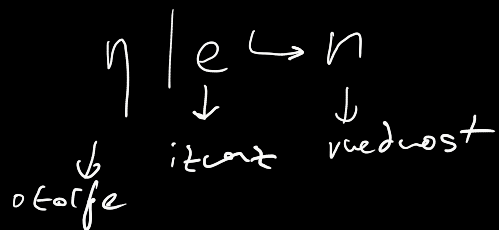


# OPERACIJSKA SEMANTIKA

## Semantika veličih tokova



primer

$$\frac{\eta \mid b \hookrightarrow \text{false}}{\eta \mid \text{not } b \hookrightarrow \text{true}}$$

$$\frac{\eta \mid b \hookrightarrow \text{true}}{\eta \mid \text{not } b \hookrightarrow \text{false}}$$

logizai "in"

$$\frac{\eta \mid b_1 \hookrightarrow \text{false}}{\eta \mid b_1 \text{ in } b_2 \hookrightarrow \text{false}}$$

$$\frac{\eta \mid b_1 \hookrightarrow \text{true} \quad \eta \mid b_2 \hookrightarrow v_2}{\eta \mid b_1 \text{ in } b_2 \hookrightarrow v_2}$$

itd

operacijska semantika ukazov  
 preveditev

$$\frac{\eta \mid e \hookrightarrow n}{(\eta, (x := e)) \mapsto (\eta [x \mapsto n], \text{skip})}$$

podpisje:

$$(\eta, c_1) \mapsto (\eta', c_1')$$

$$(\eta, (c_1; c_2)) \mapsto (\eta', (c_1'; c_2))$$

$$(\eta, (skip; c_1)) \mapsto (\eta, c_1)$$

itd

Perotacijska gramatika -- matematični  
ponovni programi

$$\llbracket 3+8 \rrbracket: Env \rightarrow \mathbb{Z}$$

$$\llbracket x := x+1 \rrbracket: Env \rightarrow Env$$

$$\llbracket e_1 = e_2 \rrbracket(\eta) = (\llbracket e_1 \rrbracket(\eta) = \llbracket e_2 \rrbracket(\eta))$$

$$\llbracket e_1 = e_2 \rrbracket(\eta) = \begin{cases} \top & ; \llbracket e_1 \rrbracket(\eta) = \llbracket e_2 \rrbracket(\eta) \\ \perp & ; \text{sicur} \end{cases}$$

SUS:

$$\llbracket \text{while } b \text{ do } x \text{ done} \rrbracket(\eta) =$$

$$= \begin{cases} \eta & ; \llbracket b \rrbracket(\eta) = \perp \\ \llbracket x; \text{while } b \text{ do } x \text{ done} \rrbracket(\eta) & ; \text{size } \downarrow \end{cases}$$

$$\llbracket \text{while } b \text{ do } x \text{ done} \rrbracket(\llbracket x \rrbracket(\eta))$$

rekurzivna definicija!!!

tako ta problem veriti?  $\implies$  TPJ.  
ne bomo delali na PPJ i

[ekvivalentni programi]

evalvacijski kontekst  $C[\ ]$  je del programske kode z "lutko".

programa  $x$  in  $y$  sta ekvivalentna

$$\iff \text{Evalvacijski kontekst } C: C[x] = C[y]$$

vecino programa  $x := x+1$  in  $y := y+3$   
 $x := x+2$

lista ekvivalentna, saj zn ev. tout.:

otolfe  $[x \mapsto 0; y \mapsto 0]$  in program

[Intuiv]

da različna otolfe:

$[x \mapsto 3; y \mapsto 0]$  in  $[x \mapsto 0; y \mapsto 3]$ .

