HOW TO DESIGN PROGRAMS : PREFACE
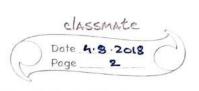
K-12   "tinker until it works"

vs

systematic thought, planning, understanding

good program comparable to time tested poems

satisfaction comes with creative design

SYSTEMATIC PROGRAM DESIGN

which functions are needed

how to connect them

how to build them — from basic ingredients

2 concepts   inspiration:

• design recipes   - michael jackson

• iterative refinement   creating COBOL programs

                                        - daniel friedman

                                           recursion

design recipes (apply to)   - robert harper

 - complete programs   type theory

 - individual functions   - daniel jackson

                                           software design

iterative refinement

- stripping away all inessential details

- finding a solution for core problem

DRRACKET AND THE TEACHING LANGUAGES

study of principles	using racket for
acquisition of transferable skills	- gaming
	- control of telescopic arrays

SKILLS THAT TRANSFER

lets do	analysis
- analyze problem	precision
- extract & express its essense	description
- try examples	focus
- make outlines through analysis	attention to detail
- evaluate results vs etarget	
- make revisions	(iterative development process)

THIS BOOK AND ITS PARTS

how to program	the nature of numbers
fixed size data	generative recursion
begining student language	cost of computation
arbitratily large data	accumulators
quote, unquote	moving on
abstraction	
scope & abstraction	
intertwined data	