EEE328
Digital Signal Processing

Ankara University

Faculty of Engineering

Electrical and Electronics Engineering Department

Continuous-Time and Discrete-Time Signals

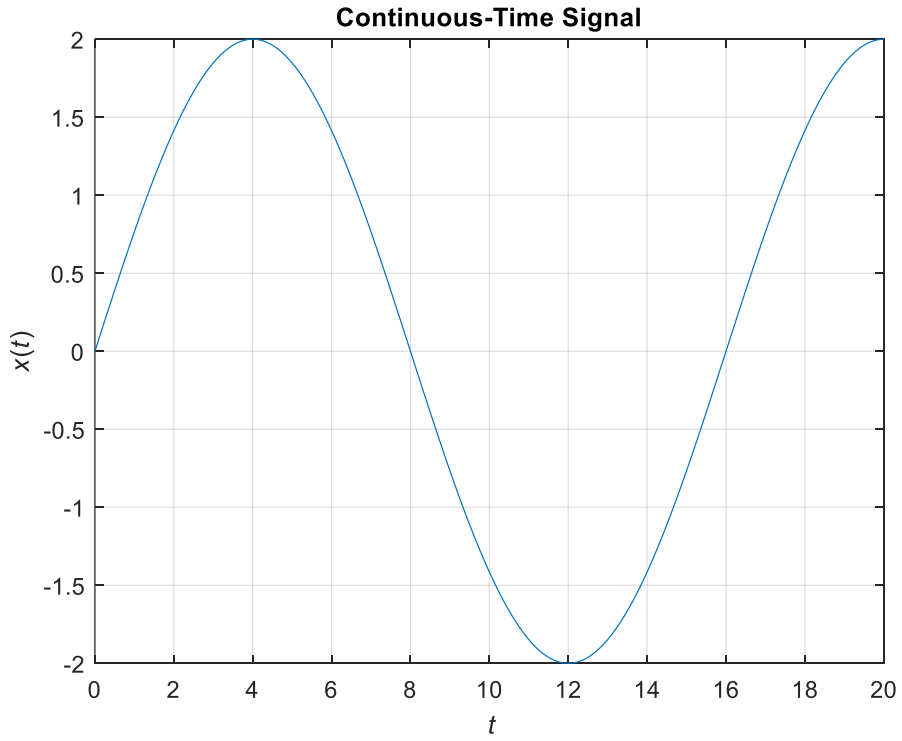
EEE328 Digital Signal Processing

