Ejercicio 3 (Apartado 1 según hoja de examen)

a)
```
join empty b = b
join (insert x a) b = insert x (join a b)

delete x empty = empty
delete x (insert y a) = if (x==y) then a else insert y (delete x a)
```

b)
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data Bst a = E | N (Bst a) a (Bst a)

minV :: Bst a → a
minV (N E d r) = d
minV (N l d r) = minV l

delete :: Ord a ⇒ a → Bst a → Bst a
delete _ E = E
delete v t@(N l d r) | v < d = N (delete v l) d r
                     | v > d = N l d (delete v r)
                     | v == d = case t of
                                  (N E d E) → E
                                  (N E d r) → r
                                  (N l d E) → l
                                  (N l d r) → let y = minV r
                                              in N l y (delete y r)

split :: Ord a ⇒ a → Bst a → (Bst a, Maybe a, Bst a)
split v E = (E, Nothing, E)
split v N(l d r) | v == d = (l, Just d, r)
                 | v > d = let (l', v', r') = split v r in (N l d l', v', r')
                 | v < d = let (l', v', r') = split v l in (l', v', N r' d r)
```