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.

```python
[ ]: 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.