Lecture 1

Agenda

- Continuous-Time Signals
- Discrete-Time Signals

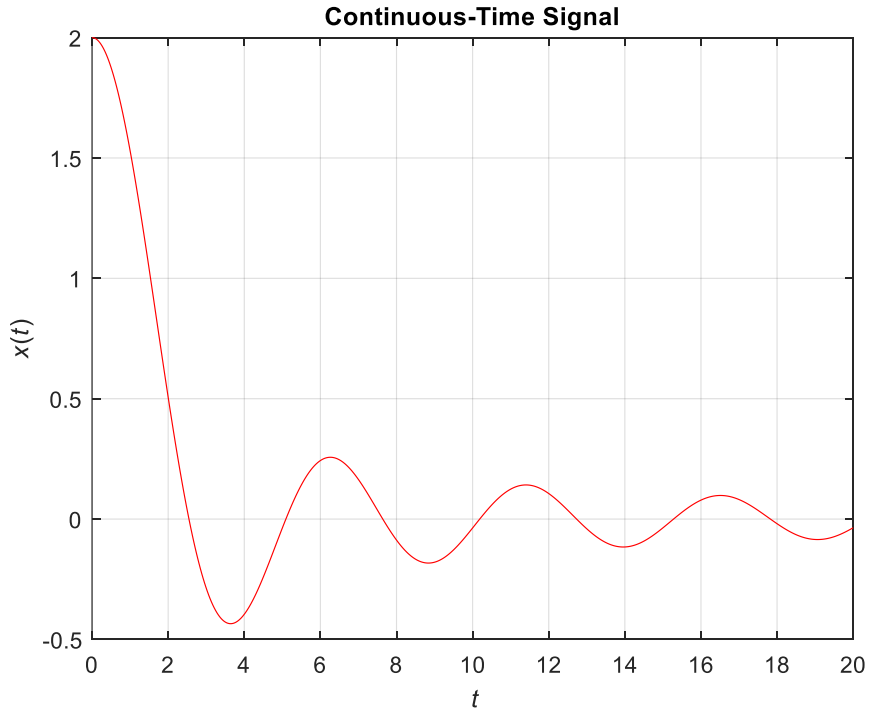
Continuous-Time Signals



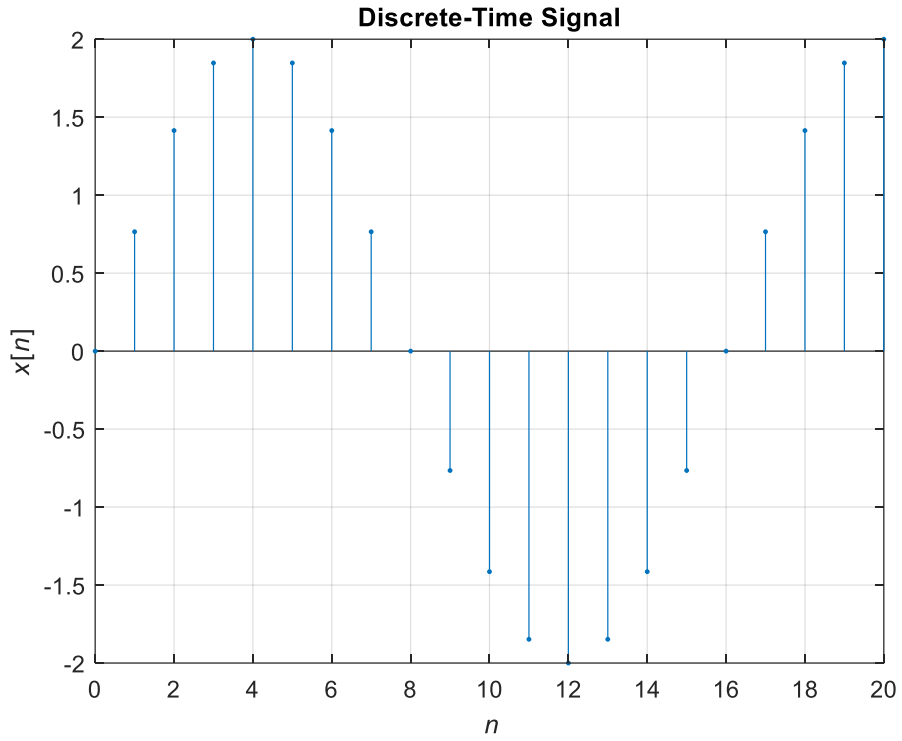
t: Continuous time independent varilable (in seconds)

