Tutorial Exercises Week 2

Question 1

Assign the strings `'I'`, `'love'` and `'Tilburg'` to the variables `a`, `b` and `c`, respectively. Use these 3 variables to print the output `'I love Tilburg'` on one line.

Question 2

The days of the week in Dutch are maandag, dinsdag, woensdag, donderdag, vrijdag, zaterdag, zondag. Create a dictionary in Python where the *keys* are the days of the week in English and the *values* are the days of the week are in Dutch. Use your dictionary to translate a day of the week from English to Dutch.

Question 3

Today is Thursday. What day of the week will it be in 200 days' time? *Hint*: make use of the modulus operator.

Question 4

If `a` and `b` are logical constants (one of `True` or `False`), `not (a or b)` is always the same as which of the following?

- `a or b`
- `a and b`
- `not a or not b`
- `not a and not b`

Question 5

Consider the following two lists:

```
a = [2, 4, 6, 8]
b = [1, 4, 6]
```

Write a single line of Python code that uses a list comprehension that checks for every element in `a` whether it is contained *somewhere* in `b`. The output should

be [False, True, True, False] because 4 and 6 are in b while 2 and 8 are not.

Question 6

From the following list:

```
a = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

Write a single line of Python code using slices that creates a new list b with elements [1, 2, 3, 8, 9, 10].

Question 7

- Anne is taking the following courses: 'Math', 'English', 'German', 'Physics', 'History', 'Economics'.
- Ben is taking the following courses: 'Math', 'English', 'French', 'Chemistry', 'History', 'Business'.

Create two Python variables containing the courses Anne and Ben are taking. Write a line of Python code to find the courses they are taking together.

Question 8

This is continued from Question 7. Write a line of Python code to find what courses Ben is taking that Anne isn't taking.

Question 9

Use Python code to find the average of the following list of numbers:

```
a = [2, 4, 3, 8, 5, 3, 5, 9, 1, 7]
```

Write your code in such a way that if you change the list a to another one (potentially with a different number of elements) that the code will still work.

Question 10

Write a for loop over the following list of numbers that prints True if the number is even and False if the number is odd:

```
a = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```