

2018

Week 20

137-228

CSE415

# PRINCIPLES OF PROGRAMMING LANGUAGES

Thursday

MAY

17

9 TAUGHT BY

10 • prof. venkatesh chopella

## COURSE TOPICS

12 • the role of programming languages.

1 • Syntactic structure - grammars

2 • imperative programming

3 • values

4 • types and expressions

5 • semantic methods

6 • inductive datatypes & recursive programming

7 • functional programming

- list manipulation

- high order functions and currying

• data abstraction and abstract data types

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Friday

- arithmetic & algebraic interpreters
- block structure & lexical environments
- scope & binding
- procedures & closures
- recursion
- implementing recursion
- dynamic scope
- stores
- computational effects
- explicit & implicit references
- implementing mutation
- expressible and denotable values
- parameter passing
  - call by value
  - call by reference

2018

Week 20  
139-226

4.8.2020

3 MAY

Saturday

19

- call by name

• lazy evaluation

• introduction to lambda calculus

• tail recursion

• iterative systems

• continuation passing style (CPS)

• converting to CPS

• Continuation-passing interpreters

• trampolining

• debugging

• single stepping and breakpoints

• making control context explicit

• imperative form

• modeling exceptions & threads

• other programming paradigms like logic and object oriented programming.

Sunday 20

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MAY

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Monday

5.8.2020

2018

Week 21

141-224

- comparative study of languages

## 10 TEXTBOOKS

1. essentials of programming languages; friedman.
2. programming languages - concepts and constructs; sethi.
3. simply scheme: introducing computer science; harvey.