range vs. xrange

Always use xrange for looping!
Example

for i in \texttt{range}(N):
  do\_something\_with(i)

\textbf{for i in} \texttt{xrange}(N):
  do\_something\_with(i)
range(N)

- type: list = mutable sequence
  [0,1,2,...,N-1]

xrange(N)

- type: Xrange object
  → immutable sequence optimized for looping
Comparing object size
Comparing processing time
range(N)

- type: list = mutable sequence $[0,1,2,...,N-1]$
- size scales with N
- processing time scales with N

xrange(N)

- type: Xrange object $\rightarrow$ immutable sequence optimized for looping
- constant size
- processing time scales with N, but faster than range
Conclusion

• If you need lists, use `range`. Example:

```python
my_sequence = range(5) + range(100)[2:90]
my_sequence[42] = 42
my_sequence.append(-33)
```

• If you’re looping, use `xrange`.