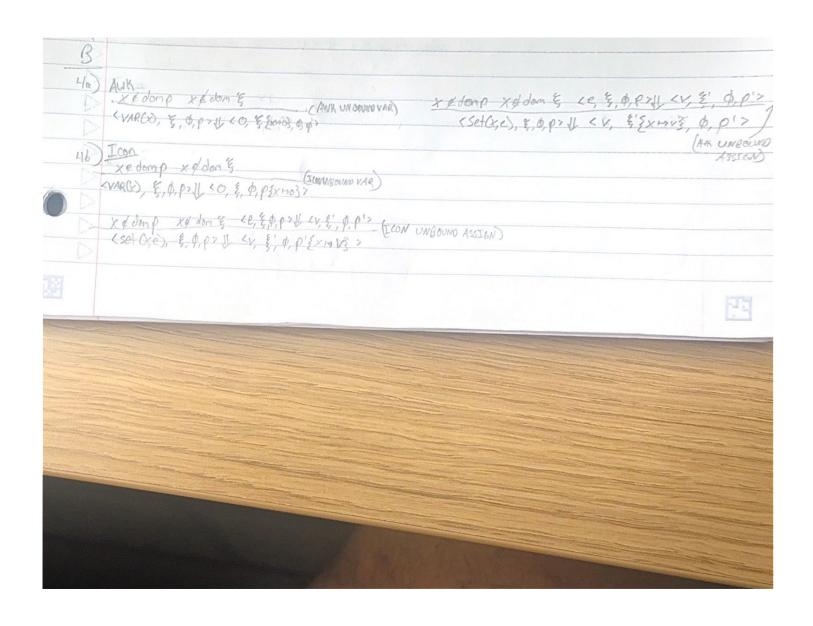
The variable x exists either within the scope of some function, or it exists as global variable 6) Given what variables and functions we have defined at gresent, expression e evaluates to single Value V. Da) There outs & such that <e, \( \xi, \rho, \rangle > 1 \) < v, \( \xi, \rho, \rangle > \), if x \( \text{dom} \) \( \xi \) b) < e, & p > 1/ < v, & o, p' > given e is a valid expression c) < e, &, b, p> U < V, &, b, p'> where & reay have different mappings, but dom & = dom & 3) ) For simplicity, we can see the only difference in the 2 influence rules is the previous: <e, 18, 0, p> 1 < V, 5', 0, p' > V, 0 VS < e, 8, 0, p > 1 < 0, 8', 0 p'> - In the new (2nd) greater, were saying that e, evaluates to O under & , O, P, where & , O, P can potentially charge. In the argunal, in the same conditions, we say e, evaluates to V, but in the next line say v =0, so of 13 equivalent to saying e, evaluates to O. x e domp (e, \$,0,p) & (V, \$', p, p) formulassya" (set Cye), \$,0,p? U (V, 3', p, p') is not equivalent to the four former assign, due to the difference in the conclusion in this new Porral assign, the environment p at the conclusion is P', where p' is defined in the premse as the formal environment after & is evaluated p' does not account for x being set to the value v, as the prime only devoke any changes when e is evaluated not when x is set. B Ha) Auk Jong x & dom & (AWK UNCOUND VAR) x & donp x & don & Le, & d. Px | LV & d. p'> (SetC,c), \$,0,p> U < V, &' { x mv } 0, p'> (VARCX), & O, PTH (O, \$ 50003, 0, 0) LARCED & OP 1 40, E, P. PIX HO37 X & don p X& don & < e, \( \xi, \rho, \rho > \ld \tau \cdot \) ([CON UNBOUND ASSIGN) 

