LOOPS
Test on next Thursday

- During practice session on March 21, 2019.
- Duration 90 minutes, usual duration of the practice session.
- Covers topics from Weeks 1 to 5.
- First part is a small quiz consisting of questions similar to those in weekly quizzes.
- Second part is programming consisting of exercises similar to those in homeworks and practice sessions.
- In first part materials not allowed, in second part materials allowed.
- Programming exercises must be solved in Thonny.
Possible exam dates

• Thursday, June 6
• Thursday, June 13
• Retake Thursday, June 20

Format of the exam will be similar to that of the tests.
Indefinite loops (while)

while condition:
    statement
    statement
    statement

a = 0

while a < 5:
    print('Loop')
    a += 1
Definite loops (for)

```
for variable in list:    for a in [1, 2, 3, 4, 5]:
    statement          print(a)
    statement

for name in ['Iko', 'Püü', 'Kõu']:
    print('Hello,', name)
print('Done!')
```
The break and continue statements

```python
a = 0
while a < 100:
    if a % 5 == 0:
        continue
    if a % 3 == 0:
        continue
    print(a)
    a += 1
a = 100
while a < 107:
    if a % 7 == 0:
        break
    a += 1
print(a)
```

```python
a = 100
while a < 107:
    if a % 7 == 0:
        break
    a += 1
print(a)
```
Infinite loops

while True:
    s = input("Enter 'done': ")
    if s == 'done':
        break
print("Thank you!")
Shorthands for increment, decrement, etc

\[
\begin{align*}
  x &= x + 1 \\
  x &= x - 1 \\
  a &= a \times 2 \\
  a &= a \div 10 \\
  a &= a \mod 3 \\
  a &= a \times \times 2
\end{align*}
\]

\[
\begin{align*}
  x &= x + 1 \\
  x &= x - 1 \\
  a &= a \times 2 \\
  a &= a \div 10 \\
  a &= a \mod 3 \\
  a &= a \times \times 2
\end{align*}
\]
Constant None

>>> type(None)
<class 'NoneType'>

Examples:
• Variable without a value
  largest_so_far = None
• Function without return value
  def fun():
      print('A')
  print(fun())