19CS313 Principles of Programming Languages
Lab Evaluation

Instructions

1. There are two sets in this lab evaluation. Take the last three digits of your roll number and compute mod 2. If it is 0 take Set1 else if it is 1 take set 2.
2. Write both functions in the same file and name it with your last three digits of your roll number. For example, 413.hs (for the roll number CB.EN.U4CSE19413)
3. You have one hour time to complete both functions (which is in fact more than sufficient)

Set-1

1. Define a function *interleave* that takes in two lists and returns one list with elements from both lists interleaved. For example, interleave [a,b,c,d] [1,2,3,4,5, 6] → [a,1,b,2,c,3,d,4,5,6].

2. Zipwith is a built-in function that takes a function, two lists and then joins the two lists by applying the function between corresponding elements. Implement your version of zipwith. For example zipwith (+) [1,2,3,4] [4,3,2,1] evaluates to [5,5,5,5].

Set-2

1. Write a procedure *deepreverse* that takes a list as argument and returns as its value the list with its elements reversed and with all sub lists deep-reversed as well. For example, deepreverse [[1,2], [3,4]] evaluates to [[4,3],[2,1]].

2. The built-in filter function takes a function (predicate) and a list, and returns the list of elements that satisfy that predicate. A predicate is a function that returns a Boolean value. Filter (>3) [1,2,3,4,5,6,7] evaluates to [4,5,6,7]