

Lab #6 Show how to create a hash**author: YiChen**

Names	first letter	last letter	Letters sorted	frequency
Ymir	y	r	d	1
Odin	o	n	f	1
Frigg	f	g	g	1
Thor	t	r	i	1
Tyr	t	r	l	1
Loki	l	i	n	2
Vidar	v	r	o	1
Njord	n	d	r	4
			t	2
			v	1
			y	1

Calculate a value for each word				
Names	Length	first letter	last letter	sum
Ymir	4	Y = 1	R = 4	5
Odin	4	O = 1	N = 2	3
Frigg	5	F = 1	G = 1	2
Thor	4	T = 2	R = 4	6
Tyr	3	T = 2	R = 4	6
Loki	4	L = 1	I = 1	2
Vidar	5	V = 1	R = 4	5
Njord	5	N = 2	D = 1	3

Name sorted
Thor (6)
Tyr (6)
Vidar (5)
Ymir (5)
Njord (3)
Odin (3)
Frigg (2)
Loki (2)

$$h(\text{name}) = (\text{len}(\text{name}) + g(\text{firstLetter}(\text{name})) + g(\text{lastLetter}(\text{name}))) \% \text{TSize}$$

$$\text{TSize} = 8$$

$$\text{Max} = 4$$

Name sorted
Thor (6)
Tyr (6)
Vidar (5)
Ymir (5)
Njord (3)
Odin (3)
Frigg (2)
Loki (2)

First word	Thor
len(name)	4
g(firstLetter = T)	0
g(lastLetter = r)	0
sum	4
Mod P	5

	g-values
d	0
f	0 4
g	0
i	0
l	0
n	0
o	0 5
r	0
t	0
v	0
y	0

Njord	0
Odin	1
Frigg	2
Tyr	3
Loki	4
Thor	5
Vidar	6
Ymir	7

Second word	Tyr
len(name)	3
g(firstLetter = T)	0
g(lastLetter = r)	0
sum	3
Mod P	3

Fouth word	Ymir		
len(name)	4	4	4
g(firstLetter = T)	0	1	2
g(lastLetter = r)	0	0	0
sum	4	5	6
Mod P	5	6	7
	(hash clash!)		Yay

Third word	Vidar
len(name)	5
g(firstLetter = T)	0
g(lastLetter = r)	0
sum	5
Mod P	6

sixth word	Odin			
len(name)	4	4	4	4
g(firstLetter = T)	0	3	4	5
g(lastLetter = r)	0	0	0	0
sum	4	7	8	9
Mod P	5	8	0	1
	(hash	clash!	Yay	

Fifth word	Njord			
len(name)	5	5	5	5
g(firstLetter = T)	0	1	2	3
g(lastLetter = r)	0	0	0	0
sum	5	6	7	8
Mod P	6	7	8	0
	(hash clash!)			Yay

seventh word	Frigg	
len(name)	5	5
g(firstLetter = T)	4	5
g(lastLetter = r)	0	0
sum	9	10
Mod P	6	2
	(hash clash!)	Yay

Eighth word	Loki	
len(name)	4	4
g(firstLetter = T)	0	0
g(lastLetter = r)	0	0
sum	4	4
Mod P	5	4% P+1= 4
	(hash clash!)	Yay