Da) There exists & such that <e, &,="" p,p="">11 &lt; v, &amp;, p,p&gt;, if x &amp; dom &amp;</e,>	
b) < e & p > 1 < v & b, p' > given e is a valid expression	
E) < e, \( \xi , \phi , \rho > \psi \) < V, \( \xi , \phi , \rho' >  \text{uhen } \( \xi ' \text{ ray have different mappings, but dom } \xi = \def \) dom \( \xi = \def \)	.1
3).) For simplicity we can see the only difference in the 2 inference rules is the premises:	
<e, 0,="" 18,="" p=""> 1 &lt; V, 5', 0, p' &gt; V, = 0 VS &lt; E, 5, 0, p &gt; 1 &lt; 0, 2', 0 p' &gt;</e,>	
- In the new (2nd) greater, were saying that e, evaluates to O under & , O, P, where &	0,0
can potentially change. In the ariginal, in the same conditions, we say e, evaluates to v	6ut
in the next line say v. =0, so of 15-equivalent to saying e, evaluates to O.	
D V & domp (e, \$0, p> ) (V, & b, p)	
* * Edomp Le, \$, 0, p > 11 < V, \$', p, p'> formal occiga" is not equivalent to the formal assign	,
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due to the difference in the conclusion. In this new Porral assign, the environment p at the	conduston
p' is p' where p' is defined in the premise as the formal environment after & is en	raluated
p' does not account for x being set to the value v, as the prime only denote any changes	o when
9 B>	
B Ha) Ask X & don p x & don & AWK UNCOUND VAR) X & don p x & don & < e, & o, p > 1 < x.	g' d.o'>
(SetCre), \$, 0, p> 11 < 0, \$ 20003, 0, \$> (SetCre), \$, 0, p> 11 < 12, \$ 2x +> 13	
	ASSIGNA
Too Xe domp x & don's (StandBoum vAR)	
(VAR(V), 7, 0, P) (O, 2, 4, 9) (VAR)	
X & don p X & don 's <e, \(="" \)="" \\="" \rho="" \rho,="" \xi="" \xi,="" \xi<="" td=""><td></td></e,>	
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	For simplicity we can see the only difference in the 2 influence rules is the previous:  (e, &, b, p > 11 < V, &, b, p' > V, = 0 VS < E, &, b, p' > 11 < 0, &, b, p' >  - In the new (2nd) greenise, were saying that e, evaluates to 0 under &, b, p, where &, b, con go tintially change. In the argument, in the same conditions, we say e, evaluates to V, in the next line say V = 0, so et is equivalent to saying e, evaluates to O.  X & down < E, &, b, p > U < V, &, b, p > foundoessa' is not equivalent to the true formal assign, essercises, &, o, p > U < V, &, b, p' > foundoessa' is not equivalent to the true formal assign, due to the difference in the conclusion. In this new formal assign, the environment p at the conist of the primary of the property of the primary only decides any changes of the formal account for X being set to the value V, as the prime only decides any changes of the prime only decides and changes of the prime only decides any changes of the prime only decides any changes of the prime only decides any changes of the prime only decides and the prime only decides any changes of the prime only decides any changes of the prime only decides any changes of the prime only decides and the prime of the	duston
B 46	ANK.  X & domp x & dom & (AWK UNCOUND VAR)  X & domp x & dom & (e, &, &, e, e) \ (VAR(X), &, d, p > 1) < 0, & & & & & & & & & & & & & & & & & &	1



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50	T agree the change is the Fraid Language of (46). In accessionate in which	40
400	I grefer the changes in the Front Language, of (46). In some scentral to the grog ran, and you are restering to an inbound variable, it is likely not as central to the grog ran, and is possibly used as shorthand in a lay or southing local. In these cases there sould be no rappoint	
10	is possible used as shorthard in a lay or southing local. In these cases there would be no rappoint	
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	XEDOMP < (LLT(3), &, p, p, 21, <3, &, p, p X Edom P{X+3}} P{X+3}(X) = 3  ((Set x 3), E, d, p > 1) < 3, E, d, p {X+3} > (VAR(X), E, d, p {X+3} > 1) < 3, E, d, p {X+3})	10		There B X=0 and
5)	< begin (set x 3) x , \(\xi_1, \phi, \rho > \psi \lambda 3, \xi_1, \phi, \rho > \psi \lambda 3, \xi_1, \phi, \rho > \psi \lambda 3, \xi_2, \phi, \rho > \phi \lambda 3, \xi_2, \phi, \rho \rho \rho \rho \rho \rho \rho \rho	10		these proofs
		<del>(0</del>		× 1
6)	(ase ): Y=0	49		
61:	X GP P CO=0 (DERAL)  (NARCO), E, O, P > U < O, E, O, P	9	<b>2</b> >	
	<if(var(x), \$,="" 0,="" litcod),="" p="" var(x),=""> ( &lt; V1, \$, 0, p&gt;)</if(var(x),>	9		
6,27	X & Jomp P(X) = W2 (formal-Ver)	3		
	fer in can see V, =V2 = 0, because in G.I, V = 0 by the (LITERAL) rule, which is the	5		
	exp we evaluate because in this case we start of (If False)	0		
	Case 2: X + O: this is sleely the congliment of case 1	8		
in Com	XE JOHN P XE HOMP  XE JOHN P  XE	5	9 5	
	XE JOHP XE JOHP XE JOHN E JOHN LET POOD + O CVAR(X), E, OP XI < POOD + O CVAR(X), E, OP XI < POOD + O CIFTRUE)  LIF (VAR(X), VAR(X), LIT(O)), E, O, P > I < P(X), E, O, P < P(X), E, O	3		

6)	Case 1: Y=0
01:	X GP P CX = O (Dent of C)
	X & P P (X)=0  (NAR(X), \(\xi, 0, p\) \(\cdot\) \(\xi, \xi, 0, p\) \(\cdot\) \(\xi, \xi, 0, p\)
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	from case
6.25	X E domp P(X) = V2 (formal var)
	< VAR(x), \(\xi, \rho, \rho \) \(\zeta\), \(\xi, \rho, \rho\)
	We have the state of the state
	Here we can see V, =V2 = O, because in 6.1, V, = O by the (LITERAL) rule, which is the
	exp we evaluate because in this case we start of (If False)
	a De VIAD all or le the analysis of case I
	Case 2 = X = O. this is charly the confirment of case 1
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1	> ZTE (VAR(X), VAR(XI, 21001), SI, FI
	li-brood.
Maddank	

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	Comparing this C.2, we see that in both cases the expressions both evaluate to PCW, thus, V,=V2.
	There is an additional 2 cases where x is global. In other grevious derivations of cases  X=0 and X+0, there was nothing specific ordered p was required, and we could extend  These proofs to consider X+domp and x edom & and we would have nearly identical &
9-3	equally valid proofs.
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