Formula

precondition	statement	postcondition
{numFloors >= 0}	statement	{this.floors.length = numFloors & (\forall int k; ((k>0 & k<this.floors.length -> (this.floors[k].thisFloorID = k & this.floors[k].env = this)))))}

Variables

PUBLIC Floor[] floors

LOCAL int index

PARAM int numFloors

Global Conditions

numFloors >= 0

index >= 0

Composition

precondition	postcondition
{numFloors >= 0}	{this.floors.length = numFloors & (\forall int k; ((k>0 & k<this.floors.length -> (this.floors[k].thisFloorID = k & this.floors[k].env = this)))))}

statement 1	intermediate condition	statement 2
statement1	{index = 0 & this.floors.<created> = TRUE & this.floors.length = numFloors}	statement2

Statement1

precondition	statement	postcondition
{numFloors >= 0}	index = 0; this.floors = new Floor[numFloors];	{index = 0 & this.floors.<created> = TRUE & this.floors.length = numFloors}

RepetitionStatement1

RepetitionStatement DO...OD

invariant	guard	variant
index >= 0 & this.floors.length = numFloors &(\forall int k;(((k>0 & k<index & k<this.floors.length) -> (this.floors[k].thisFloorID = k & this.floors[k].env = this))))	index < this.floors.length	(this.floors.length - index)

precondition	loop statement	postcondition
{(index >= 0 & this.floors.length = numFloors &(\forall int k;(((k>0 & k<index & k<this.floors.length) -> (this.floors[k].thisFloorID = k & this.floors[k].env = this))))) & (index < this.floors.length)}	loop	{index >= 0 & this.floors.length = numFloors &(\forall int k;(((k>0 & k<index & k<this.floors.length) -> (this.floors[k].thisFloorID = k & this.floors[k].env = this)))))}

Statement2

precondition	statement	postcondition
{(index >= 0 & this.floors.length = numFloors &(\forall int k;(((k>0 & k<index & k<this.floors.length) -> (this.floors[k].thisFloorID = k & this.floors[k].env = this))))) & (index < this.floors.length)}	this.floors[index] = new Floor(this, index); index = index + 1;	{index >= 0 & this.floors.length = numFloors &(\forall int k;(((k>0 & k<index & k<this.floors.length) -> (this.floors[k].thisFloorID = k & this.floors[k].env = this)))))}