

Revision questions for Chapter 1

Last updated: January 3, 2022

Answers to all questions (or references to the course notes) are given in blue.

1. Give two examples of practical problems that can be solved using machine learning. [Chapter 1, slide 22.](#)
2. Describe briefly the structure of `Bunch` objects in `scikit-learn`. [Chapter 1, slide 27.](#)
3. What is the typical use of `Bunch` objects in `scikit-learn`? [Chapter 1, slide 27.](#)
4. What will be the output of the following commands in Python/NumPy?

```
x = np.array([[1, 2, 3], [4, 5, 6]])  
x[1, 1] - x[0, 0]
```

Answer: 4, since $x[1, 1] = 5$ and $x[0, 0] = 1$.

5. What will be the output of the following commands in Python/NumPy?

```
x = np.arange(12)  
x[1] + x[-1]
```

Answer: 12 (since $1 + 11 = 12$).

6. What do you think will be the output of the following commands in Python? Why?

```
for i in range(3):  
    print(i)
```

Answer: a syntactic error (because of the wrong indentation).

Similar lists of questions will be produced for all chapters of the course to help students in revision. There is no guarantee that the actual exam questions will be in this list, or that they will be in any way similar.