

# Kolos

## 1 Kolokwium

- Link: <https://cogsys.io/kolos-gr01.html>
- Czas: 45 minut
- Dozwolone:
  - kartka,
  - długopis,
  - <https://www.python.org/>
  - <https://docs.python.org/3/tutorial/introduction.html>
- Niedozwolone:
  - ChatGPT
  - kolega/koleżanka z pracowni
  - komunikacja z osobami z zewnątrz

## 2 Trójkąt

### 2.1 Zadanie

```
# Sprawdź czy z odcinków a, b, c można zbudować trójkąt
# a jeżeli tak to czy będzie on trójkątem prostokątnym.
a = 5
b = 13
c = 1
c = 11
c = 12
# sprawdź czy program zadziała dla innych wartości c
```

## 3 Prosty wzór

### 3.1 Zadanie

```
# Za pomocą pętli for narysuj wzór z kropek
nn = 5
# .
# ..
# ...
# ....
# .....
```

## 4 Letters

### 4.1 Zadanie

```
# zmień poniższy kod żeby zamiast
# index: 0 element: a | a
# index: 1 element: b | bb
# index: 2 element: c | ccc
# index: 3 element: d | dddd
# index: 4 element: e | eeeee
# index: 5 element: f | ffffff
# index: 6 element: g | ggggggg
# index: 7 element: h | hhhhhhhh
#
# rysował
#
# index: 0 element: h | h
# index: 1 element: g | gg
# index: 2 element: f | fff
# index: 3 element: e | eeee
# index: 4 element: d | dddd
# index: 5 element: c | ccccc
# index: 6 element: b | bbbbbbb
# index: 7 element: a | aaaaaaaaa

from string import ascii_lowercase as alpha
total = 8
letters = alpha[:total]
for idx, letter in enumerate(letters):
    print(
        f"index: {idx} element: {letter} | " +
        f" {letter * (idx + 1)}")

print("OK")
```

```
index: 0 element: a | a
index: 1 element: b | bb
index: 2 element: c | ccc
index: 3 element: d | dddd
index: 4 element: e | eeeee
```

```

index: 5 element: f | ffffff
index: 6 element: g | ggggggg
index: 7 element: h | hhhhhhhh
OK

```

## 5 Pattern

### 5.1 Zadanie

```

# Rozwiń poniższy kod, żeby narysować
# index: 0 letter: a /      a      a      a      a      a
# index: 1 letter: b /      bbb    bbb    bbb    bbb    bbb
# index: 2 letter: c /      ccccc  ccccc  ccccc  ccccc  ccccc
# index: 3 letter: d /      dddddd dddddd dddddd dddddd dddddd
# index: 4 letter: e /      eeeeee eeeeee eeeeee eeeeee eeeeee
# index: 0 letter: a /      aaaaaaa aaaaaaa aaaaaaa aaaaaaa aaaaaaa
# index: 1 letter: b /      bbbbbbb bbbbbbb bbbbbbb bbbbbbb bbbbbbb
# index: 2 letter: c /      ccccc  ccccc  ccccc  ccccc  ccccc
# index: 3 letter: d /      ddd    ddd    ddd    ddd    ddd
# index: 4 letter: e /      e      e      e      e      e
# index: 0 letter: a /      a      a      a      a      a
# index: 1 letter: b /      bbb    bbb    bbb    bbb    bbb
# index: 2 letter: c /      ccccc  ccccc  ccccc  ccccc  ccccc
# index: 3 letter: d /      dddddd dddddd dddddd dddddd dddddd
# index: 4 letter: e /      eeeeee eeeeee eeeeee eeeeee eeeeee
# index: 0 letter: a /      aaaaaaa aaaaaaa aaaaaaa aaaaaaa aaaaaaa
# index: 1 letter: b /      bbbbbbb bbbbbbb bbbbbbb bbbbbbb bbbbbbb
# index: 2 letter: c /      ccccc  ccccc  ccccc  ccccc  ccccc
# index: 3 letter: d /      ddd    ddd    ddd    ddd    ddd
# index: 4 letter: e /      e      e      e      e      e
from string import ascii_lowercase as alpha
total = 8
letters = alpha[:total]
for idx, letter in enumerate(letters):
    print(
        f"index: {idx} element: {letter} |" +
        f" {letter * (idx + 1)} ")

```

```

index: 0 element: a | a
index: 1 element: b | bb
index: 2 element: c | ccc
index: 3 element: d | ddd
index: 4 element: e | eeee
index: 5 element: f | ffffff
index: 6 element: g | ggggggg
index: 7 element: h | hhhhhhhh

```