

Lab 6 (Partial)

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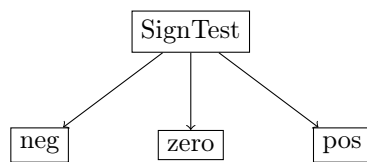
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1 CRAFTING A COMPILER, CHAPTER 9, EXERCISE 9.2

Assume that we add a new kind of conditional statement to C or Java, the `signtest`. Its structure is:

```
signtest ( exp ) {  
  neg: stmts  
  zero: stmts  
  pos: stmts  
}
```

The integer expression `exp` is evaluated. If it is negative, the statements following `neg` are executed. If it is zero, the statements following `zero` are executed. If it is positive, the statements following `pos` are executed. Show the AST you would use for this construct. Revise the semantic analysis, reachability, and throws visitors for if statements (Section 9.1.2) to handle the `signtest`.



```
procedure visit(SignTest ifexpr)  
  ifn.thenPart.isReachable <- false  
  if expr.isNegative <- true  
  call neg(expr)  
  normal <- ifexpr.thenPart.terminatesNormally  
  ifexpr.terminatesNegative <- thenNegative or elsePositive  
end
```