

Simulation Output:

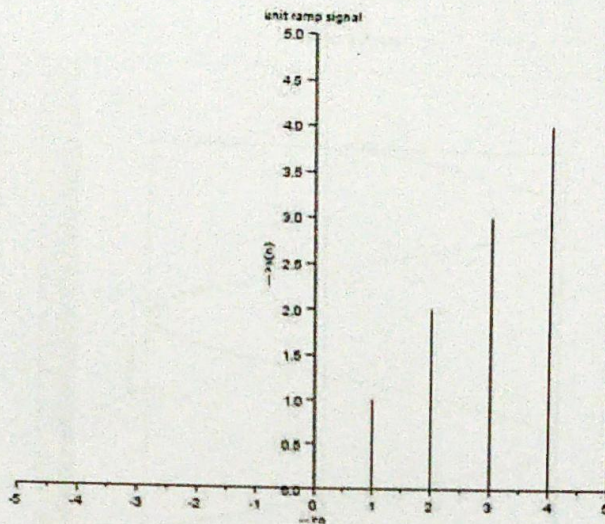


Figure 1.7 : unit ramp

Pre-lab questions:

1. What is continuous signal and discrete signal?
2. What are the properties of a signal?
3. How is a signal generated?
4. What is the difference between analog and digital signals?
5. Which signal is more reliable analog or digital?

Post-Lab questions:

1. Derive the code and show the output for signum function.
2. Derive the code and show the output for sinc function.
3. Derive the code and show the output for discrete exponential wave.

Result:

Hence, basic signals were generated and observed using Scilab.

Aditya
7-9-2022

DIGITAL SIGNAL PROCESSING LAB
EXPERIMENT-I GENERATION OF BASIC SIGNALS

I Pre-Lab Questions.

1. What is Continuous Signal and Discrete Signal?

Ans. A Continuous time Signal is an analog representation of a natural signal, with characteristically smooth transitions between peaks and valleys. A discrete time signal is a digital representation of a continuous signal, it has a magnitude that is held constant for a duration of each sample.

2. What are the properties of a signal?

Ans. Phase: It describes the position of the waveform relative to time zero.

Wavelength: The total length of the wave is known as the wavelength. (λ).

Frequency: The number of waves passing through a point in a second is the frequency of the signal (ν).

Time period: The amount of time required to complete one full cycle.

3. How is signal generated?

Ans. A function generator is the most common type of signal generator. It generates simple repetitive waveforms of varying magnitudes and frequencies.

4. What is the difference between analog and digital signals?

Ans. Analog signals are continuous signals which represent physical measurements. Digital signals are discrete time signals generated by digital modulation.

Admission

7-19-2022

5. Which signal is more reliable analog or digital?

John.

Digital signals are a more reliable form of transmitting information because an error in the amplitude or frequency would have to be very large in order to cause a jump to a different value.