

Challenge

Spare Time Teaching

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Problem

Remember "Breathe First", let's make it wilder and do it in Coq. Implement the function, `bf`, that will make a list of the nodes in breadth first order.

```
Require Import List.  
  
Inductive tree :=  
| Leaf : N → tree  
| Node : tree → N → tree → tree.  
  
Definition test :=  
  Node (Node (Leaf 4) 2 (Leaf 5))  
    1  
    (Node (Leaf 6) 3 (Leaf 7)).  
  
Fixpoint bf t : list N :=  
  ???  
  
Compute bf test.  
(*  
  1 :: 2 :: 3 :: 4 :: 5 :: 6 :: 7 :: nil  
  : list N  
  *)
```