Digital Signal Processing

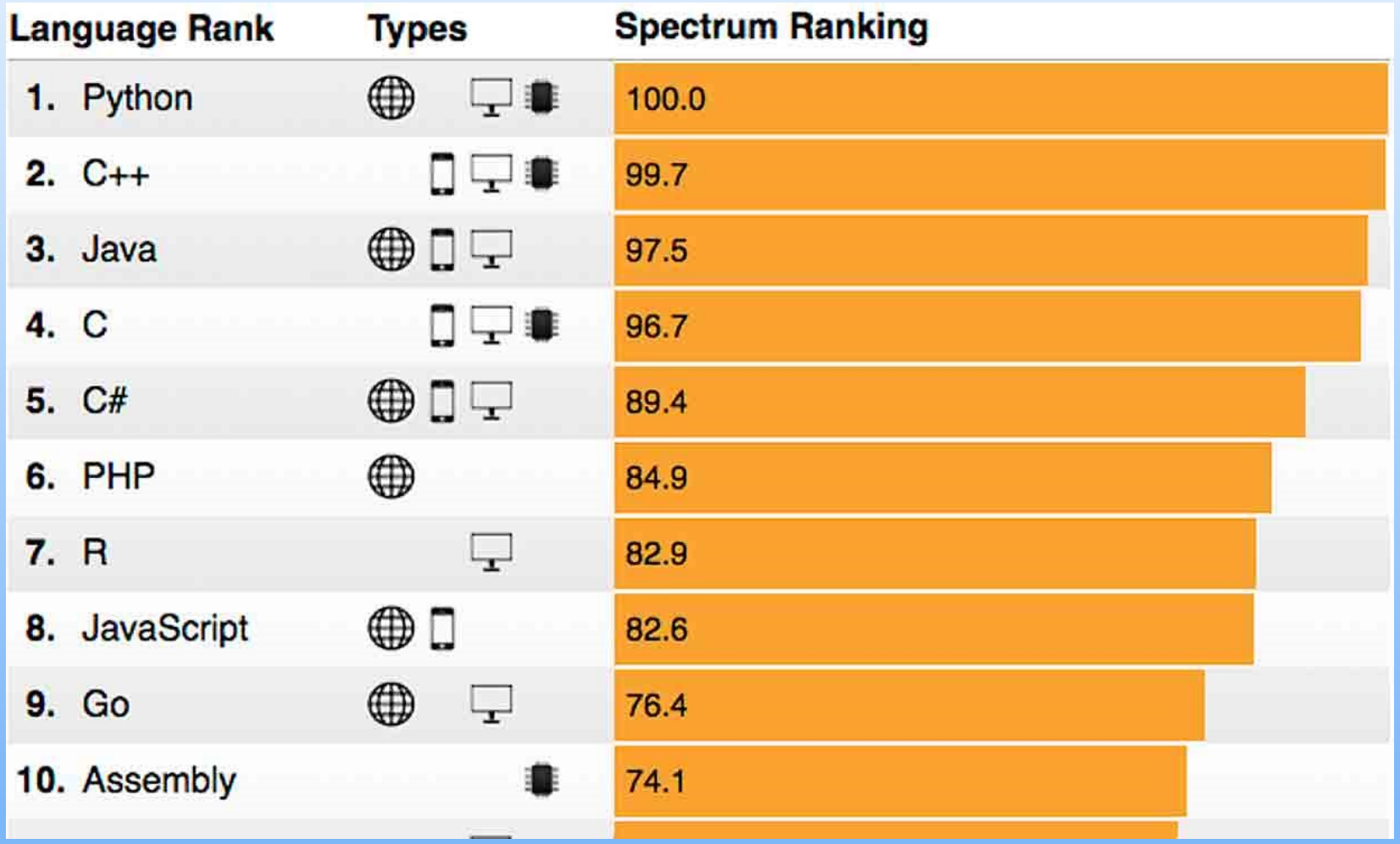
Lecture 1 – Course Introduction

상명대학교
컴퓨터과학과
강상욱 교수

Goals of Digital Signal Processing

- Basic signal processing concepts and manipulation
  - Computer science oriented lecture
- Real signal handling
  - Audio
  - Video
  - Many techniques and applications
- Getting familiar with Python programming
  - Very good at signal processing
  - Not as hard as C programming
  - Many applications including video processing and artificial intelligence

IEEE Spectrum Ranking (2018)



강사 소개

- 소개
- 연락처
  - M327, R320
  - 7588
  - sukang@smu.ac.kr
- Q & A

Grading Policy

- 시험
  - 중간고사 : 30%
  - 기말고사 : 50%
- H/W (Exercises in the textbook)
  - 20% (Late submission NEVER allowed)
  - Around 1 HW per chapter

