$sp \in \text{sp} ::= e \mid t$

$e \in \text{e} ::= /0/ \mid /s/ \text{"("} \; e \; \text{")"} \mid e \; /+/ \; e$

$t \in \text{t} ::= /\text{unit}/$

$$\frac{}{\Gamma \vdash [\,e\,]:[[\text{unit}]]} \; \text{te1}$$

$$\frac{}{\Gamma \vdash sp:[[\text{unit}]]} \; \text{te2}$$

$$\frac{}{<[[\,e_1\,,+,[\text{s},\,e_2\,]]],\,s\,> \rightarrow <[[[\text{s},\,e_1\,],+,\,e_2\,]],\,s\,>} \; \text{oe1}$$

$$\frac{}{<[[\,e_1\,,+,[0]]],\,s\,> \rightarrow <[\,e_1\,],\,s\,>} \; \text{oe2}$$

$$\frac{<[\,e_1\,],\,s\,> \rightarrow <[\,e_3\,],\,s\,>}{<[[\,e_1\,,+,\,e_2\,]],\,s\,> \rightarrow <[[\,e_3\,,+,\,e_2\,]],\,s\,>} \; \text{oe3}$$

$$\frac{<[\,e_2\,],\,s\,> \rightarrow <[\,e_3\,],\,s\,>}{<[[\,e_1\,,+,\,e_2\,]],\,s\,> \rightarrow <[[\,e_1\,,+,\,e_3\,]],\,s\,>} \; \text{oe4}$$

$\text{update}([[[\text{s},\,e\,]],\,s_1\,]|[[\,e\,],\,s_2\,])`$

```
s_2 = s_1
if type(s_2[1]) != int:
    s_2[1] = 1
else:
    s_2[1] += 1
```

`

$$\frac{\text{update}([[\,e_1\,],\,s_1\,]|[[\,e_2\,],\,s_2\,])}{<[\,e_1\,],\,s_1\,> \rightarrow <[\,e_2\,],\,s_2\,>} \; \text{transferOneToken}$$

$$\frac{}{<[[0]],\,s\,> \rightarrow s} \; \text{end}$$

$[[[[[\text{s},[\text{s},[0]]],+,[\text{s},[0]]],+,[0]],+,[\text{s},[0]]]]]$

$[[[0],+,[\text{s},[\text{s},[\text{s},[0]]]]]]$