

30.06.2021

January 7, 2022

1 PYTHON MODULE

1.1 Exercise 1

Determine the output of the three following blocks of Python code. Justify your answer with a short explanation.

```
[ ]: x = [3, 2, 6, 8, 9, 0, 5, 7]
sum = 0
for v in x:
    if v == 0:
        break
    elif v % 2 == 0:
        continue
    sum += v
print(sum)
```

```
[ ]: names = ['David', 'Esther', 'Frank']
result = []
for s in names:
    t = s[::-1].capitalize()
    result.append(t)

result
```

```
[ ]: import numpy as np
A = [1, 3]
B = [2, 5]
M = np.outer(A,B)
print(M)
```

1.2 Exercise 2

Describe Principal Component Analysis (use mathematical notation where appropriate) and explain what it can be used for.