



<p><b>P1:</b> <math>V \Rightarrow V1</math> and  <math>\{V1\} S \{P1\}</math> and  <math>P1 \Rightarrow P</math>  <math>\Rightarrow</math>  <math>\{V\} S \{P\}</math></p>	
<p><b>A1:</b> <math>\{P^x_{(E)}\} x:=E \{P\}</math> completely</p>	
<p><b>A2:</b> <math>V \Rightarrow P^x_{(E)}</math>  <math>\Rightarrow</math>  <math>\{V\} x:=E \{P\}</math></p>	
<p><b>IF1:</b> <math>\{V \text{ and } B\} S1 \{P\}</math> and  <math>\{V \text{ and not } B\} S2 \{P\}</math>  <math>\Rightarrow</math>  <math>\{V\} \text{ if } B \text{ then } S1 \text{ else } S2 \text{ endif } \{P\}</math></p>	
<p><b>IF2:</b> <math>\{V1\} S1 \{P\}</math> and  <math>\{V2\} S2 \{P\}</math>  <math>\Rightarrow</math>  <math>\{(V1 \text{ and } B) \text{ or } (V2 \text{ and not } B)\}</math>  <b>if</b> <math>B</math> <b>then</b> <math>S1</math> <b>else</b> <math>S2</math> <b>endif</b> <math>\{P\}</math></p>	
<p><b>S1:</b> <math>\{V\} S1 \{P1\}</math> and  <math>\{P1\} S2 \{P\}</math>  <math>\Rightarrow</math>  <math>\{V\} (S1, S2) \{P\}</math></p>	
<p><b>S2:</b> <math>V \Rightarrow [[ \dots [P^{xn}_{En}] \dots ]^{x2}_{E2}]^{x1}_{E1}</math>  <math>\Rightarrow</math>  <math>\{V\} (x1:=E1, x2:=E2, \dots xn:=En) \{P\}</math></p>	

<p><b>W1:</b> <math>\{I \text{ and } B\} S \{I\}</math>  <math>\Rightarrow</math>  <math>\{I\} \text{ while } B \text{ do } S \text{ endwhile } \{I \text{ and not } B\}</math></p>	
<p><b>W2:</b> <math>\{V\} \text{ init } \{I\}</math> and  <math>\{I \text{ and } B\} S \{I\}</math> and  <math>(I \text{ and not } B) \Rightarrow P</math>  <math>\Rightarrow</math>  <math>\{V\} (\text{init, while } B \text{ do } S \text{ endwhile}) \{P\}</math></p>	
<p><b>DC1:</b> <math>\{V1\} S \{P1\}</math> and  <math>\{V2\} S \{P2\}</math>  <math>\Rightarrow</math>  <math>\{V1 \text{ and } V2\} S \{P1 \text{ and } P2\}</math></p>	
<p><b>DC3:</b> <math>\{V\} S \{P1\}</math> and  <math>\{V\} S \{P2\}</math>  <math>\Rightarrow</math>  <math>\{V\} S \{P1 \text{ and } P2\}</math></p>	
<p><b>SP1:</b> <math>S</math> changes no variable in <math>B</math>  <math>\Rightarrow</math>  <math>\{B\} S \{B\}</math></p>	
<p><b>SP2:</b> <math>S</math> changes no variable in <math>B</math> and  <math>\{V\} S \{P\}</math>  <math>\Rightarrow</math>  <math>\{V \text{ and } B\} S \{P \text{ and } B\}</math></p>	
<p><b>SP3:</b> <math>S</math> changes no variable in <math>B</math> and  <math>V \Rightarrow V1</math> and  <math>\{V1\} S \{P1\}</math> and  <math>P1 \Rightarrow P</math>  <math>\Rightarrow</math>  <math>\{V \text{ and } B\} S \{P \text{ and } B\}</math></p>	

Proof rule card — by Robert L. Baber