Python Programming

List Comprehension 1

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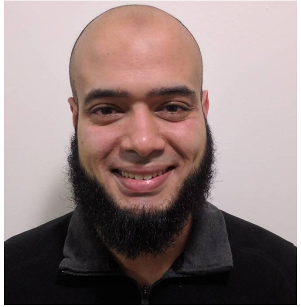
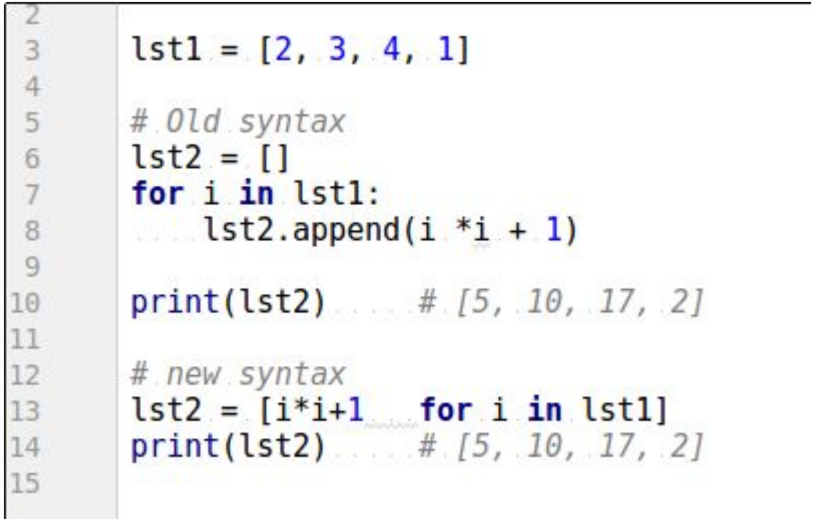


List Comprehension

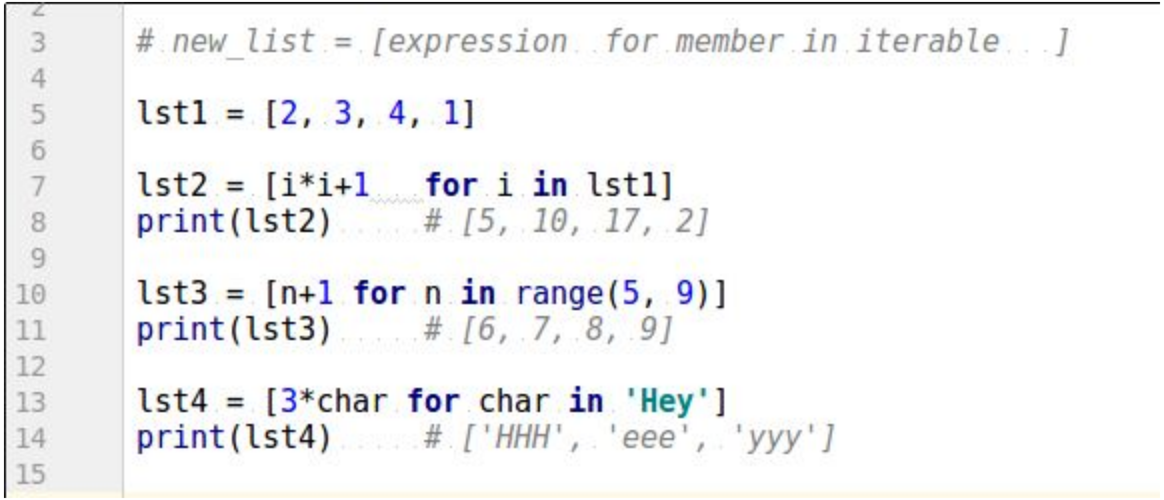
- Elegant syntax to make more readable / short code
- It doesn’t solve a new programming problem!
- Just new syntax for what we can already solve with available tools!
- new_list = [expression **for** member **in** iterable]

From old to new syntax



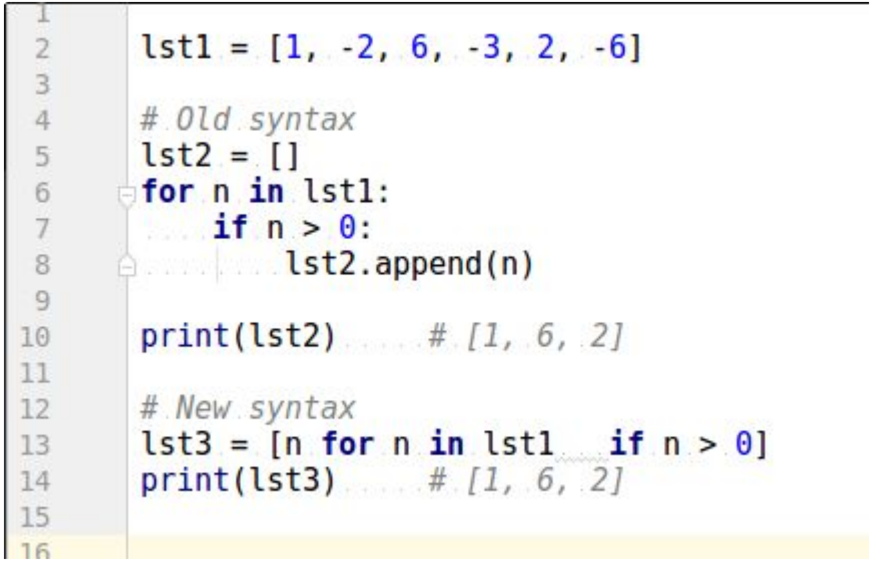
```python

lst1 = [2, 3, 4, 1]

# Old syntax
lst2 = []
for i in lst1:
    lst2.append(i *i + 1)

print(lst2)     # [5, 10, 17, 2]

# new syntax
lst2 = [i*i+1   for i in lst1]
print(lst2)     # [5, 10, 17, 2]

```

List Comprehension



```python
# new_list = [expression  for member in iterable   ]

lst1 = [2, 3, 4, 1]

lst2 = [i*i+1  for i in lst1]
print(lst2)      # [5, 10, 17, 2]

lst3 = [n+1 for n in range(5, 9)]
print(lst3)      # [6, 7, 8, 9]

lst4 = [3*char for char in 'Hey']
print(lst4)      # ['HHH', 'eee', 'yyy']

```

From old to new syntax: conditional



```
lst1 = [1, -2, 6, -3, 2, -6]

# Old syntax
lst2 = []
for n in lst1:
    if n > 0:
        lst2.append(n)

print(lst2)     # [1, 6, 2]

# New syntax
lst3 = [n for n in lst1  if n > 0]
print(lst3)     # [1, 6, 2]
```

"Acquire knowledge and impart it to the people."

"Seek knowledge from the Cradle to the Grave."