

Appendix A. Halstead's Complexity Metrics

Table A1. Calculation for *CRL*

ID	n_1	n_2	n	N_1	N_2	N	V	D	E	T
R1	3	1	4	3	2	5	10	3	30	1.67
R2	3	1	4	3	3	6	12	4.50	54	3
R3	3	2	5	3	4	7	16.25	3	48.76	2.71
R4	1	1	2	1	2	3	3	1	3	0.17
Σ	10	5	15	10	11	21	41.25	11.50	135.76	7.54
Mean	2.50	1.25	3.75	2.50	2.50	5.25	10.31	2.88	33.94	1.89

Operators (n_1): pattern, parentheses, and, or; operands (n_2): activity, data.

Table A2. Calculation for *LTL* formulas of *CRL*

ID	n_1	n_2	n	N_1	N_2	N	V	D	E	T
R1	3	1	4	3	2	5	10	3	30	1.67
R2	5	1	6	7	4	11	28.43	10	284.35	15.80
R3	4	2	6	4	4	8	20.68	4	82.72	4.60
R4	2	1	3	2	2	4	6.34	2	12.68	0.70
Σ	14	5	19	16	12	28	65.45	19	409.74	22.76
Mean	3.50	1.25	4.75	4	3	7	16.36	4.75	102.44	5.69

Operators (n_1): F, G, W, R, and, or, not, rightwards arrow, equals, parentheses; operands (n_2): activity, data.

Table A3. Calculation for *Declare*

ID	n_1	n_2	n	N_1	N_2	N	V	D	E	T
R1	1	1	2	2	2	4	4	1	4	0.22
R2	3	1	4	6	4	10	20	6	120	6.67
R3	3	2	5	4	4	8	18.58	3	55.73	3.10
R4	2	1	3	2	2	4	6.34	2	12.68	0.70
Σ	9	5	14	14	12	26	48.92	12	192.41	10.69
Mean	2.25	1.25	3.50	3.50	3	6.50	12.23	3	48.10	2.67

Operators (n_1): pattern, not, sequence flow; operands (n_2): activity, gateway (choice label 1 of 2).

Table A4. Calculation for *LTL* formulas of *Declare*

ID	n_1	n_2	n	N_1	N_2	N	V	D	E	T
R1	1	1	2	2	2	4	4	1	4	0.22
R2	5	1	6	10	4	14	36.19	10	361.89	20.11
R3	7	1	8	21	7	28	84	24.50	2,058	114.33
R4	5	1	6	6	3	9	23.26	7.50	174.48	9.69
Σ	18	4	22	39	16	55	147.45	43	2,598.38	144.35
Mean	5	1	5.50	9.75	4.00	13.75	36.86	10.75	649.59	36.09

Operators (n_1): F, G, U, and, or, not, rightwards arrow, equals, parentheses; operands (n_2): activity.

Table A5. Calculation for *PCL*

ID	n_1	n_2	N	N_1	N_2	N	V	D	E	T
R1	3	1	4	3	3	6	12	4.50	54	3
R2	3	1	4	6	6	12	24	9	216	12
R3	3	2	5	6	6	12	27.86	4.50	125.38	6.97
R4	2	1	3	2	2	4	6.34	2	12.68	0.70
R4 _A	3	1	4	4	2	6	12	3	36	2
Σ	11	5	16	17	17	34	70.20	20	408.06	22.67
Σ_A	12	5	17	19	17	36	75.86	21	431.38	23.97
Mean	2.75	1.25	4	4.25	4.25	8.50	17.55	5	102.02	5.67
Mean _A	3.00	1.25	4.25	4.75	4.25	9	18.97	5.25	107.85	5.99

Operators (n_i): modalities, rightwards double arrow, comma (and), not; operands (n_2): activity, data. The subscript A marks the alternative.

Appendix B. Henry and Kafura's Information Flow Metric

Table B1. Calculation for *CRL* and corresponding *LTL* formulas

ID	LOC	fan_{in}	fan_{out}	C_{vCRL}	LOC	fan_{in}	fan_{out}	C_{vLTL}
R1	1	2	1	4	1	2	1	2
R2	1	2	1	4	2	2	1	8
R3	1	1	2	4	1	1	2	4
R4	1	1	1	1	1	1	1	1
Σ	4	6	5	13	5	6	5	17
Mean	1	1.50	1.25	3.25	1.25	1.50	1.25	4.25

Table B2. Calculation for *Declare* and corresponding *LTL* formulas

ID	LOC	fan_{in}	fan_{out}	C_{vDEC}	LOC	fan_{in}	fan_{out}	C_{vLTL}
R1	2	2	1	8	2	1	1	2
R2	2	2	1	8	4	3	1	36
R3	2	1	2	8	6	3	3	486
R4	1	2	1	4	2	2	1	8
Σ	1.75	1.75	1.25	7	14	9	6	532
Mean	7	7	5	28	3.50	2.25	1.50	133

Table B3. Calculation for *PCL*

ID	LOC	fan_{in}	fan_{out}	C_{vPCL}
R1	1	3	1	9
R2	2	5	1	50
R3	2	5	1	50
R4	1	2	1	4
Σ	6	15	4	113
Mean	1.50	3.75	1	28.25

Appendix C. Cardoso's Control Flow Metric

Table C1. Calculation for *CRL*

ID	xor-split	and-split	CFC_{abs_CRL}	CFC_{rel_CRL}
R1	0	1	1	1
R2	0	1	1	0.50
R3	1	0	1	0.50
R4	0	0	0	0
Σ	1	2	3	1.50
Mean	0.25	0.50	0.75	0.50

Table C2. Calculation for *LTL* formulas of *CRL*

ID	xor-split	and-split	CFC_{abs_LTL}	CFC_{rel_LTL}
R1	0	1	1	1
R2	0	1	1	1
R3	1	0	1	1
R4	0	0	0	0
Σ	1	2	3	1.50
Mean	0.25	0.50	0.75	0.75

Table C3. Calculation for *Declare*

ID	xor-split	and-split	CFC_{abs_DEC}	CFC_{rel_DEC}
R1	0	0	0	0
R2	0	0	0	0
R3	1	1	2	1
R4	0	0	0	0
Σ	1	1	2	1
Mean	0.25	0.25	0.50	0.25

Table C4. Calculation for *LTL* formulas of *Declare*

ID	xor-split	and-split	CFC_{abs_LTL}	CFC_{rel_LTL}
R1	0	0	0	0
R2	0	0	0	0
R3	2	2	4	2
R4	0	0	0	0
Σ	2	2	4	2
Mean	0.50	0.50	1	0.50

Table C5. Calculation for *PCL*

ID	xor-split	and-split	CFC_{abs_PCL}	CFC_{rel_PCL}
R1	0	1	1	1
R2	1	2	3	1.50
R3	1	2	3	1.50
R4	0	0	0	0
Σ	2	5	7	3.50
Mean	0.50	1.25	1.75	1.00