

$[ACCNUM, UID, NAME]$

$MONEY == \mathbb{N}$

$BALANCE == \mathbb{N}$

$| \quad gates, obama, clinton : ACCNUM$

$CheckBalance ==$

$CheckBalanceOk \vee AccountNotExists$

$\vee IncorrectAmount \vee NotAnOwner$

$Bank$

$clients : UID \rightarrow NAME$

$balances : ACCNUM \rightarrow BALANCE$

$owners : UID \leftrightarrow ACCNUM$

$NewClient\_VIS$

$clients : UID \rightarrow NAME$

$balances : ACCNUM \rightarrow BALANCE$

$owners : UID \leftrightarrow ACCNUM$

$u? : UID$

$name? : NAME$

$n? : ACCNUM$

$(u? \notin \text{dom } clients$

$n? \notin \text{dom } balances) \vee u? \in \text{dom } clients \vee n? \in \text{dom } balances$

$NewClient\_DNF\_1$

$NewClient\_VIS$

$u? \notin \text{dom } clients$

$n? \notin \text{dom } balances$

$NewClient\_SP\_5$

$NewClient\_DNF\_1$

$clients \neq \{\}$

$\{u? \mapsto name?\} \neq \{\}$

$clients \subset \{u? \mapsto name?\}$

*NewClient\_VIS*

$clients : UID \rightarrow NAME$   
 $balances : ACCNUM \rightarrow BALANCE$   
 $owners : UID \leftrightarrow ACCNUM$   
 $u? : UID$   
 $name? : NAME$   
 $n? : ACCNUM$

$(u? \notin \text{dom } clients$   
 $n? \notin \text{dom } balances) \vee u? \in \text{dom } clients \vee n? \in \text{dom } balances$

*NewClient\_DNF\_1*

$clients : UID \rightarrow NAME$   
 $balances : ACCNUM \rightarrow BALANCE$   
 $owners : UID \leftrightarrow ACCNUM$   
 $u? : UID$   
 $name? : NAME$   
 $n? : ACCNUM$

$u? \notin \text{dom } clients$   
 $n? \notin \text{dom } balances$

*NewClient\_SP\_5*

$clients : UID \rightarrow NAME$   
 $balances : ACCNUM \rightarrow BALANCE$   
 $owners : UID \leftrightarrow ACCNUM$   
 $u? : UID$   
 $name? : NAME$   
 $n? : ACCNUM$

$u? \notin \text{dom } clients$   
 $n? \notin \text{dom } balances$   
 $clients \neq \{\}$   
 $\{u? \mapsto name?\} \neq \{\}$   
 $clients \subset \{u? \mapsto name?\}$

*NewClient\_SP\_5*

$clients : UID \rightarrow NAME$   
 $balances : ACCNUM \rightarrow BALANCE$   
 $owners : UID \leftrightarrow ACCNUM$   
 $u? : UID$   
 $name? : NAME$   
 $n? : ACCNUM$

$u? \notin \text{dom } clients$   
 $n? \notin \text{dom } balances$   
 $clients \neq \{\} \wedge \{u? \mapsto name?\} \neq \{\}$   
 $clients \subset \{u? \mapsto name?\}$

*NewClient\_SP\_5bis*

$clients : UID \rightarrow NAME$   
 $balances : ACCNUM \rightarrow BALANCE$   
 $owners : UID \leftrightarrow ACCNUM$   
 $u? : UID$   
 $name? : NAME$   
 $n? : ACCNUM$

$u? \notin \text{dom } clients$   
 $n? \notin \text{dom } balances$   
 $clients \neq \{\} \wedge \{u? \mapsto name?\} \neq \{\}$   
 $clients \subset \{u? \mapsto name?\}$