

Idris Exercises: Part 1

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Questions

1. Take a look at the following selection of function specifications, given purely in the form of input and output types. For each of them, suggest possible operations that would satisfy the given input and output types. Note that there could be more than one answer in each case!
 - (a) Input type: `Vect n elem`
Output type: `Vect n elem`
 - (b) Input type: `Vect n elem`
Output type: `Vect (n * 2) elem`
 - (c) Input type: `Vect (1 + n) elem`
Output type: `Vect n elem`
 - (d) Input types: `Bounded n, Vect n elem`
Output type: `elem`
(Assume that `Bounded n` represents a number between zero and `n - 1`)
2. Complete the missing definitions in `intro1-list.idr`, `intro2-vect.idr` and `intro3-data.idr`
3. Reimplement `transpose.mat` using `zipWith` instead of `transpose_helper`.
4. Implement `addMatrix : Num a => Vect n (Vect m a) -> Vect n (Vect m a) -> Vect n (Vect m a)`