Very Busy Expression	
Domain	L'insieme delle espressioni
Direction	Backward $in[b] = f_b(out[b])$ $out[b] = \wedge\ in[succ(b)]$
Transfer function	$f_b(x) = Gen_b \cup (x - Kill_b)$
Meet operation	$\cap$
Boundary condition	$in[exit] = \varnothing$
Initial interior points	in[b] = u (universal set)

	GEN[]	KILL[]
BB1	$\varnothing$	$\varnothing$
BB2	$\varnothing$	$\varnothing$
BB3	b-a	$\varnothing$
BB4	a-b	$\varnothing$
BB5	b-a	$\varnothing$
BB6	$\varnothing$	a-b
BB7	a-b	$\varnothing$
BB8	$\varnothing$	$\varnothing$

	IN	OUT
BB1	$\varnothing \cup (\{b\text{-}a\} - \varnothing) = \{b\text{-}a\}$	{b-a}
BB2	$\varnothing \cup (\{b\text{-}a\} - \varnothing) = \{b\text{-}a\}$	$\{b\text{-}a, a\text{-}b\} \cap \{b\text{-}a\} = \{b\text{-}a\}$
BB3	$\{b\text{-}a\} \cup (\{a\text{-}b\} - \varnothing) = \{b\text{-}a, a\text{-}b\}$	{a-b}
BB4	$\{a\text{-}b\} \cup (\varnothing - \varnothing) = \{a\text{-}b\}$	$\varnothing$
BB5	$\{b\text{-}a\} \cup (\varnothing - \varnothing) = \{b\text{-}a\}$	$\varnothing$
BB6	$\varnothing \cup (\{a\text{-}b\} - \{a\text{-}b\}) = \varnothing$	{a-b}
BB7	$\{a\text{-}b\} \cup (\varnothing - \varnothing) = \{a\text{-}b\}$	$\varnothing$
BB8	$\varnothing$	$\varnothing$

Dominator Analys	
Domain	L'insieme dei blocchi
Direction	Forward $out[b] = f_b(in[b])$ $in[b] = \wedge\ out[pred(b)]$
Transfer function	$f_b(x) = Gen_b \cup (x - Kill_b)$
Meet operation	$\cap$
Boundary condition	$out[entry] = \varnothing$
Initial interior points	out[b] = u (universal set)

GEN[b] = B (ogni blocco genera se stesso)
KILL[b] = $\varnothing$ (non sono presenti operazioni di kill)

	IN	OUT
A	$\varnothing$	$A \cup (\varnothing - \varnothing) = \{A\}$
B	A	$B \cup (A - \varnothing) = \{A, B\}$
C	A	$C \cup (A - \varnothing) = \{A, C\}$
D	{A, C}	$D \cup (\{A, C\} - \varnothing) = \{A, C, D\}$
E	{A, C}	$E \cup (\{A, C\} - \varnothing) = \{A, C, E\}$
F	$\{A, C, D\} \cap \{A, C, E\} = \{A, C\}$	$F \cup (\{A, C\} - \varnothing) = \{A, C, F\}$
G	$\{A, B\} \cap \{A, C, F\} = \{A\}$	$G \cup (A - \varnothing) = \{A, G\}$

Constant Propagation	
Domain	L'insieme delle coppie <variabile, valore costante>
Direction	Forward out[b] = f_b(in[b]) in[b] = ^ out[pred(b)]
Transfer function	$f_b(x) = Gen_b \cup (x - Kill_b)$
Meet operation	∩
Boundary condition	out[entry] = ∅
Initial interior points	out[b] = u (universal set)

	GEN[]	KILL[]
BB1 (entry)	∅	∅
BB2	<k,2>	∅
BB3 (if)	∅	∅
BB4	<a,4>	∅
BB5	<x,5>	∅
BB6	<a,4>	∅
BB7	<x,8>	∅
BB8	<k, 4>	<k,2>
BB9 (while)	∅	∅
BB10	<b,2>	∅
BB11	<x,8>	<x,5>, <x,8>
BB12	<y,8>	∅
BB13	<k,5>	<k, 4>
BB14	∅	∅
BB15	∅	∅

ITER 1

	IN	OUT
BB1 (entry)	∅	∅
BB2	∅	<k,2> ∪ (∅ - ∅) = <k,2>
BB3 (if)	<k,2>	∅ ∪ (<k,2> - ∅) = <k,2>
BB4	<k,2>	<a, 4> ∪ (<k, 2> - ∅) = <a, 4>, <k,2>
BB5	<a, 4>, <k,2>	<x,5> ∪ (<a, 4>, <k,2> - ∅) = <x,5>, <a, 4>, <k,2>
BB6	<k,2>	<a, 4> ∪ (<k, 2> - ∅) = <a, 4>, <k,2>
BB7	<a, 4>, <k,2>	<x,8> ∪ (<a, 4>, <k,2> - ∅) = <x,8>, <a, 4>, <k,2>
BB8	<x,5>, <a, 4>, <k,2> ∩ <x,8>, <a, 4>, <k,2> = <a, 4>, <k,2>	<k, 4> ∪ (<a, 4>, <k,2> - <k,2>) = <k,4>, <a, 4>
BB9 (while)	<k,4>, <a, 4>	∅ ∪ (<k,4>, <a, 4> - ∅) = <k,4>, <a, 4>
BB10	<k,4>, <a, 4>	<b,2> ∪ (<k,4>, <a, 4> - ∅) = <k,4>, <a, 4>, <b,2>
BB11	<k,4>, <a, 4>, <b,2>	<x,8> ∪ (<k,4>, <a, 4>, <b,2> - <x,5>, <x,8>) = <x,8>, <k,4>, <a, 4>, <b,2>
BB12	<x,8>, <k,4>, <a, 4>, <b,2>	<y,8> ∪ (<x,8>, <k,4>, <a, 4>, <b,2> - ∅) = <x,8>, <k,4>, <a, 4>, <b,2>, <y,8>
BB13	<x,8>, <k,4>, <a, 4>, <b,2>, <y,8>	<k,5> ∪ (<x,8>, <k,4>, <a, 4>, <b,2>, <y,8> - <k, 4>) = <x,8>, <k,5>, <a, 4>, <b,2>, <y,8>
BB14	<k,4>, <a, 4>	∅ ∪ (<k,4>, <a, 4> - ∅) = <k,4>, <a, 4>
BB15	<k,4>, <a, 4>	<k,4>, <a, 4>

