

## SECONDO ASSIGNMENT COMPILATORI

### 1) Very busy expression

	Dataflow Problem 1
Domain	$\{a-b, b-a\}$
Direction	Backward
Transfer Function	$in[B] = gen[B] \cup (out[B] \setminus kill[B])$
Meet Operation (^)	$\cap$
Boundary Condition	$in[EXIT] = \emptyset$
Initial Interior Point	$OUT[B] = Domain$

	Iterazione 1	
	IN[B]	OUT[B]
BB1	b-a	b-a
BB2	b-a	b-a
BB3	a-b, b-a	a-b
BB4	a-b	$\emptyset$
BB5	b-a	$\emptyset$
BB6	$\emptyset$	a-b
BB7	a-b	$\emptyset$
BB8	$\emptyset$	$\emptyset$

## 2) Dominator Analysis

	<b>Dataflow Problem 2</b>
Domain	$\{A,B,C,D,E,F,G\}$
Direction	Forward
Transfer Function	$IN[B] = \{B\} \cup \cap IN[P] \ (P \in pred(B))$
Meet Operation (^)	$\cap$
Boundary Condition	$DOM[entry]=\{entry\}$
Initial Interior Point	$DOM[n]=\{A,B,C,D,E,F,G\}$

BB	Iterazione 1		Iterazione 2		Iterazione 3	
	IN[1]	OUT[1]	IN[2]	OUT[2]	IN[3]	OUT[3]
A	{A}	{A}	{A}	{A}	{A}	{A}
B	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B}	{A,B}	{A,B}	{A,B}
C	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,C}	{A,C}	{A,C}	{A,C}
D	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,C,D}	{A,C,D}
E	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,C,E}	{A,C,E}
F	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,C,F}	{A,C,F}
G	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,B,C,D,E,F,G,}	{A,G}	{A,G}