Phase	Goal	Activity
Data Analysis & Design	to formulate a group of data definitions	develop a data definition for mixed data with at least two alternatives • one alternative must not refer to the definition • explicitly identify all self-references in the data definition
Contract Header & Purpose	to name the program, to specify its inputs & outputs, to describe its purpose, to formulate a program header	name the function, its inputs, its output, and specify its purpose: ;; *name* : *in1 in2* . . . → *out* ;; **Purpose**: to compute . . . *x1* . . . *x2* (**define** (*name x1 x2* . . .) . . .)
Examples	to characterize the input-output relationship via examples	create examples of the input-output relationship • make sure there is at least one example per alternative
Template	to formulate an outline for a group of programs	develop a **cond**-expression with one clause per alternative • add selector expressions to each clause • annotate the body with *natural recursions* • TEST: the self-references in this template and the data definition match!
Body	to define the program	formulate a Scheme expression for each simple **cond**-line • explain for all other **cond**-clauses what each natural recursion will compute • formulate the answer, using selector expressions, parameters, *etc*.
Test	to expose mistakes ("typos" and logic)	apply the function to the inputs of the examples • check that the outputs are as predicted above