**Grupo**:

* Pedro Paulo da Silva - 1421422
* Stephanie Fay - 1721631
* Thiago Lages de Alencar - 1721629

Primeiro Mutante

**Escopo**

if ( is < 0 )

{

pCurrElement->pLeftSubTree = DoInsertAVLelement( pCurrElement->pLeftSubTree , pNewElement ) ;

pCurrElement->pLeftSubTree->pParent = pCurrElement ;

} else if ( is > 0 )

{

pCurrElement->pRightSubTree = DoInsertAVLelement( pCurrElement->pRightSubTree , pNewElement ) ;

pCurrElement->pRightSubTree->pParent = pCurrElement ;

} else

{

// New node exists

pElementFound = pCurrElement ;

return pNewElement ;

} /\* if \*/

**Sem mutante**

} else if ( is > 0 )

**Com mutante**

} else if ( is >= 0 )

**Problema**:

Insere na árvore um símbolo que já está nela.

Quebra a lógica de um nó ser maior e outro menor.

**Script gerador do erro**: *Nenhum*

**Script capaz de mata-lo**:

// ==========================================================

== Insert the same symbol

=DeleteTree Tree01

=NewTree Tree01

=InsertSymbol Tree01 20 .true

=DisplayTree Tree01 INFIX

=VerifyTree Tree01 0

=InsertSymbol Tree01 10 .true

=DisplayTree Tree01 INFIX

=VerifyTree Tree01 0

=InsertSymbol Tree01 5 .true

=DisplayTree Tree01 INFIX

=VerifyTree Tree01 0

=InsertSymbol Tree01 20 .true

=DisplayTree Tree01 INFIX

=VerifyTree Tree01 0

**Mensagem do script após alteração**:

--- 0 Line 238 Verify start

Right child symbol 020 must be greater than element symbol 020

--- 0 Line 238 Verify end

>>> 1 Line 238 Incorrect AVL tree verification return Is 1 Should be 0

Segundo Mutante

**Escopo**

int balance = 0 ;

if ( pNewElement != NULL )

{

balance = GET\_BALANCE( pCurrElement ) ;

} /\* if \*/

**Sem mutante**

balance = GET\_BALANCE( pCurrElement ) ;

**Com mutante**

balance = GET\_BALANCE( pCurrElement ) + 1;

**Problema**:

Calcula o equilíbrio da árvore de forma errada, está mais pesada para direita.

**Script gerador do erro**: *tst-avl-01.script*, *tst-avl-02.script* e *tst-avl-03.script*

**Mensagem do script**::

--- 5 Line 220 Verify start

Wrong root element height is 4 should be 3: 020

Element height 1 of left child 015 of element 020 should be 4 - 1 or - 2

Height 4 of parent element 020 of element 015 should be 1 + 1 or + 2

--- 5 Line 220 Verify end

>>> 6 Line 220 Incorrect AVL tree verification return Is 3 Should be 0