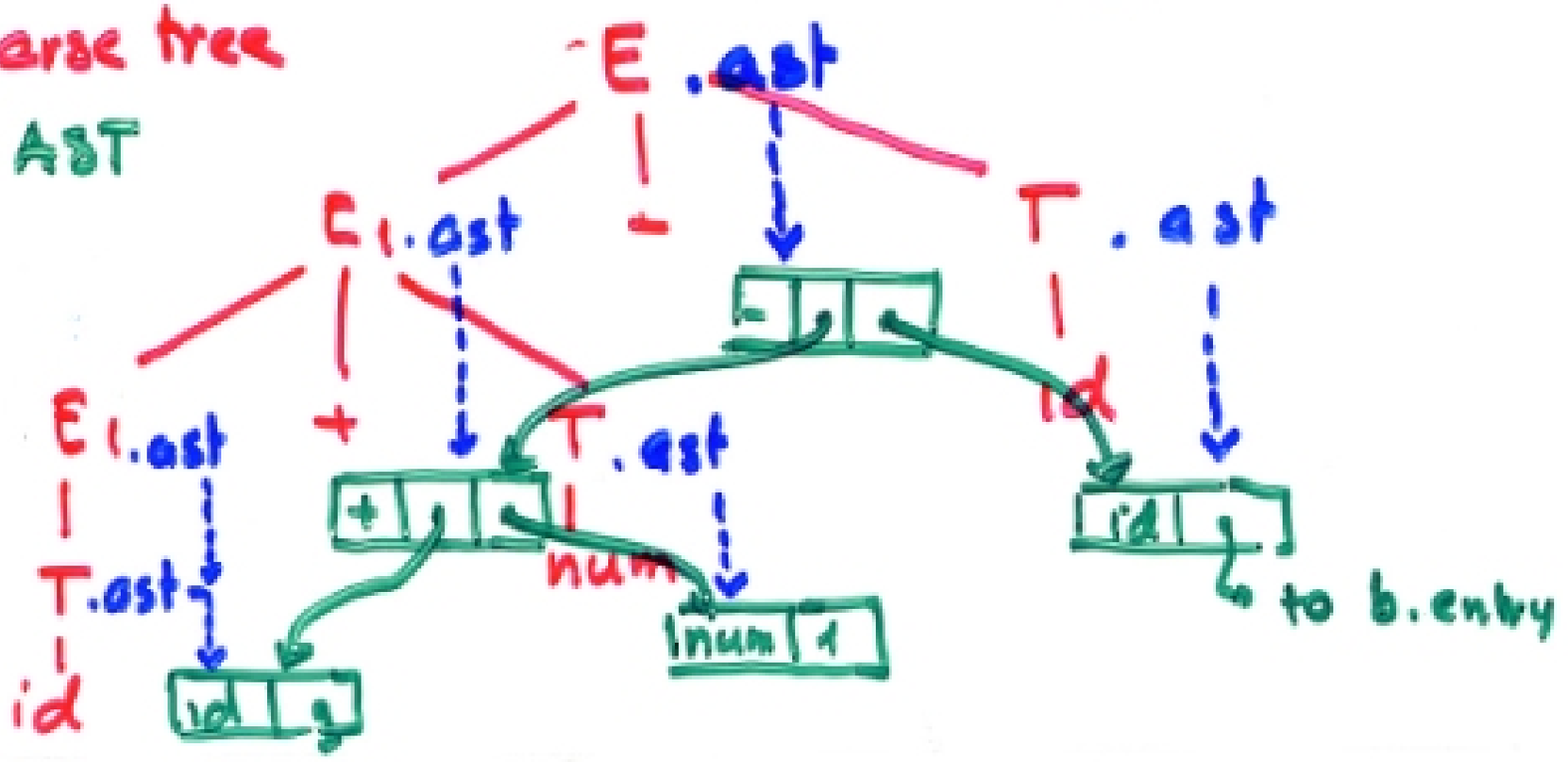
(a+1)-b

Example

$E \rightarrow E_1 + T$	{ E.ast = mkNode ("+", E_1.ast, T.ast)}
$E \rightarrow E_1 - T$	{ E.ast = mkNode ("-", E_1.ast, T.ast)}
$E \rightarrow T$	{ E.ast = T.ast }
$T \rightarrow (E)$	{ T.ast = E.ast }
$T \rightarrow id$	{ T.ast = mkLeaf ("id", id.entry)}
$T \rightarrow num$	{ T.ast = mkLeaf ("num", num.val)}

