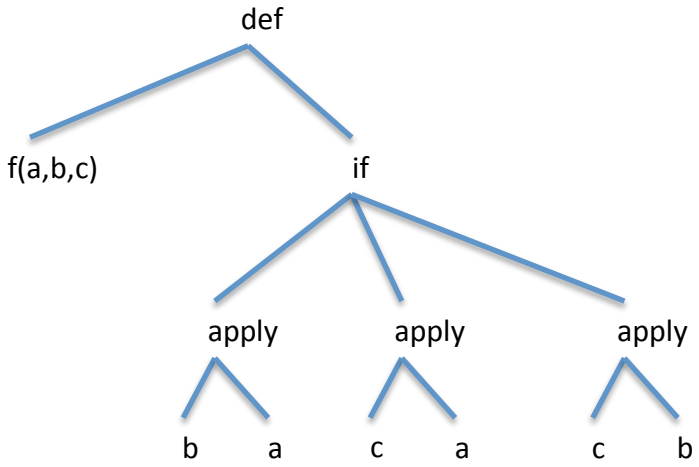
CSE 340 Fall 2015
HOMEWORK 3: Hindley-Milner type checking
Assigned 10/13/2015
Due 10/21/2015 by 11:59:59 pm on Blackboard
Remember that late submissions are not accepted for homework.
For all answers, show your work for partial credit.

All submissions should be typed. Exception can only be made for drawing parse trees, which can be handwritten and scanned in the submitted document.

Problem 1. Consider the following declaration

```
fun f(a,b,c) =  if b(a) then
                        c(a)
                  else
                        c(b)
```

using Hindley-Milner type inference, determine the types of f.

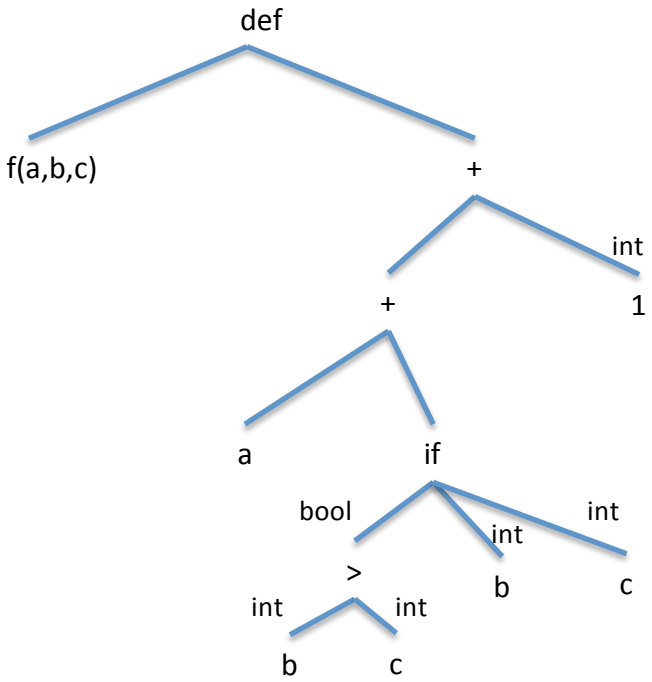


Type error! b is a function call in the if statement that takes a value a of type T

Problem 2. Consider the following definition

```
fun f(a,b,c) =   a + (if b > c then b else c) + 1
```

using Hindley-Milner type inference, determine the type of f. Note that the if expression evaluates to a value (either b or c) which gets added to a and 1.

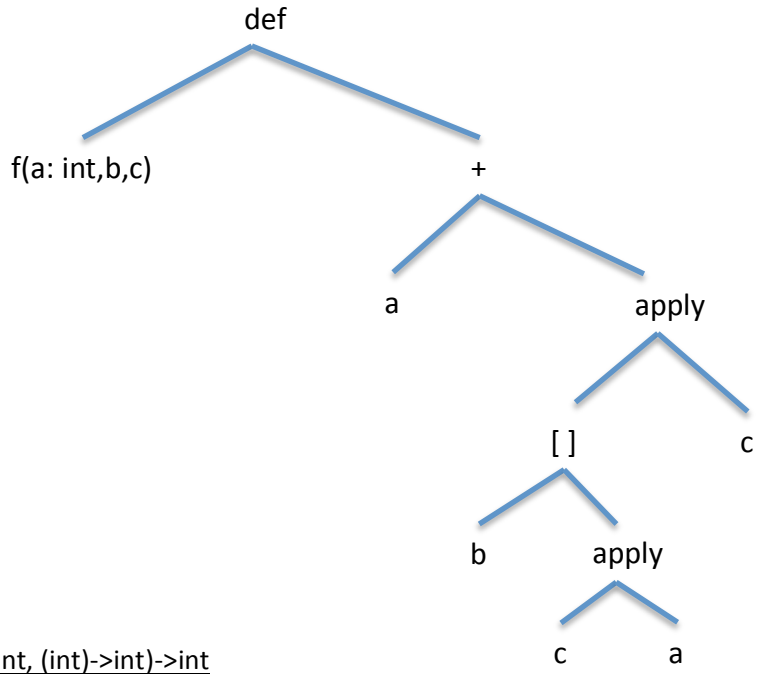


(int, int, int) -> int

Problem 3. Consider the following definition

```
fun f(a : int,b,c) =  a + b[c(a)](c)
```

using Hindley-Milner type inference, determine the type of f.



(int, Array of int, (int)->int)->int