Rebecca Frederick
EECS 345
Written Exercise 1
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1. `<C>` → `<V> = <D>` | `<V>`

   `<V>` → `x` | `y` | `z`

   `<D>` → `<E> ? <D> : <D>` | `<E>`

   `<E>` → `<E> || <F>` | `<F>`

   `<F>` → `<F> && <G>` | `<G>`

   `<G>` → `!<G>` | `<H>`

   `<H>` → `(<H>)` | `<I>`

   `<I>` → `true` | `false`

2. Static Semantic Attributes:

| | | | |
|---|---|---|---|
| `type` | = | {`integer, double`} | (synthesized) |
| `typetable(<var>)` | = | {`integer, double, error`} | (inherited) |
| `inittable(<var>)` | = | {`true, false, error`} | (inherited) |
| `typebinding` | = | (`<var>`, {`integer, double`}) | (synthesized) |
| `initialized` | = | (`<var>`, {`true, false`}) | (synthesized) |

   Attribute Rules:

*<start₁>* → *<stmt₃>* ; *<start₃>*
`<start1>.type` := *N/A*
`<start1>.typetable(<var>)` := `<stmt3>.typetable`
`<start1>.inittable(<var>)` := `<stmt3>.initvar`
`<start1>.typebinding` := *N/A*
`<start1>.initialized` := *N/A*

*<start₂>* → *<stmt₄>*
`<start2>.type` := *N/A*
`<start2>.typetable(<var>)` := ∅
`<start2>.inittable(<var>)` := ∅
`<start2>.typebinding` := *N/A*
`<start2>.initialized` := *N/A*

`<stmt1>.type` :=
`<stmt1>.typetable(<var>)` :=
`<stmt1>.inittable(<var>)` :=
`<stmt1>.typebinding` :=
`<stmt1>.initialized` :=

`<stmt2>.type` :=
`<stmt2>.typetable(<var>)` :=
`<stmt2>.inittable(<var>)` :=
`<stmt2>.typebinding` :=
`<stmt2>.initialized` :=

`<declare1>.type` :=

<declare$_1$>.typetable(<var>) :=
<declare$_1$>.inittable(<var>) :=
<declare$_1$>.typebinding :=
<declare$_1$>.initialized :=

<type$_1$>.type :=
<type$_1$>.typetable(<var>) :=
<type$_1$>.inittable(<var>) :=
<type$_1$>.typebinding :=
<type$_1$>.initialized :=

<type$_2$>.type :=
<type$_2$>.typetable(<var>) :=
<type$_2$>.inittable(<var>) :=
<type$_2$>.typebinding :=
<type$_2$>.initialized :=

<assign$_1$>.type :=
<assign$_1$>.typetable(<var>) :=
<assign$_1$>.inittable(<var>) :=
<assign$_1$>.typebinding :=
<assign$_1$>.initialized :=

<expression$_1$>.type :=
<expression$_1$>.typetable(<var>) :=
<expression$_1$>.inittable(<var>) :=
<expression$_1$>.typebinding :=
<expression$_1$>.initialized :=

<expression$_2$>.type :=
<expression$_2$>.typetable(<var>) :=
<expression$_2$>.inittable(<var>) :=
<expression$_2$>.typebinding :=
<expression$_2$>.initialized :=

<value$_1$>.type :=
<value$_1$>.typetable(<var>) :=
<value$_1$>.inittable(<var>) :=
<value$_1$>.typebinding :=
<value$_1$>.initialized :=

<value$_2$>.type :=
<value$_2$>.typetable(<var>) :=
<value$_2$>.inittable(<var>) :=
<value$_2$>.typebinding :=
<value$_2$>.initialized :=

<value$_3$>.type :=
<value$_3$>.typetable(<var>) :=
<value$_3$>.inittable(<var>) :=
<value$_3$>.typebinding :=
<value$_3$>.initialized :=

Table 1: Attribute Rules

3. asdf
4. asdf
5. asdf