Contents

- Overview - 1w
- Python and development environment setup - 1w
- Sounds and signals - 1w
- Harmonics - 1w
- Non-periodic signals -1w
- Noise -1w
- Autocorrelation -1w
- Mid-term Exam (8th week)
- Discrete Cosine Transform -1w
- Filtering and convolution -1w
- LTI systems -1w
- Digital image processing Basics - 1w
- Image filtering and interpolation – 2w
- Final Exam

Text book

저　자 : Allen B. Downey

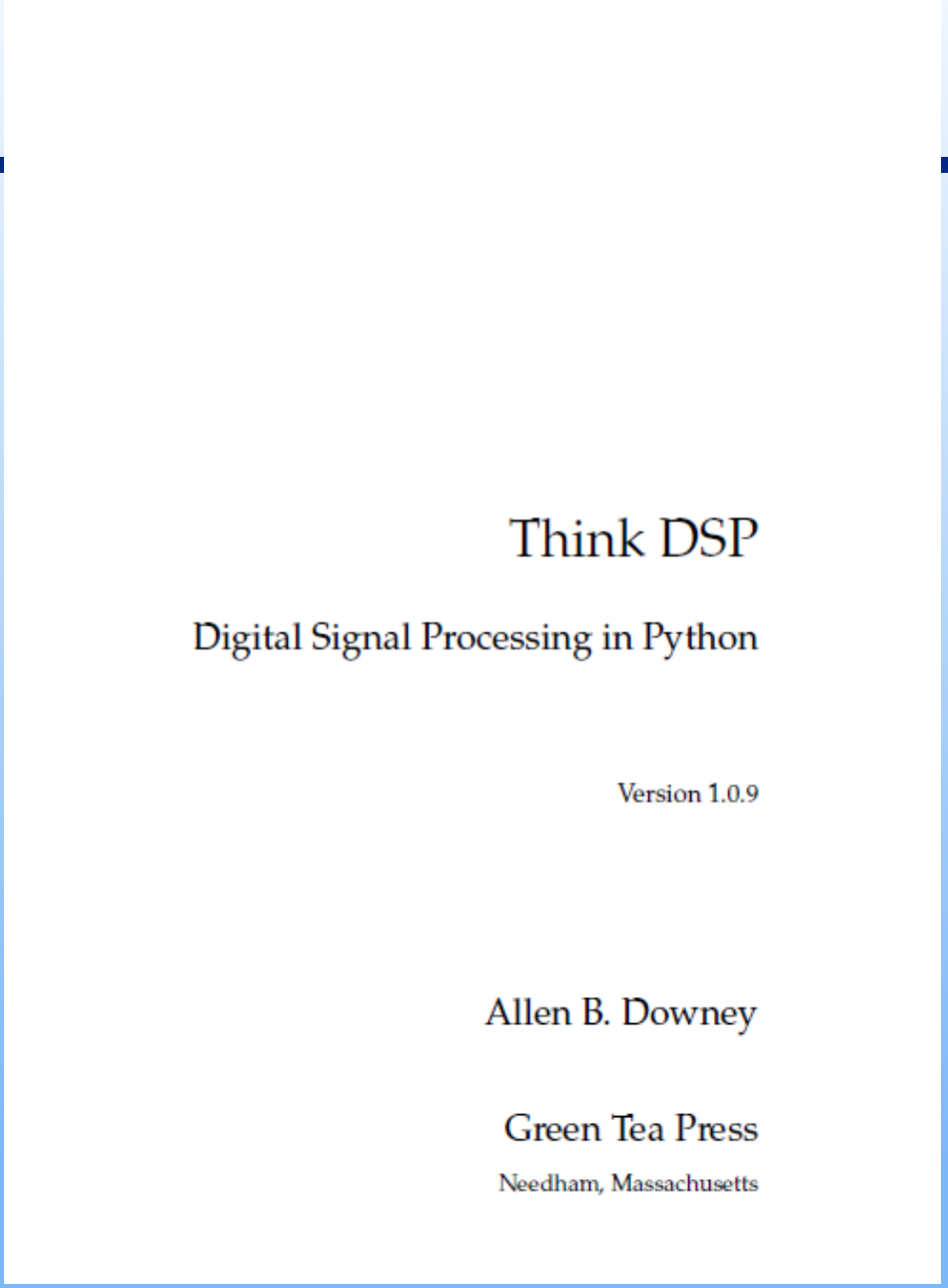
출판사 : Green Tea Press

Version : 1.0.9

저　자 : Rafael C. Gonzalez
Richard E. Woods

출판사 : Pearson

Version : 3rd (International Ed.)



To do well you should:

- Study with codes
- Ask for help immediately
- Practice, practice, practice…
- Follow along in class rather than take notes
- Ask questions in class
- Keep up with the class
- Read the book, not just the slides