Lab Six

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1 Crafting a Compiler

1.1 Exercise 9.2

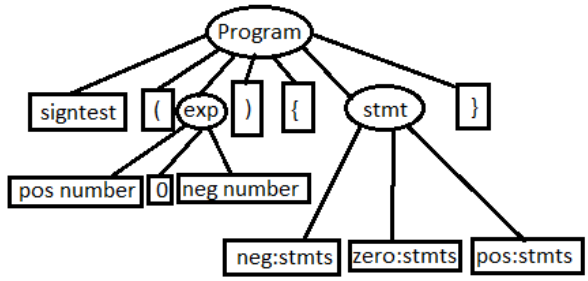
Assume that we add a new kind of conditional statement to C or Java, the signtest. Its structure is:

```
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.

Left Most Derivation:
<program> → signtest (<exp>) { <stmt>}
$< exp > \longrightarrow$neg number
→pos number
→zero
$< stmt >$→neg : stmts
→zero : stmts
→pos : stmts

CST:


Program
signtest
(
exp
)
{
stmt
}
pos number
0
neg number
neg:stmts
zero:stmts
pos:stmts