CS 571 Project 6 Instructions

Due: Monday, December 9

1 AST Manipulation   5 points

The file `ast.hs` contains a data structure `Expr` that encodes an abstract syntax tree for expressions. In the same file you should implement the `eval` function that evaluates an input expression. The file `ast.hs` also contains test cases for this function.

2 Stateful Data Structures   15 Points

In the file `bank.hs`, implement an interface for a bank account. Your interface should support the following operations:

- `deposit`, which takes in an input dollar amount and adds it to the bank account.

- `withdraw`, which takes in an input requested withdrawal amount and returns the actual amount. The `withdraw` operation should allow a bank account to be overdrawn up to $100.

- `getBalance`, which returns the current balance on the account. This will be a negative number if the account is overdrawn.

Your implementation should support composing operations with `do` notation, and you should define an auxiliary function `runBankOp` that runs a (sequence of) operations. Test cases are available in the file `bank.hs`.