Introduction

In the first lesson, we will look at the mathematical relationships between the DFT, DFS, and DTFT. We will see that the DTFT is indeed the most general tool, since we can obtain a DTFT representation of finite-support and periodic signals as well. The interest of this lesson is primarily theoretical. If you like the fine details of the mathematics behind the Fourier transforms, you will probably enjoy it. If not, feel free to skip this lesson with no consequences!

In the second lesson we will look at zero-padding, a technique that is sometimes used to make the DFT "look" better but that reveals no more information about the signal than the original DFT.