00_Introduction

September 25, 2016

1 Digital Signal Processing 2016 - 2017

1.1 Course description

Lectures: Nicolae Cleju
Labs: Nicolae Cleju
Final grade = Exam 60% + Lab 20% + Homeworks/Tests 20%

1.2 Bibliography

1. ***Prelucrarea digitală a semnalelor*, Daniela Tărniceriu** (romanian)
2. *Digital Signal Processing: Principles, Algorithms and Applications*, John G. Proakis, Dimitris G. Manolakis, 3rd Edition (english)
3. Lots of others

1.3 Course outline

1. Sampling of analog signals
2. Discrete signals and systems
3. The Z transform
4. Frequency analysis of discrete signals and systems
5. The Discrete Fourier Transform
6. Implementation of discrete systems

1.4 What you will learn

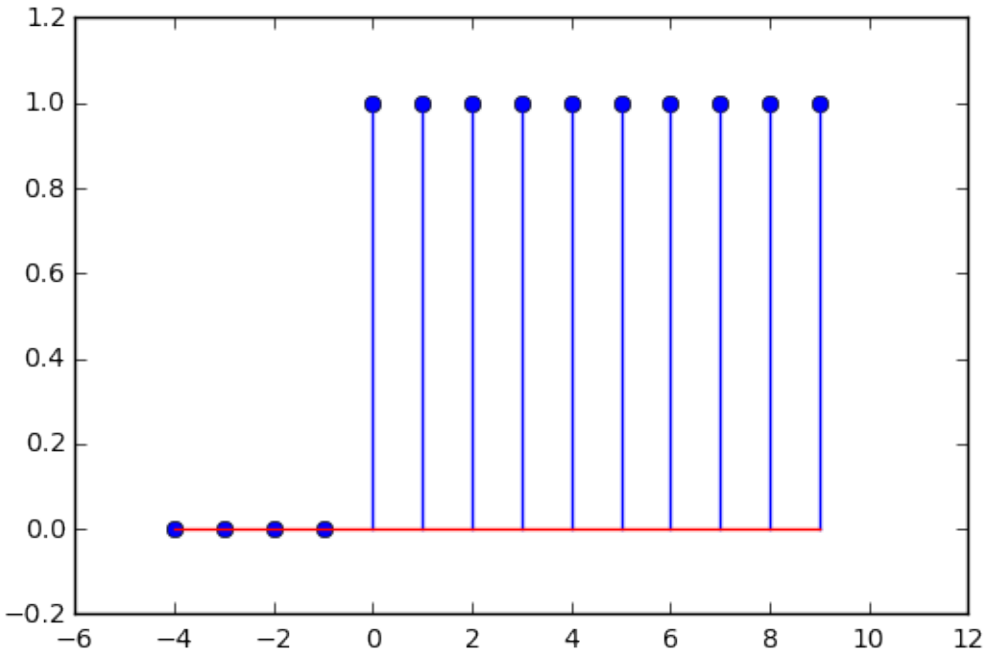
Example

1.5 Plot test

Let us plot the step signal $u[n]$:

```
In [1]: %matplotlib inline
        import numpy as np
        import matplotlib.pyplot as plt
        t = np.arange(-4,10,1)
        u = np.array([0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1 ])
        plt.stem(t,u)
        plt.axis((-6, 12, -0.2, 1.2))
```

Out[1]: (-6, 12, -0.2, 1.2)



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