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# Example 1: Square numbers

# Traditional approach

squares = []

for x in range(10):

    squares.append(x**2)

# List comprehension (preferred)

squares = [x**2 for x in range(10)]

print(squares)

# Output: [0, 1, 4, 9, 16, 25, 36, 49, 64, 81]

# Example 2: Filtering with conditions

# Get even squares

even_squares = [x**2 for x in range(10) if x % 2 == 0]

print(even_squares)

# Multiple conditions

filtered = [x for x in range(20) if x % 2 == 0 and x > 10]

print(filtered)

# Output: [12, 14, 16, 18]
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