x(*t*): Continuous-time signal

Continuous-Time Signals



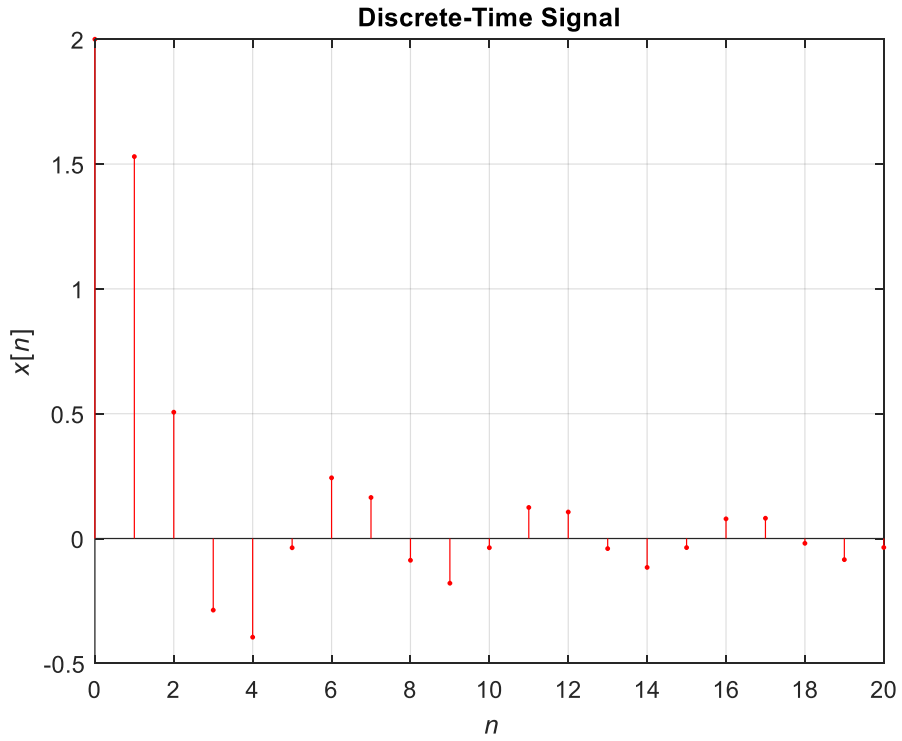
Discrete-Time Signals



n: Discrete time independent varilable

x[*n*]: Discrete-time signal

Discrete-Time Signals

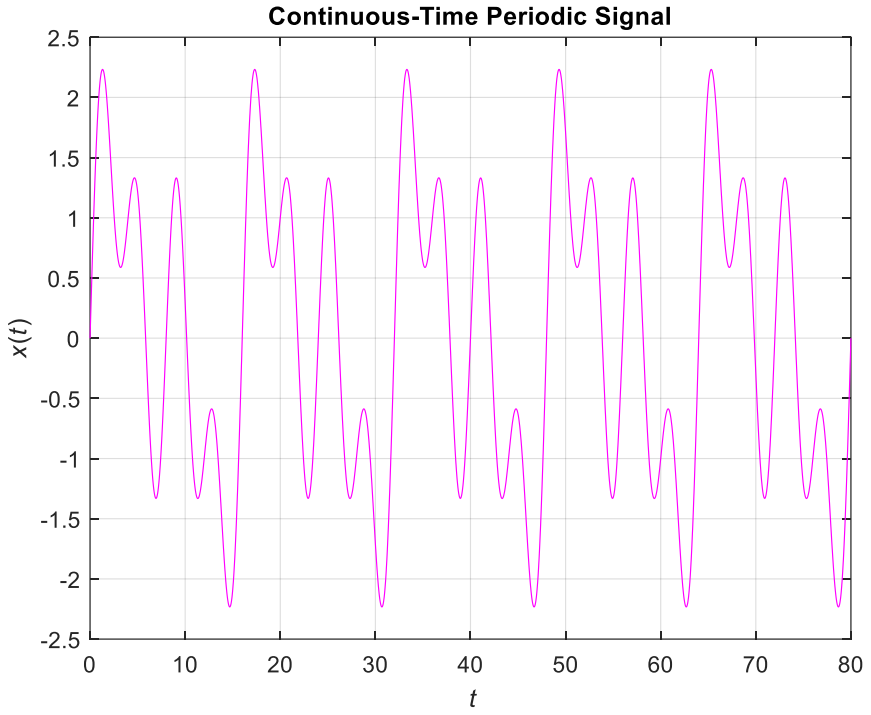


- Periodic Signals

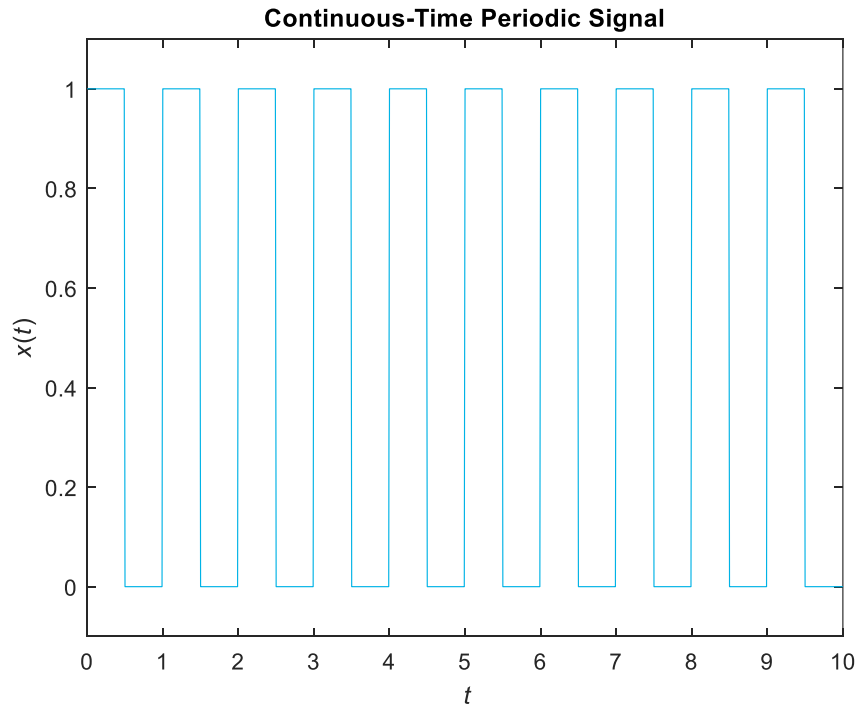
$x(t)=x(t+T)$ Continuous-Time Periodic Signal

