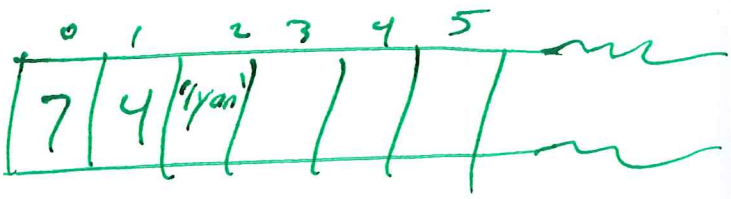
Lists in Memory

```
x = list()
x.append(7)
x.append(4)
x.append('ryan')
```




```
x.append('ryan')   <-- cost?
print x[2]         <-- cost?
del x[2]           <-- cost?
'ryan' in x        <-- cost?
```

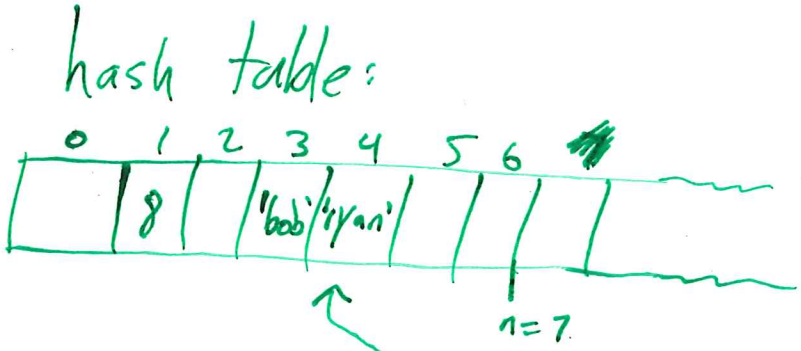
Operation cost

	index	append/add	delete	'in'
list	1	1	n	n
set/dict	N/A	1	1	1

(I'll explain this row on the next page.)

Sets in memory

```
x = set()
x.add('iyan')
```



↳ hash('iyan') ⇒ 4874321

↳ 4874321 % 7 ⇒ 4

```
x.add('bob')
```

↳ hash('bob') ⇒ 74392

74392 % 7 ⇒ 3

(goes in index 3 above)

```
x.add(8)
```

↳ hash(8) ⇒ 8

8 % 7 ⇒ 1

(goes in index 1 above)

How to delete?

How to query 'in'?

(Now finish the notebook)