Variables and References in Python
>>> s = "TAGAGAATTCTA"

```
References

S

"TAGAGAATTCTA"

Names

Objects
```
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"

Objects

References

Names

s

"TAGAGAATTCTA"

"GAAT"
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
>>> print i
4
>>> Strings have a “find” method

Names

Objects

```
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
>>> print i
4
```
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
>>> print i
4
>>> t = s

$\begin{array}{c}
\text{Objects} \\
\text{"TAGAGAATTCTA"} \\
\text{"GAAT"} \\
4
\end{array}$

$\begin{array}{c}
\text{Names} \\
s \\
t \\
i
\end{array}$

$\begin{array}{c}
\text{References} \\
\text{"TAGAGAATTCTA"} \\
\text{"GAAT"} \\
4
\end{array}$
```python
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
4
>>> t = s
>>> t
"TAGAGAATTCTA"
```
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
>>> print i
4
>>> t = s
>>> a
Traceback (most recent call last):
  File "<stdin>", line 1, in ?
NameError: name 'a' is not defined
>>>
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
>>> print i
4
>>> t = s
>>> a
Traceback (most recent call last):
  File "<stdin>", line 1, in ?
NameError: name 'a' is not defined
>>> s = "GA"
>>> print t
TAGAGAATTCTA
>>>
```python
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
>>> print i
4
>>> t = s
>>> a
Traceback (most recent call last):
  File "<stdin>" , line 1, in ?
NameError: name 'a' is not defined
>>> s = "GA"
>>> print t
TAGAGAATTCTA
>>> del t
```
>>> s = "TAGAGAATTCTA"
>>> t = "GAAT"
>>> i = s.find(t)
>>> print i
4
>>> t = s
>>> print a
Traceback (most recent call last):
  File "<stdin>", line 1, in ?
NameError: name 'a' is not defined
>>> s = "GA"
>>> print t
TAGAGAATTCTA
>>> del t
>>> print t
Traceback (most recent call last):
  File "<stdin>", line 1, in ?
NameError: name 't' is not defined
>>>
```python
>>> L1 = [2, 4]
```
>>> L1 = [2, 4]
>>> L1.append(5)

Names

References

Objects

L1

[2, 4, 5]
>>> L1 = [2, 4]
>>> L1.append(5)
>>> L2 = L1

```
[2, 4, 5]
```
```python
>>> L1 = [2, 4]
>>> L1.append(5)
>>> L2 = L1
>>> L2.append(7)
>>> print L1
[2, 4, 5, 7]
>>> print L2
[2, 4, 5, 7]
>>>
>>> L1 = [2, 4]
>>> L1.append(5)
>>> L2 = L1
>>> L2.append(7)
>>> print L1
[2, 4, 5, 7]
>>> print L2
[2, 4, 5, 7]
>>> del L2[1]
>>>
```python
>>> L1 = [2, 4]
>>> L1.append(5)
>>> L2 = L1
>>> L2.append(7)
>>> print L1
[2, 4, 5, 7]
>>> print L2
[2, 4, 5, 7]
>>> del L2[1]
>>> L2 = L1[:]
>>> L1 == L2
True
```
>>> L1 = [2, 4]
>>> L1.append(5)
>>> L2 = L1
>>> L2.append(7)
>>> print L1
[2, 4, 5, 7]
>>> print L2
[2, 4, 5, 7]
>>> del L2[1]
>>> L2 = L1[:]
>>> L1 == L2
True
>>> L1.reverse()
>>> L1 == L2
False