

CSCE 330 Fall 2017
QUIZ 7
Assigned Tuesday, 17-12-05

1. Complete the declaration of the type `Op` used for the countdown problem example in the video assigned for viewing and in ch.9 [H].

`Op = Add |` **Answer:** `Op = Add | Sub | Mul | Div`

2. Complete the definition of the function `apply` that applies an operator to two integers. Assume that the integers have checked for validity.

`apply :: Op -> Int -> Int -> Int`

`apply Add x y =`

`apply Sub x y =`

`apply Mul x y =`

`apllly Div x y = x 'div' y`

Answer: `apply :: Op -> Int -> Int -> Int`

`apply Add x y = x + y`

`apply Sub x y = x -y`

`apply Mul x y = x * y`

`apllly Div x y = x 'div' y`

3. Define a type `Expr` for numeric expressions, which can either be an integer value or the application of an operator to two argument expressions.

`data Expr =`

Answer: `data Expr = Val Int | app Op Expr Expr`

4. Is this type recursive? **Answer:** Yes.