Magic Description Language

Aperçu

Concept	Build your own magic in a sense that you are scribing magic scrolls with magical runes.
Features	• Not turing complete • Line-by-line interpretation
Influenced languages	Assembler, Forth

Magic Description Language

Syntax and keywords

Syntax

<keyword>

<property>:<adjective/power>

<property>:<adjective/power>*<argument>*

<property>:<adjective/power>*<argument 1>*<argument 2>*

Keywords

Properties			
	Fire	eldr	ᛁᛚᛏᛅ
	Ice	iss	ᛁᛋ
	Storm	stromr	ᛋᛏᚢᚱᛘᛅ
	Kinesis	hreyfing	ᛆᚱᛁᛈᛁᛂᛈ
	Heal	lækning	ᛚᛆᛁᛈᛋᛁᛈ
	Absorb	gleypi	ᚠᛚᛁᛒᛁ
	Harm	tjón	ᛏᛁᚾᛂ

Reserved words			
	Heal rate	lækninghraði	ᛚᛆᛁᛈᛋᛁᛈᛉᚱᛂᛑᛁ
	Mvmt. speed	hreyfinghraði	ᛆᚱᛁᛈᛁᛂᛈᛉᚱᛂᛑᛁ
	Heal rate mult	lækningauki	ᛚᛆᛁᛈᛋᛁᛈᛂᛏᛈᛁ
	Mvmt. speed mult	hreyfingauki	ᛆᚱᛁᛈᛁᛂᛈᛂᛏᛈᛁ
	Jump boost	stökkauki	ᛋᛏᛂᛈᛂᛏᛈᛁ
	Health point	heilsastig	ᛆᛁᛚᛋᛂᛋᛏᛁᛈ

Adjectives/Verbs (Powers)			
	Project (Fire)	skjóta	ᛋᛈᛁᚾᛏᛂ
	Spew	geysa	ᚠᛁᛋᛂ
	Explode	springa	ᛋᛒᚱᛁᛂᛈᛂ
	Breath	andi	ᛂᛂᛏᛁ
	Summon	hrygna	ᛆᚱᛁᛈᛂᛂ
	Strike	slá	ᛋᛚᛂ
	Health	heilsa	ᛆᛁᛚᛋᛂ
	Magic	fjölkynngi	ᚠᛁᛆᛏᛈᛁᛆᛈᛁ

Note o · u → ᚢ; ö → ᛆ, y → l; ei · ey → l; æ → ᛂl

Keywords (cont.)

Arguments (binary flag)		
0	omnidirectional, global
1	targeted
2	homing (chase target)
4	hit-scan (hits target immediately)

Operands (stack-based)			
	Push	ýta	ᛁᛏᛁ
	Pop	toga	ᛏᚢᛈᛁ
	Plus	plús	ᛒᛏᚢᛋ
	Minus	mínus	ᛉᛁᛂᚾᛋ
	Times	sinnum	ᛋᛁᛂᚢᛉ
	Divide	deiling	ᛏᛁᛚᛁᛂᛈ
	Modulo	leifastofn	ᛚᛈᛂᛋᛏᚢᛈᛂ
	Dup	afrit	ᛂᚠᚱᛁᛏ
	Swap	stafliskipti	ᛋᛏᛂᚠᛚᛁᛈᛁᛒᛏᛁ
	Discard	henna	ᛆᛁᛂᛂ
	Fetch	ná	ᛂᛂ

Numbers—Vigesimal

1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	A
ᚠ	ᚢ	ᚦ	ᛉ	ᚱ	ᛈ	ᛆ	ᛂ	ᛁ	ᛂ

11	12	13	14	15	16	17	18	19	0
B	C	D	E	F	G	H	J	K	0
ᛂ	ᛏ	ᛒ	ᛉ	ᛁ	ᛅ	ᛂ	ᛉ	ф	·

Zero/Null ·ᛂᚢᛁ· **Minus** Not supported*
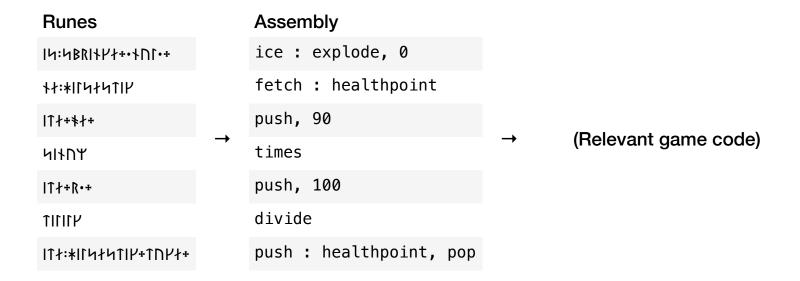
1337	ᛂᚦᛈᛂᛂ	3200	ᛂᛉᛂ··

• Numbers are surrounded by ᛂ mark

• You can make negative number by subtraction.
  e.g. `push 0; push 20; minus;` makes −20

Magic Description Language

Documentation

Field Detail

Runes	Mnemonic	English	Description
ITᚽ	**ýta**	**push**	`+ <number> +`
			push value into the stack
ITᚽ	**ýta**	**push**	`keyword : push + <argument> + <argument 2> +`
			push value <argument> to the property <keyword> e.g. `healrate : push + 1A + 30 +` will set healrate to 30 for 60 in-game minutes
↑ᚲᚻᚽ	**toga**	**pop**	`(wildcard)`
			substitute word 'toga' into a topmost value in the stack and remove the value from its source
ᚼᚼ	**ná**	**fetch**	`fetch : keyword`
			get the value of <keyword> and push it to the stack

Magic Description Language

Interpreter design

Runes		Assembly		
ᛁᚻ:ᚄᛒᚱᛁᛐᚹᛐ⁙⁛ᛐᚾᚦ⁙⁛		ice : explode, 0		
ᛐᛐ:⁕ᛁᚦᚻᛐᚻᛐᛁᚹ		fetch : healthpoint		
ᛁᛐᛐ⁕ᚠᛐ⁙	→	push, 90	→	**(Relevant game code)**
ᚻᛁᛐᚾᛉ		times		
ᛁᛐᛐ⁕ᚱ⁙⁛		push, 100		
ᛐᛁᚦᛁᚹ		divide		
ᛁᛐᛐ:⁕ᛁᚦᚻᛐᚻᛐᛁᚹ⁕ᛐᚾᚹᛐ⁙		push : healthpoint, pop		

The scroll is pre-compiled to get estimate magic power usage.