

ADS1 exercises – Statistics 1

1. Use the `os` module to
 - (a) Print your current working directory and list its content.
 - (b) Create a new directory (e.g. `tmp`). Verify by listing the content of your current working directory.
 - (c) Remove the new directory and confirm by listing the content again.
2. Attached the file `distributions.csv`.
 - (a) Use `pandas` to read the file and get a first overview using the `describe` method.
 - (b) Write a function which prints average, standard deviation, skewness and kurtosis of a distribution. Check out the kurtosis of the normal distribution. What type of kurtosis is calculated: Pearson or excess kurtosis?
 - (c) Write a function which returns the centralised and normalised distributions. Apply it to the four distributions. Verify its working using the first function.
 - (d) Plot histograms of the distributions with 50 bins and the range $[-4, 4]$. Either as four single plots or four subplots.