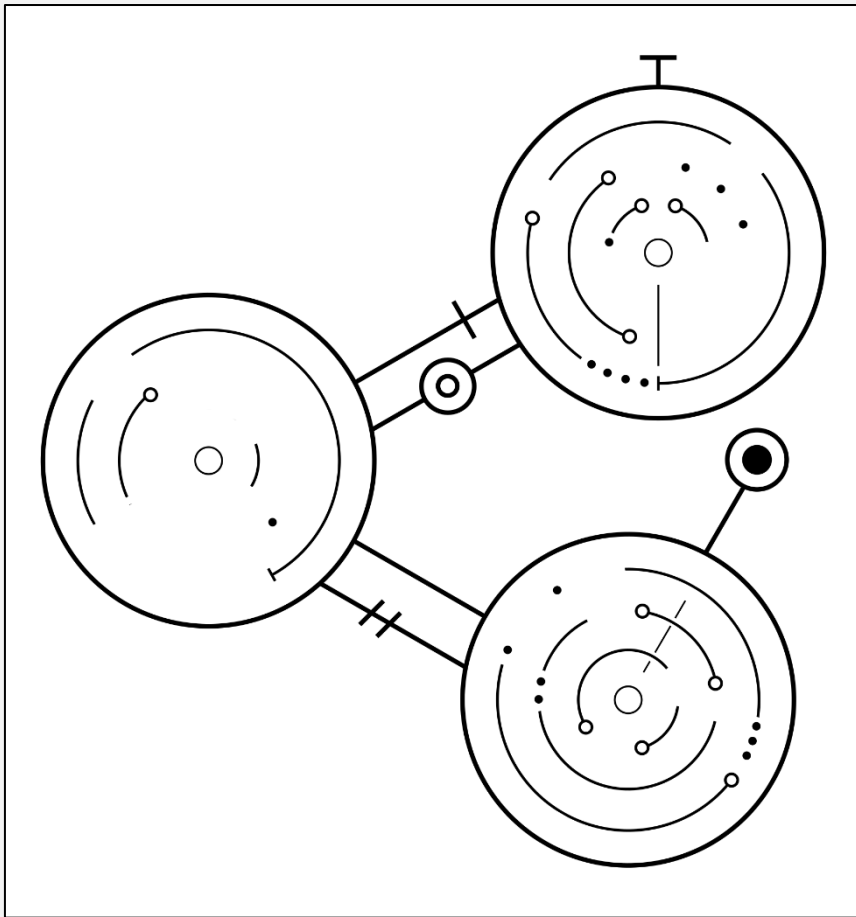
See if you can decipher this!

Missing features

Stopwatch is still a new script, so there are features that haven't been developed yet. If you'd like to help create these features, ping me on the r/Gallifreyan discord server (@lopsidedhead)!

- Numbers
- Diacritics, symbols, and any missing punctuation (e.g. &)

Changelog

- **1.0.0** (2024-12-28)
  - Initial release
- **1.1.0** (2024-12-29)
  - Various wording changes
  - Corrected vowel order rules
  - Types are now represented by Roman numerals instead of letters
  - Clearer consonant tables
  - Explicitly defined some implicit rules and edge cases
  - Added disc and ring shape technique
- *1.1.1* (2025-01-03)
  - Changed column order of the consonants table (visual change only)
  - Fixed wording to match
  - Made an implicit rule explicit
- **1.2.0** (2025-01-09)
  - Defined rules for lone vowels
  - "circle" -> "edge" in multiple places
  - Wording changes