

Udvidelse af S-reglerne, Appendix

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GRD-2006-06-30.UTC:01:48:56.562305

Contents

0.1 proof of Prop 3.7	3
1 Lemma Prop 3.10	3
2 Lemma Prop 3.11	3

[Prop 3.7a $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{a}$]

[Prop 3.7b $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{b} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{b} = \underline{c} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{c}$]

[Prop 3.7c $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \forall \underline{b}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{b} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{b} = \underline{a}$]

[Prop 3.7d $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{b} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} + \underline{c} = \underline{b} + \underline{c}$]

[Prop 3.7e $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{a} \Rightarrow \underline{a} = \underline{a}$]

[Prop 3.7f $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{b} \Rightarrow \underline{a} = \underline{b} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{b} = \underline{c} \Rightarrow \underline{b} = \underline{c} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{c} \Rightarrow \underline{a} = \underline{c}$]

[Prop 3.7g $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{b} \Rightarrow \underline{a} = \underline{b} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} + \underline{c} = \underline{b} + \underline{c} \Rightarrow \underline{a} + \underline{c} = \underline{b} + \underline{c}$]

[Prop 3.7g' $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} + \underline{c} = \underline{b} + \underline{c} \Rightarrow \underline{a} + \underline{c} = \underline{b} + \underline{c} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{b} \Rightarrow \underline{a} = \underline{b}$]

[Prop 3.7h $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{b} \Rightarrow \underline{a} = \underline{b} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{b} = \underline{c} \Rightarrow \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + \underline{a} = \underline{c}$]

[Prop 3.7i $\xrightarrow{\text{stmt}}$ $S \vdash \forall \underline{a}: \neg \forall_{\text{obj}} z: \neg \neg z = 0 \Rightarrow \neg z + 0 = \underline{a} \Rightarrow 0 = \underline{a}$]

