

# Workshop



1. Go through the slides and make sure you know what these things are:
  - Lists
  - For loops
  - While loops
  - Conditional statements ( `if - else` )

1. Remove the first two numbers from the following list:

```
[2, 3, 9, 10]
```

2. Extract the fourth character 'B' in the string

```
'To Be or Not To Be'
```

3. Stop the loop after it has run 500'000 times:

```
for x in range(0, 1000000):  
    print(x)
```

4. Modify the following program to print all numbers from the list except the number 12 :

```
for x in [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]:  
    print(x)
```

5. Reverse the following list and print it:

```
[9, 2, 5, 1]
```

6. Remove the element 1 in the list [9, 2, 5, 1]

7. Is the number 70686 contained in the following range?

```
range(0, 1323123, 2142)
```

8. What is the value of the variable counter after the execution of the following program?

```
counter = 2132 * 0 + 100  
counter += 4  
counter *= 2
```

9. What is the printed by the following program?

```
book_title = 'Fantastic Beasts and Where to Find them'  
book_title = book_title[:13] + book_title[14:]  
print(book_title)
```

10. Enter the following program in Mu editor. Set a breakpoint on line number 5. What is the value of the variable content in the eight iteration of the loop?

In [ ]:

```
1 idx = 0  
2 content = 0  
3 for character in 'Call me Ishmael.':  
4     content += idx + ord(character)  
5     print(content)  
6     idx += 1
```

11. Your very first Python program from the last session was the game Hangman (in file `hangman.py` or again listed below).

Take this program, go line-by-line through it and try to write for each line a comment that explains what is going on in that line. In case you do not understand what is going on try to discuss it with your fellow students or take a note and come back to it after one of the following sessions.

For example, the lines:

```
guesses = ''  
turns = 10
```

could be annotated with the following comments:

```
# an empty string is assigned to the variable `guesses`  
guesses = ''  
# the integer `10` is assigned to the variable `turns`  
turns = 10
```

In [ ]:

```
1 name = input('What is your name? ')
2 print('Hello, ' + name + '. Time to play hangman!')
3 print('Start guessing...')
4
5 secret_word = 'secret'
6 guesses = ''
7 turns = 10
8
9 while turns > 0:
10     failed = 0
11
12     for char in secret_word:
13         if char in guesses:
14             print(char, end='')
15         else:
16             print('_', end='')
17             failed += 1
18
19     if failed == 0:
20         print('\nYou won')
21         break
22
23     print()
24     guess = input('guess a character: ')
25
26     if len(guess) > 1:
27         print('Only one character at the time, please!')
28         continue
29
30     guesses += guess
31
32     if guess not in secret_word:
33         turns -= 1
34         print('Wrong\n')
35         print('You have ', turns, ' more guesses')
36         if turns == 0:
37             print('You Loose')
```