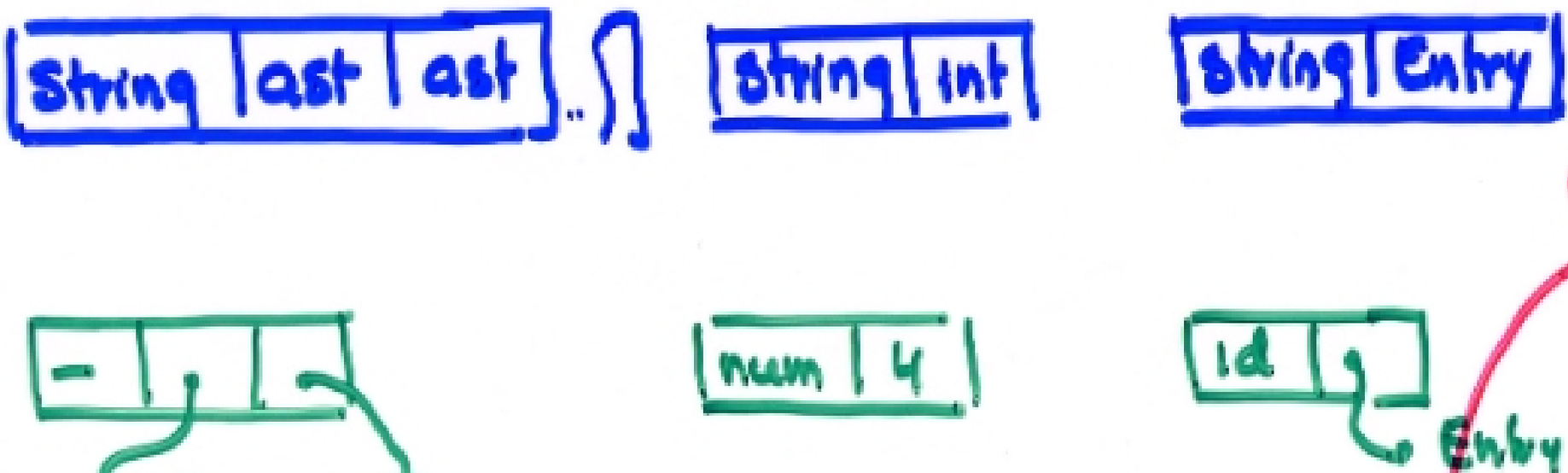
red - parse tree

green - AST



Data Structures

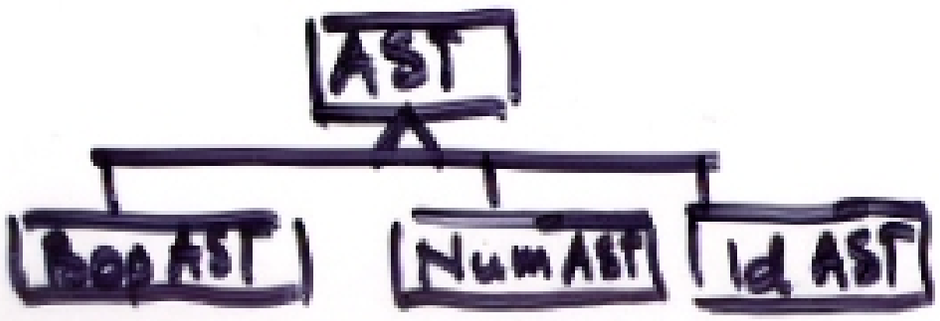
mkNode | mkLeaf | mkLeaf



mkNode ('-', left, right) = new BopAST("-", left, right) ← AST

mkLeaf ('num', 4) = new NumAST("num", 4) ← Entity Block

mkLeaf ('id', entry) = new IdAST("id", entry)



BopAST BopAST(String, AST, AST)

NumAST NumAST(String, Int)

IdAST IdAST(String, EntityBlock)

JJTree

a+b*c

```
ASTStart() #Start : {}
   Exp() ";" {return jjtThis;}

void Exp() : {} {
     AddExp()
}

void AddExp() : {} {
   ( MulExp() (("+"|"-") MulExp())* )
} #Add(>1)

void MulExp() : {} {
     UnaExp() (("*"|"/") UnaExp())*
} #Mul(>1)

void UnaExp() : {} { Identifier() | InParen() }

void Identifier()
```

default void

#void

#void

#void

{Token t;} { t=<IDENTIFIER> {jjtThis.setName(t.image);}}

extend SimpleNode
- to children
- to visitor
- to jjtThis