

Task 1

- 1) Apply a function which can read a signal from txt file in this format.
First row -> N (number of samples)
Second row -> sample 1 index sample 1 value
Third row -> sample 2 index sample 2 value
Forth row -> sample 3 index sample 3 value
.....
Final row -> sample N index sample N value
- 2) The ability to display a signal using any visualization library.
- 3) The ability to add input signals (any number) and display the resulted signal
- 4) The ability to multiply a signal by a constant value to amplify or reduce the signal amplitude.
- 5) The ability to subtract input signals and display the resulted signal
(Hint: you can use addition after multiplying the second signal by a constant = -1)
- 6) Delaying or advancing a signal by k steps [$x(n+k)$ or $x(n-k)$]
- 7) Folding/reversing a signal [$x(-n)$]

Note: You should develop a Python project that includes a graphical user interface (GUI) implemented using any suitable framework or library. All future tasks should be integrated into this same project.