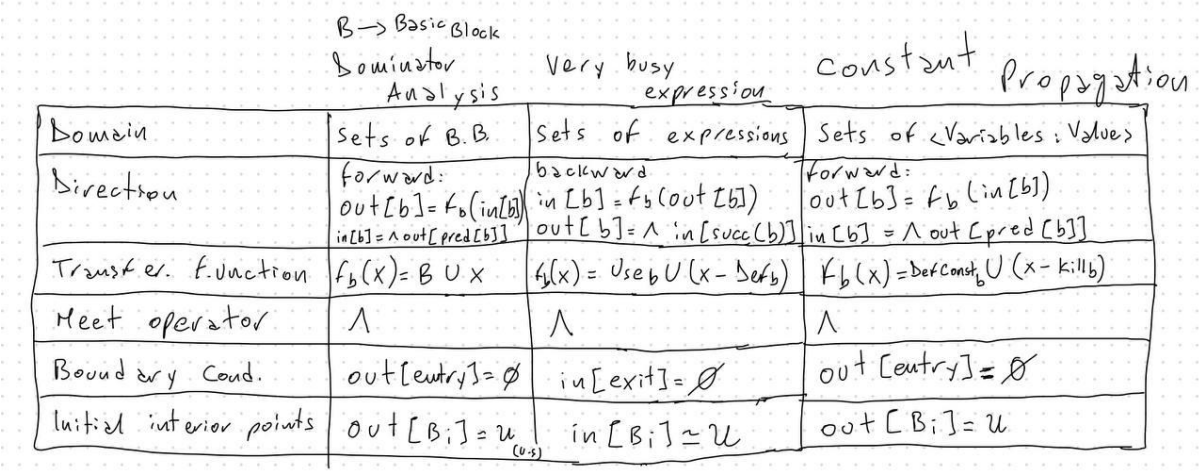
Data flow analysis

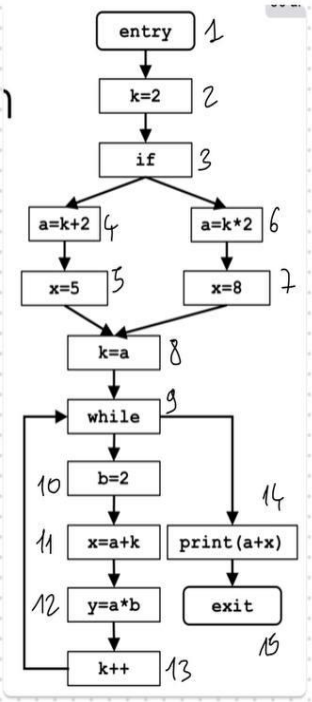


La tabella riporta la formalizzazione del framework per il Data-flow analysis dei problemi di Dominator Analysis, Very busy expression e Costant propagation.

Nelle pagine seguenti sono invece illustrati, per ogni problema di analisi, le iterazioni dell’algoritmo fino a convergenza.

