

Results from Defects4J Experiments in Summary

TABLE I: Comparison between IFL_1 and IFL_c on the open-source bug data

Mode	Top-1 (%)	Top-5 (%)	MAP (%)	Portion of Tests Executed (%)
IFL_1	14	32	22	47
IFL_c	12	26	19	100

TABLE II: IFL_f 's effectiveness when IFL_f reranked locations after each extra test failure (8 D4J real bugs, which have 2 failed tests)

# of Failed	Top-1 (%)	Top-5 (%)	Top-10 (%)	MAP (%)
1	25	25	25	26
2	25	25	25	25

TABLE III: IFL_o 's effectiveness when the data of 1-10 more passed tests was also included (39 D4J real bugs which can run at least 10 extra passed tests after the first failed test)

# of Additional	Top-1 (%)	Top-5 (%)	Top-10 (%)	MAP (%)
1	15	28	28	22
2	15	28	28	22
3	15	28	28	22
4	15	28	28	22
5	15	26	26	21
6	15	26	26	21
7	15	26	26	21
8	15	26	26	21
9	15	26	26	21
10	15	26	26	21

TABLE IV: The effectiveness of IFL_1 and IFL_c when different formulas were used (in all 57 D4J bugs)

Variants of IFL_1	Top-1 (%)	Top-5 (%)	MAP (%)	Variants of IFL_c	Top-1 (%)	Top-5 (%)	MAP (%)
IFL_1 -Ample	14	32	22	IFL_c -Ample	12	26	19
IFL_1 -Anderberg	16	42	27	IFL_c -Anderberg	16	42	28
IFL_1 -Dice	16	42	27	IFL_c -Dice	16	42	28
IFL_1 -Euclid	5	18	12	IFL_c -Euclid	5	18	12
IFL_1 -Goodman	16	42	27	IFL_c -Goodman	16	42	28
IFL_1 -Hamann	14	32	22	IFL_c -Hamann	12	26	19
IFL_1 -Hamming	5	18	12	IFL_c -Hamming	5	18	12
IFL_1 -Jaccard	16	42	27	IFL_c -Jaccard	16	42	28
IFL_1 -Kulczynski1	16	42	27	IFL_c -Kulczynski1	16	42	28
IFL_1 -Kulczynski2	2	5	5	IFL_c -Kulczynski2	2	5	5
IFL_1 -M1	14	32	22	IFL_c -M1	12	26	19
IFL_1 -M2	16	42	27	IFL_c -M2	16	42	28
IFL_1 -Ochiai	16	42	27	IFL_c -Ochiai	16	42	28
IFL_1 -Ochiai2	16	42	27	IFL_c -Ochiai2	16	42	28
IFL_1 -Overlap	2	4	3	IFL_c -Overlap	2	4	3
IFL_1 -RogersTanimoto	14	32	22	IFL_c -RogersTanimoto	12	26	19
IFL_1 -RussellRao	16	42	27	IFL_c -RussellRao	16	44	28
IFL_1 -SimpleMatching	14	32	22	IFL_c -SimpleMatching	12	26	19
IFL_1 -Sokal	14	37	24	IFL_c -Sokal	14	37	25
IFL_1 -SørensenDice	16	42	27	IFL_c -SørensenDice	16	42	28
IFL_1 -Tarantula	14	32	22	IFL_c -Tarantula	12	26	19
IFL_1 -Wong1	5	18	12	IFL_c -Wong1	5	18	12
IFL_1 -Wong2	14	32	22	IFL_c -Wong2	12	26	19
IFL_1 -Wong3	14	32	23	IFL_c -Wong3	14	28	22
IFL_1 -Zoltar	16	42	27	IFL_c -Zoltar	16	42	28