Fourth Industrial Revolution (4IR) Summer School
Data Preparation – Day 1 exercises
NumPy Arrays

Question 1

Write a Write a NumPy program to convert a list of numeric value into a one-dimensional NumPy array.

Question 2

Write a NumPy program to create a 5x5 array with random values, then

- Find the minimum and maximum values.
- Find the indices of the minimum and maximum values.
- Extract the first two rows of the array and store them into a variable.

Hint: you can use the functions: min(), max(), argmax(), argmin().

Question 3

Write a NumPy program to find common values between two arrays (hint: find the intersection)

Sample:

Array1

10	11	24	25	12	9

Array2

10	22	16	90	24	20

Result

10	24

Hint: (you can use intersect1d())

Question 4

Write a NumPy program to create a 3x3 matrix with values ranging from 2 to 10. Then append two new rows [40, 50, 60], [70, 80, 90] to the array.

Hint: use append function with specifying the axis value

Question 5

Write a NumPy program to create a 2d array with 1 on the border and 0 inside.

Sample:

1	1	1	1
1	0	0	1
1	0	0	1
1	1	1	1

Hint: use ones function, then access the values in the middle to change them.