Formula

precondition	statement	postcondition
{\original_pre}	statement	{\original_post & withdrawChangedResult(\result, withdrawDaily, \old(withdrawDaily), withdrawHourly, \old(withdrawHourly))}

Variables

LOCAL int newWithdrawDaily
PUBLIC int withdrawHourly
PUBLIC int withdrawDaily
PUBLIC final int HOURLY LIM...
PUBLIC final int DAILY LIMIT
LOCAL int newWithdrawHou...
RETURN boolean ret
PARAM int x

Statement1

precondition	statement	postcondition
{\original_pre}	newWithdrawDaily = withdrawDaily; newWithdrawHourly = withdrawHourly;	{newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly}

Composition

precondition	postcondition
{\original_pre}	{\original_post & withdrawChangedResult(\result, withdrawDaily, \old(withdrawDaily), withdrawHourly, \old(withdrawHourly))}

statement 1	intermediate condition	statement 2
statement1	{newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly}	statement2

SelectionStatement1

SelectionStatement IF..FI

guards

x < 0	x >= 0

precondition

{modifiable(\nothing);(newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly) & (x < 0)}	{modifiable(\nothing);(newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly) & (x >= 0)}

statements

statement	statement

postcondition

{newWithdrawDaily <= withdrawDaily & newWithdrawHourly <= withdrawHourly}

Composition

precondition	postcondition
{modifiable(\nothing);(newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly) & (x >= 0)}	{newWithdrawDaily <= withdrawDaily & newWithdrawHourly <= withdrawHourly}

statement 1	intermediate condition	statement 2
statement1	{newWithdrawHourly = withdrawHourly + x & newWithdrawDaily = withdrawDaily + x & x<0}	statement2

SkipStatement2

Skip

precondition	postcondition
{modifiable(\nothing);(newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly) & (x >= 0)}	{newWithdrawDaily <= withdrawDaily & newWithdrawHourly <= withdrawHourly}

Composition

precondition	postcondition
{modifiable(\nothing);(newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly) & (x < 0)}	{newWithdrawDaily <= withdrawDaily & newWithdrawHourly <= withdrawHourly}

statement 1	intermediate condition	statement 2
statement1	{newWithdrawDaily <= withdrawDaily & newWithdrawHourly <= withdrawHourly}	statement2

Statement2

precondition	statement	postcondition
{modifiable(\nothing); (newWithdrawDaily = withdrawDaily & newWithdrawHourly = withdrawHourly) & (x < 0)}	newWithdrawDaily += x; newWithdrawHourly += x;	{newWithdrawHourly = withdrawHourly + x & newWithdrawDaily = withdrawDaily + x & x<0}

Statement3

precondition	Original-Call Statement	postcondition
newWithdrawDaily <= withdrawDaily & newWithdrawHourly <= withdrawHourly	ret = original(x);	newWithdrawDaily<=withdrawDaily&newWithdrawHourly <= withdrawHourly &\original_post

SelectionStatement3

SelectionStatement IF..FI

guards

ret = FALSE	ret = TRUE

precondition

(newWithdrawDaily<=withdrawDaily&newWithdrawHourly <= withdrawHourly &\original_post) & (ret =	(newWithdrawDaily<=withdrawDaily&newWithdrawHourly <= withdrawHourly &\original_post) & (ret =

statements

statement	statement

postcondition

{\original_post & withdrawChangedResult(\result, withdrawDaily, \old(withdrawDaily), withdrawHourly, \old(withdrawHourly))}

ReturnStatement2

precondition	ReturnState...	postcondition
{modifiable(\nothing); (newWithdrawDaily<=withdrawDaily&newWithdrawHourly <= withdrawHourly &\original_post) & (ret = FALSE)}	false;	{\original_post & withdrawChangedResult(\result, withdrawDaily, \old(withdrawDaily), withdrawHourly, \old(withdrawHourly))}

Composition

precondition	postcondition
{modifiable(\nothing); (newWithdrawDaily<=withdrawDaily&newWithdrawHourly <= withdrawHourly &\original_post) & (ret = TRUE)}	{\original_post & withdrawChangedResult(\result, withdrawDaily, \old(withdrawDaily), withdrawHourly, \old(withdrawHourly))}

statement 1	intermediate condition	statement 2
statement1	\old(withdrawHourly) & withdrawDaily <= \old(withdrawDaily) & balance =	statement2

Statement4

precondition	statement	postcondition
{modifiable(\nothing); (newWithdrawDaily<=withdrawDaily &newWithdrawHourly <= withdrawHourly &\original_post) & (ret = TRUE)}	withdrawDaily = newWithdrawDaily; withdrawHourly = newWithdrawHourly;	{withdrawHourly <= \old(withdrawHourly) & withdrawDaily <= \old(withdrawDaily) & balance = \old(balance) + x}

SkipStatement1

Skip

precondition	postcondition
{modifiable(\nothing); (newWithdrawHourly = withdrawHourly + x & newWithdrawDaily = withdrawDaily + x & x<0) & (limitExceeded(newWithdrawDaily, newWithdrawHourly, DAILY_LIMIT, HOURLY_LIMIT))}	{newWithdrawDaily <= withdrawDaily & newWithdrawHourly <= withdrawHourly}

ReturnStatement3

precondition	ReturnStatement	postcondition
{withdrawHourly <= \old(withdrawHourly) & withdrawDaily <= \old(withdrawDaily) & balance = \old(balance) + x}	true;	{\original_post & withdrawChangedResult(\result, withdrawDaily, \old(withdrawDaily), withdrawHourly, \old(withdrawHourly))}

ReturnStatement1

precondition	ReturnStatement	postcondition
{modifiable(\nothing); (newWithdrawHourly = withdrawHourly + x & newWithdrawDaily = withdrawDaily + x & x<0) & (!limitExceeded(newWithdrawDaily, newWithdrawHourly, DAILY_LIMIT, HOURLY_LIMIT))}	false;	{\original_post & withdrawChangedResult(\result, withdrawDaily, \old(withdrawDaily), withdrawHourly, \old(withdrawHourly))}