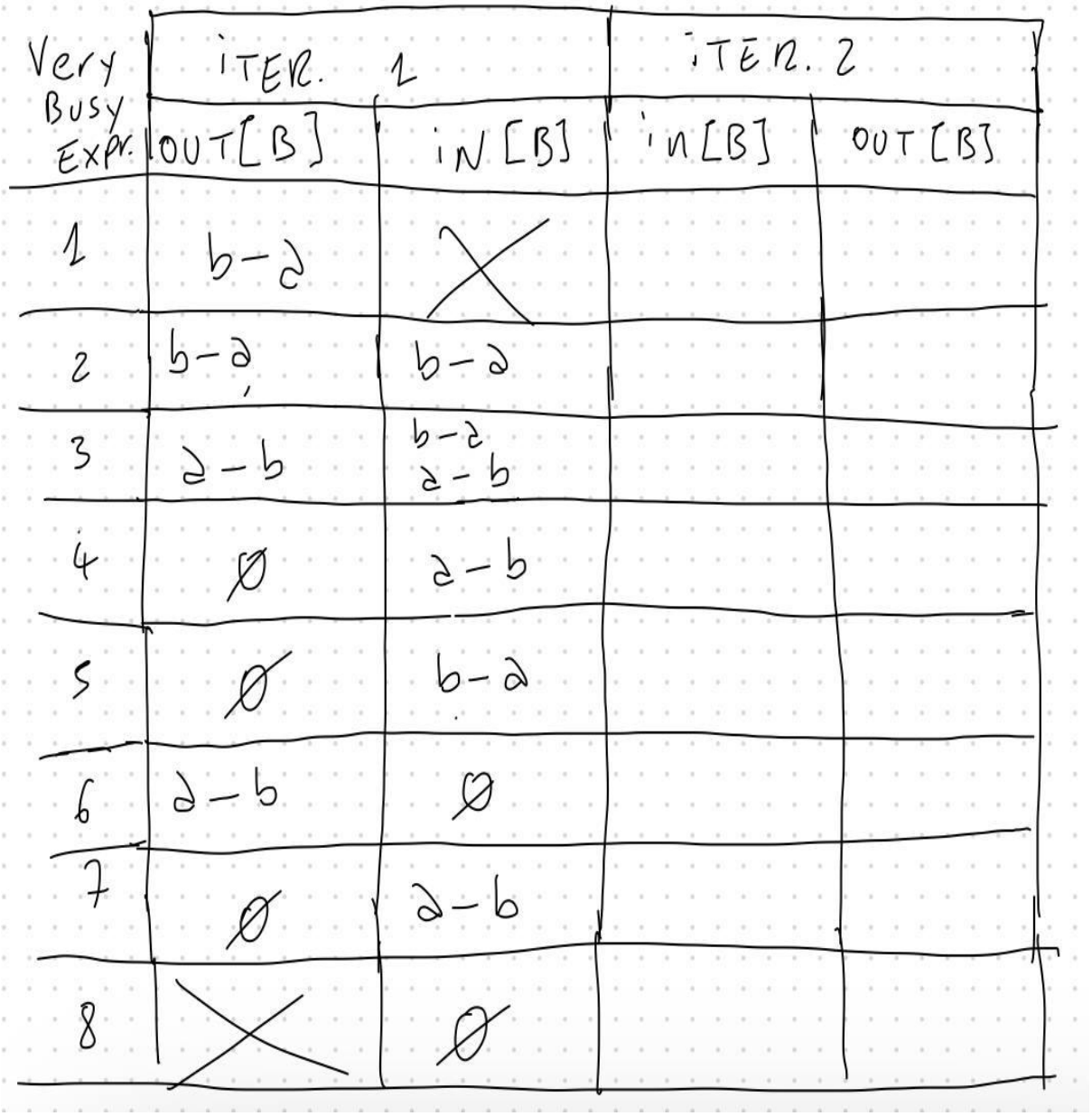
Constant propagation

Constant Propagation	ITER. 1		ITER. 2	
	in [B]	out [B]	in [B]	out [B]
1	∅	∅	/	/
2	∅	k=2	/	/
3	k=2	k=2	/	/
4	k=2	⟨k=2, a=4⟩	/	/
5	⟨k=2, a=4⟩	⟨k=2, a=4, x=5⟩	/	/
6	k=2	⟨k=2, a=4⟩	/	/
7	⟨k=2, a=4⟩	⟨k=2, a=4, x=8⟩	/	/
8	⟨k=2, a=4⟩	⟨k=4, a=4⟩	/	/
9	⟨k=4, a=4⟩	⟨k=4, a=4⟩	a=4	a=4
10	⟨k=4, a=4⟩	⟨k=4, a=4, b=2⟩	a=4	a=4, b=2
11	⟨k=4, a=4, b=2⟩	⟨k=4, a=4, b=2, x=8⟩	a=4, b=2	a=4, b=2
12	⟨k=4, a=4, b=2, x=8⟩	k=4, a=4, b=2, x=8, y=8	a=4, b=2	a=4, b=2, y=8
13	k=4, a=4, b=2, x=8, y=8	k=5, a=4, b=2, x=8, y=8	a=4, b=2, y=8	a=4, b=2, y=8
14	⟨k=4, a=4⟩	⟨k=4, a=4⟩	a=4	a=4
15	//	//	//	//



terza iterazione uguale alla seconda.

Very busy expression



Dominator Analysis

Dominator Analysis	ITER. 1		ITER. 2	
	in[B]	OUT[B]	in[B]	OUT[B]
A	∅	A		
B	A,	A, B		
C	A	A, C		
D	A, C	A, C, D		
E	A, C	A, C, E		
F	A, C	A, C, F		
G	A	A, G		