Comprehension

```python
# Formula
l = []
for {var} in {collection of items}:
    l.append({expression})


# Equivalent list comprehension

l = [{expression}  for {var}  in {collection of items}]



# Example
l = []
for x in range(10):
    l.append(x*x)

# Equivalent list comprehension

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

Conditional comprehension

```python
# Formula
l = []
for {var} in {collection of items}:
    if {condition}:
        l.append({expression})

# Equivalent list comprehension

l = [{expression}  for {var}  in {collection of items} if {condition}]


# Example
l = []
for x in [5,6,7,8,9,10,11]:
    if x%2 == 0:
        l.append(x*x)

# Equivalent list comprehension

l = [ x*x  for  x  in [5,6,7,8,9,10,11] if x%2 == 0]
```

List comprehension

```
l = [ x*x  for  x  in range(10) if x%2 == 0 ]
l = list( x*x  for  x  in range(10) if x%2 == 0 )
```

Dictionary comprehension

```
d = { x:x*x  for  x  in range(10) if x%2 == 0 }
d = dict( { x:x*x  for  x  in range(10) if x%2 == 0} )
```

The lecture video was missing two braces. You need this for the second method.

Set comprehension

```
s = { x*x  for  x  in range(10) if x%2 == 0 }
s = set( x*x  for  x  in range(10) if x%2 == 0 )
```

Tuple comprehension (Tuple comprehension requires "tuple()")

```
t = tuple( x*x  for  x  in range(10) if x%2 == 0 )
```