

SOS-style abstract semantics for statements

$$[ass_{DSOS}] \quad \langle x := a, ps \rangle \Rightarrow ps[x \mapsto DA[a]](ps)$$

$$[skip_{DSOS}] \quad \langle skip, ps \rangle \Rightarrow ps$$

$$[comp^1_{DSOS}] \quad \frac{\langle S_1, ps \rangle \Rightarrow \langle S'_1, ps' \rangle}{\langle S_1; S_2, ps \rangle \Rightarrow \langle S'_1; S_2, ps' \rangle}$$

$$[comp^2_{DSOS}] \quad \frac{\langle S_1, ps \rangle \Rightarrow ps'}{\langle S_1; S_2, ps \rangle \Rightarrow \langle S_2, ps' \rangle}$$

$$[if^{TT}_{DSOS}] \quad \langle \underline{if} \ b \ \underline{then} \ S_1 \ \underline{else} \ S_2, ps \rangle \Rightarrow \langle S_1, ps \rangle \quad \text{if } DB[b](ps) = TT$$

$$[if^{FF}_{DSOS}] \quad \langle \underline{if} \ b \ \underline{then} \ S_1 \ \underline{else} \ S_2, ps \rangle \Rightarrow \langle S_2, ps \rangle \quad \text{if } DB[b](ps) = FF$$

$$[if^{ANY,1}_{DSOS}] \quad \langle \underline{if} \ b \ \underline{then} \ S_1 \ \underline{else} \ S_2, ps \rangle \Rightarrow \langle S_1, ps \rangle \quad \text{if } DB[b](ps) = ANY$$

$$[if^{ANY,2}_{DSOS}] \quad \langle \underline{if} \ b \ \underline{then} \ S_1 \ \underline{else} \ S_2, ps \rangle \Rightarrow \langle S_2, ps \rangle \quad \text{if } DB[b](p) = ANY$$

$$[while_{DSOS}] \quad \langle \underline{while} \ b \ \underline{do} \ S, ps \rangle \Rightarrow \langle \underline{if} \ b \ \underline{then} \ (S; \underline{while} \ b \ \underline{do} \ S) \ \underline{else} \ skip, ps \rangle$$