Function max

{true}

if $x > y$ then

$z := x$;

else

$z := y$;

$\{(x > y \wedge z = x) \vee (x < y \wedge z = y)\}$

{2-Armed conditional Rule}

2) $\{x < y \wedge P\}$

$z := y$;

$\{(x > y \wedge z = x) \vee (x < y \wedge z = y)\}$

{Assignment Axiom}

$P = ((x > y \wedge z = x) \vee (x < y \wedge z = y))[y/z]$

$= (x > y \wedge y = x) \vee (x < y \wedge y = y)$

$=$ False $\vee$ True

$=$ True

1) $\{x > y \wedge P\}$

$z := x$;

$\{(x > y \wedge z = x) \vee (x < y \wedge z = y)\}$

{Assignment Axiom}

$P = ((x > y \wedge z = x) \vee (x < y \wedge z = y))[x/z]$

$= (x > y \wedge x = x) \vee (x < y \wedge x = y)$

$=$ True $\vee$ False

$=$ True

{Precondition Strengthring}

$\{True\} \rightarrow \{True\}$

$\therefore T$

{Q.E.D}