

121√ Simplify each of the following (in integer variables x and y).

- (a) $x := y+1. y' > x'$
- (b) $x := x+1. y' > x \wedge x' > x$
- (c) $x := y+1. y' = 2x$
- (d) $x := 1. x \geq 1 \Rightarrow \exists x. y' = 2x$
- (e) $x := y. x \geq 1 \Rightarrow \exists y. y' = x \times y$
- (f) $x := 1. ok$
- (g) $x := 1. y := 2$
- (h) $x := 1. P$ where $P = y := 2$
- (i) $x := 1. y := 2. x := x+y$
- (j) $x := 1. \mathbf{if} y > x \mathbf{then} x := x+1 \mathbf{else} x := y \mathbf{fi}$
- (k) $x := 1. x' > x. x' = x+1$

§ see book Subsection 4.0.1