Axiomatic Definition of Pascal

```
     x
D0: P {x:=e}P
     e


    P{Q}R, R→T        P{Q}R, T→P
D1: -----------       -----------
      P{Q}T              T{Q}R


    P{Q1}R1, R1{Q2}R        Pi-1{Si}Pi  for i=1,..n
D2: ----------------    --------------------------
      P{Q1;Q2;}R        P0{begin S1;S2;..;Sn end}Pn


       P&B{S}P
D3: -------------------
    P{while B do S}~B&P



     P&B{S1}Q, P&~B{S2}Q             P&B{S}Q, P&~B→Q
IF: ----------------------          ----------------
    P{if B then S1 else S2}Q         P{if B then S}Q

     P&B{S1}Q, P&~B{S2}R
    ------------------------
    P{if B then S1 else S2}Q|R


               P&(x=ki){Si}Q  for i=1,..n
CASE:    ----------------------------------------------------
          x∈[k1,...,kn]&P{case x of k1:S1; ..;kn:Sn end}Q


           P{S}Q, Q&~B→P
REPEAT: ----------------------
         P{repeat S until B}Q&B
```

Note: "&" is logical AND, "|" is logical OR, "~" is logical NOT, and "∈" is IS AN ELEMENT OF.