ITER 2

	IN	OUT
BB1 (entry)	∅	∅
BB2	∅	<k,2> ∪ (∅ - ∅) = <k,2>
BB3 (if)	<k,2>	∅ ∪ (<k,2> - ∅) = <k,2>
BB4	<k,2>	<a, 4> ∪ (<k, 2> - ∅) = <a, 4>, <k,2>
BB5	<a, 4>, <k,2>	<x,5> ∪ (<a, 4>, <k,2> - ∅) = <x,5>, <a, 4>, <k,2>
BB6	<k,2>	<a, 4> ∪ (<k, 2> - ∅) = <a, 4>, <k,2>
BB7	<a, 4>, <k,2>	<x,8> ∪ (<a, 4>, <k,2> - ∅) = <x,8>, <a, 4>, <k,2>
BB8	<x,5>, <a, 4>, <k,2> ∩ <x,8>, <a, 4>, <k,2> = <a, 4>, <k,2>	<k, 4> ∪ (<a, 4>, <k,2> - <k,2>) = <k,4>, <a, 4>
BB9 (while)	<k,4>, <a, 4> ∩ <x,8>, <k,5>, <a, 4>, <b,2>, <y,8> = <a, 4>	∅ ∪ (<a, 4> - ∅) = <a, 4>
BB10	<a, 4>	<b,2> ∪ (<a, 4> - ∅) = <a, 4>, <b,2>
BB11	<a, 4>, <b,2>	<x,9> ∪ (<a, 4>, <b,2> - <x,5>, <x,8>) = <x,9>, <a, 4>, <b,2>
BB12	<x,9>, <a, 4>, <b,2>	<y,8> ∪ (<x,9>, <a, 4>, <b,2> - ∅) = <x,9>, <a, 4>, <b,2>, <y,8>
BB13	<x,9>, <a, 4>, <b,2>, <y,8>	<k,6> ∪ (<x,9>, <a, 4>, <b,2>, <y,8> - <k, 5>) = <x,9>, <k,6>, <a, 4>, <b,2>, <y,8>
BB14	<a, 4>	∅ ∪ (<a, 4> - ∅) = <a, 4>
BB15	<a, 4>	<a, 4>

ITER 3

	IN	OUT
BB1 (entry)	∅	∅
BB2	∅	<k,2> ∪ (∅ - ∅) = <k,2>
BB3 (if)	<k,2>	∅ ∪ (<k,2> - ∅) = <k,2>
BB4	<k,2>	<a, 4> ∪ (<k, 2> - ∅) = <a, 4>, <k,2>
BB5	<a, 4>, <k,2>	<x,5> ∪ (<a, 4>, <k,2> - ∅) = <x,5>, <a, 4>, <k,2>
BB6	<k,2>	<a, 4> ∪ (<k, 2> - ∅) = <a, 4>, <k,2>
BB7	<a, 4>, <k,2>	<x,8> ∪ (<a, 4>, <k,2> - ∅) = <x,8>, <a, 4>, <k,2>
BB8	<x,5>, <a, 4>, <k,2> ∩ <x,8>, <a, 4>, <k,2> = <a, 4>, <k,2>	<k, 4> ∪ (<a, 4>, <k,2> - <k,2>) = <k,4>, <a, 4>
BB9 (while)	<k,4>, <a, 4> ∩ <x,9>, <a, 4>, <b,2>, <y,8> = <a, 4>	∅ ∪ (<a, 4> - ∅) = <a, 4>
BB10	<a, 4>	<b,2> ∪ (<a, 4> - ∅) = <a, 4>, <b,2>
BB11	<a, 4>, <b,2>	<x,10> ∪ (<a, 4>, <b,2> - <x,5>, <x,9>) = <x,10>, <a, 4>, <b,2>
BB12	<x,10>, <a, 4>, <b,2>	<y,8> ∪ (<x,10>, <a, 4>, <b,2> - ∅) = <x,10>, <a, 4>, <b,2>, <y,8>
BB13	<x,10>, <a, 4>, <b,2>, <y,8>	<k,6> ∪ (<x,10>, <a, 4>, <b,2>, <y,8> - <k, 5>) = <x,10>, <k,6>, <a, 4>, <b,2>, <y,8>
BB14	<a, 4>	∅ ∪ (<a, 4> - ∅) = <a, 4>
BB15	<a, 4>	<a, 4>