$x[n]=x[n+N]$ Discrete-Time Periodic Signal

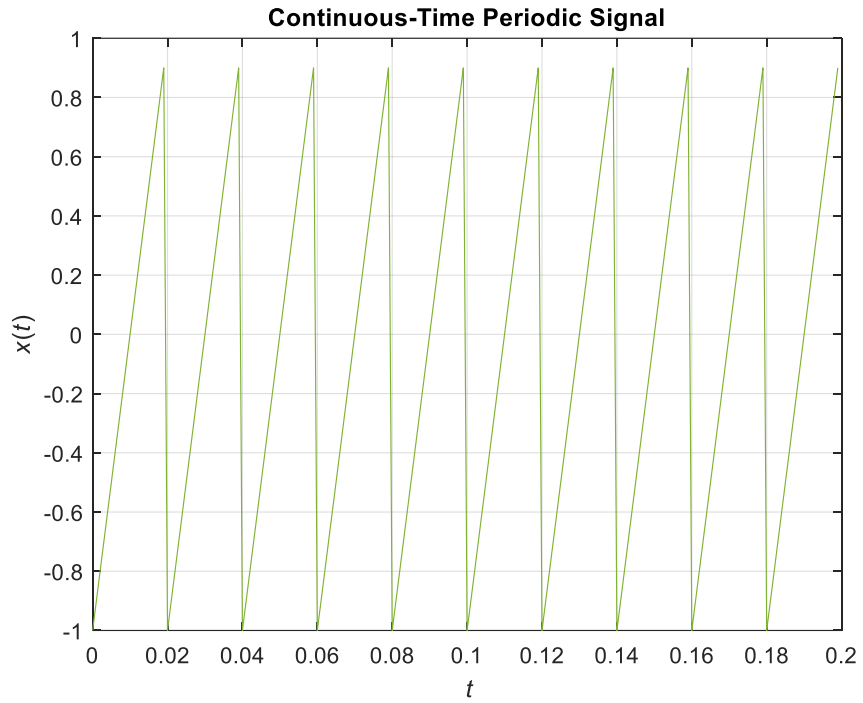
Continuous-Time Periodic Signals



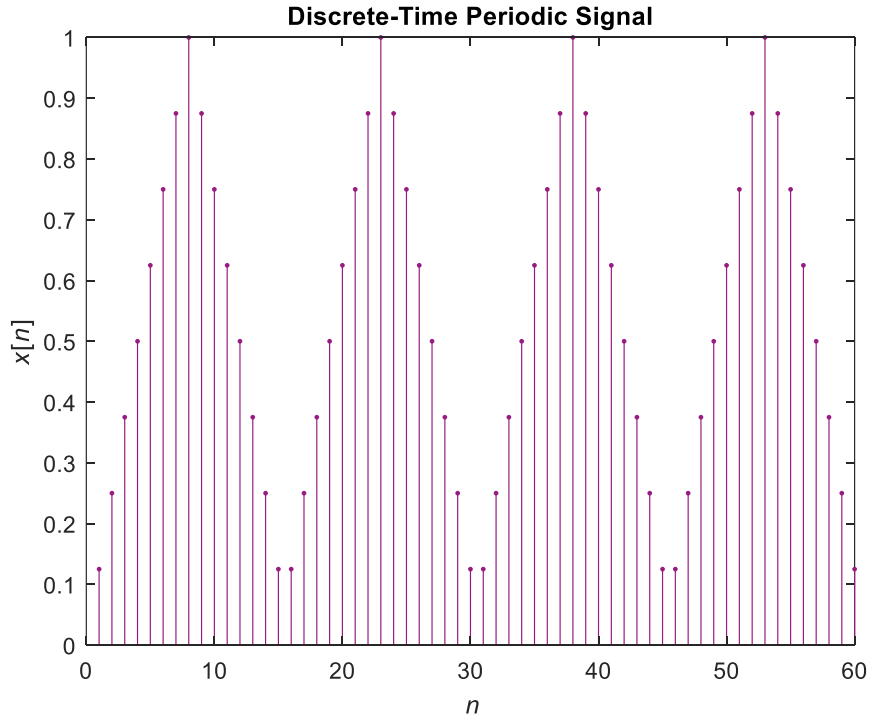
Continuous-Time Periodic Signals



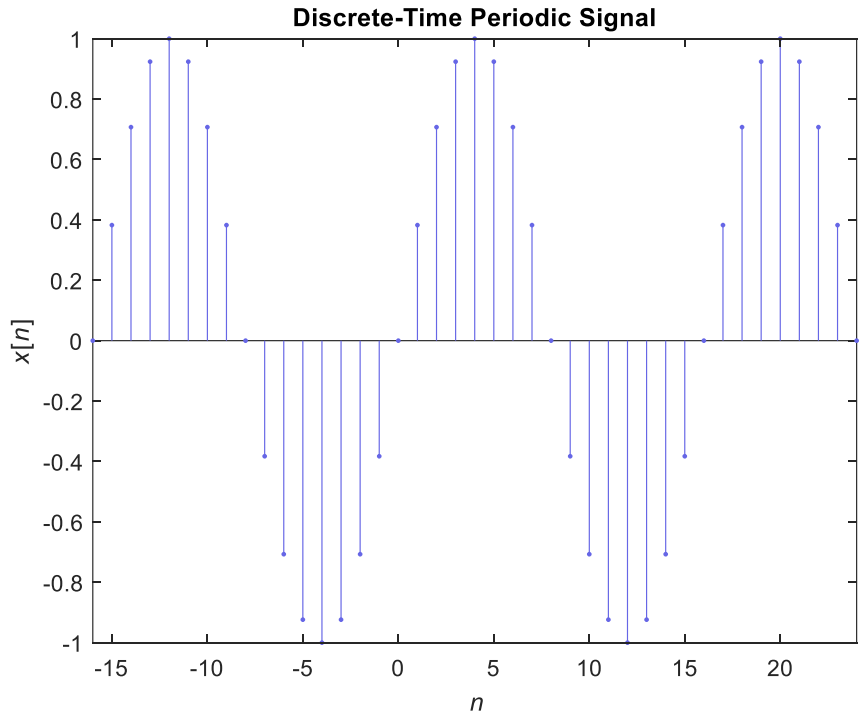
Continuous-Time Periodic Signals



Discrete-Time Periodic Signals



Discrete-Time Periodic Signals



References

- Signals & Systems, Second Edition, A. V. Oppenheim, A. S. Willsky with S. H. Nawab, Prentice Hall, 1997
- Discrete-Time Signal Processing, Second Edition, A. V. Oppenheim, R. W. Schafer with J. R. Buck, Prentice Hall, 1999