A tiny bit more Python

Ruth Anderson
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Enumerate a list

```python
lst = [10 ** x for x in range(10)]

for i in range(len(lst)):
    print('value at index', i, 'is', lst[i])

Or:

for index, value in enumerate(lst):
    print('value at index', index, 'is', value)
```

Like `dict.items()`
Enumerate a list

**Goal:** add each element’s index itself

```python
lst = [x for x in range(10)]
new_lst = []
for i, v in enumerate(lst):
    new_lst.append(i + v)
```

**With a list comprehension:**

```python
lst = [x for x in range(10)]
new_lst = [i + v for i, v in enumerate(lst)]
```
Goal: Given a list of participants, in the order they finished a race, create a dictionary that maps their name to their finishing place.

Racers

```python
racers = ['Dino', 'Wilma', 'Barney', 'Fred']
race_dict = {'Dino':1, 'Wilma':2, 'Barney':3, 'Fred':4}
```

With a list comprehension:

```python
race_dict =
```
Activity: Enumerate a list

Goal: Given a list of participants, in the order they finished a race, create a dictionary that maps their name to their finishing place.

Racers

```python
racers = ['Dino', 'Wilma', 'Barney', 'Fred']
race_dict = {'Dino':1, 'Wilma':2, 'Barney':3, 'Fred':4}
```

With a list comprehension:

```python
race_dict = {v: i + 1 for i, v in enumerate(racers)}
```
Ternary Assignment

A common pattern in python

```python
if x > threshold:
    flag = "Over"
else:
    flag = "Under"
```

Or

```python
flag = "Under"
if x > threshold:
    flag = "Over"
```
Ternary Assignment

A common pattern in python

```python
if x > threshold:
    flag = "Over"
else:
    flag = "Under"
```

With a ternary expression:

```python
flag = "Over" if x > threshold else "Under"
```

Ternary Expression
"Three elements"
Ternary Assignment

flag = "Over" if x > threshold else "Under"

- Only works for single expressions as results.
- Only works for if and else (no elif)
Ternary Assignment

Goal: A list of 'odd' or 'even' if that index is odd or even.

```python
lst = []
for i in range(8):
    if i % 2 == 0:
        lst.append('even')
    else:
        lst.append('odd')
```

or

```python
lst = []
for i in range(8):
    lst.append('even' if i % 2 == 0 else 'odd')
```
Ternary Assignment

Goal: A list of 'odd' or 'even' if that index is odd or even.

```python
lst = []
for i in range(8):
    if i % 2 == 0:
        lst.append('even')
    else:
        lst.append('odd')
```

Or with a list comprehension!

```python
lst = ['even' if i % 2 == 0 else 'odd' for i in range(8)]
```
Get more practice

List Comprehensions:

```
[(x, y) for x in seq1 for y in seq2 if sim(x, y) > threshold]
```

Enumerate:

```
for index, value in enumerate(seq):
    ...
```

Ternary If Statement:

```
flag = "Over" if x > threshold else "Under"
```