

	Reaching Definitions	Live Variables	Available Expressions
Domain	Sets of definitions	Sets of variables	Sets of expressions
Direction	Forwards	Backwards	Forwards
Transfer function	$gen_B \cup (x - kill_B)$	$use_B \cup (x - def_B)$	$e_gen_B \cup (x - e_kill_B)$
Boundary	$OUT[ENTRY] = \emptyset$	$IN[EXIT] = \emptyset$	$OUT[ENTRY] = \emptyset$
Meet (\wedge)	\cup	\cup	\cap
Equations	$OUT[B] = f_B(IN[B])$ $IN[B] = \bigwedge_{P, pred(B)} OUT[P]$	$IN[B] = f_B(OUT[B])$ $OUT[B] = \bigwedge_{S, succ(B)} IN[S]$	$OUT[B] = f_B(IN[B])$ $IN[B] = \bigwedge_{P, pred(B)} OUT[P]$
Initialize	$OUT[B] = \emptyset$	$IN[B] = \emptyset$	$OUT[B] = U$

Figure 9.21: Summary of three data-flow problems