

Quiz

Consider the Live Variables analysis (LV)

Show statement entry and exit values

Define the

- lattice values (i.e., facts)
- direction of analysis
- initial value and location
- combining operator

```
int a = 0;
int x = 5;
int t = x;
if (x > 0) {
    a++;
} else {
    x--;
}
return a;
```

Solution

LV is a **backward** flow **may (U)** analysis defined over **sets of variables** with the **empty set** as the initial value at the **exit node** of the CFG.

	entry	exit
int a = 0;	{}	{a}
int x = 5;	{a}	{a,x}
int t = x;	{a,x}	{a,x}
if (x > 0) {	{a,x}	{a,x}
a++;	{a}	{a}
} else {	-	-
x--;	{a,x}	{a}
}	-	-
return a;	{a}	{}