

# Preparatory Course Informatics for Life Scientists

An Introduction to Python 7:

Miscellaneous Helpful

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## Misc: list comprehensions

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- You already recognized that lists are of utmost importance
- There are different ways to get a list in Python

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myscript.py

```
1 words = 'Split me up Charly'.split()
2 print(words)    # As a return value from a function
3
4 squared = [0, 1, 4, 9, 16, 25, 36, 49, 64]
5 print(squared)  # By manual instantiation
6
7 cubed = []
8 for i in range(9):
9     cubed.append(i ** 3)
10
11 print(cubed)    # By appending to an existing list
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1 $ python myscript.py
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```
1 $ python myscript.py
2 ['Split', 'me', 'up', 'Charly']
3 [0, 1, 4, 9, 16, 25, 36, 49, 64]
4 [0, 1, 8, 27, 64, 125, 216, 343, 512]
5 $
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3  squared = [i ** 2 for i in range(9)]
4  print(squared)
5
6  cubed = [i ** 3 for i in range(9)]
7  print(cubed)
8
9  # General form:
10 # list = [ expression for member in iterable]
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1  # Also pretty cool: filter out
2  #
3  # General form:
4  # list = [ expression for member in iterable (if condition)]
5
6  lst = [i for i in range(30) if i%2 == 0]
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2  [0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28]
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1  # Even cooler: modify
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1  $ python myscript.py
2  [0, 1, 2, 9, 4, 5, 36, 7, 8, 81, 10, 11, 144, 13, 14, 225, 16, 17, 324, 19]
3  $
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1  # The coolest: combined
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## Diving Deeper ...

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→ <https://realpython.com/list-comprehension-python/>





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