Tool Name	Execution Time (s)	Total Energy (J)	CPU Energy (J)	Memory Energy (J)	Energy/Time (J/s)
CMake	5 (1.8)	6 (3.8)	6 (2.8)	1 (1.0)	3 (1.8)
qmake	2 (1.3)	2 (3.0)	2 (2.0)	1 (1.0)	5 (2.0)
Qbs	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
NetBeans IDE	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
Code::Blocks	1 (1.0)	2 (3.0)	2 (2.0)	1 (1.0)	5 (2.0)
CLion	5 (1.8)	6 (3.8)	6 (2.8)	1 (1.0)	3 (1.8)
CodeLite	3 (1.5)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
Eclipse CDT	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
KDevelop	5 (1.8)	6 (3.8)	6 (2.8)	1 (1.0)	3 (1.8)
Geany	1 (1.0)	2 (3.0)	2 (2.0)	1 (1.0)	5 (2.0)
Anjuta DevStudio	5 (1.8)	5 (3.5)	6 (2.8)	2 (1.2)	5 (2.0)
Qt Creator	4 (1.7)	4 (3.4)	4 (2.4)	1 (1.0)	4 (1.9)
DialogBlocks	3 (1.5)	2 (3.0)	5 (2.5)	1 (1.0)	5 (2.0)
ZinjaI	6 (2.0)	1 (2.5)	1 (1.5)	1 (1.0)	1 (1.0)
GPS	3 (1.5)	3 (3.2)	3 (2.2)	1 (1.0)	5 (2.0)
Oracle Developer Studio	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
Sphere Engine	6 (2.0)	7 (4.0)	7 (3.0)	1 (1.0)	5 (2.0)
AWS Cloud9	3 (1.5)	1 (2.5)	1 (1.5)	1 (1.0)	2 (1.5)

Table 1: Thread-ring tools ranked with 0 decimal points

Tool Name	Execution Time (s)	Total Energy (J)	CPU Energy (J)	Memory Energy (J)	Energy/Time (J/s)
CMake	5 (1.8)	6 (3.8)	6 (2.8)	1 (1.0)	3 (1.8)
qmake	2 (1.3)	2 (3.0)	2 (2.0)	1 (1.0)	5 (2.0)
Qbs	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
NetBeans IDE	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
Code::Blocks	1 (1.0)	2 (3.0)	2 (2.0)	1 (1.0)	5 (2.0)
CLion	5 (1.8)	6 (3.8)	6 (2.8)	1 (1.0)	3 (1.8)
CodeLite	3 (1.5)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
Eclipse CDT	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
KDevelop	5 (1.8)	6 (3.8)	6 (2.8)	1 (1.0)	3 (1.8)
Geany	1 (1.0)	2 (3.0)	2 (2.0)	1 (1.0)	5 (2.0)
Anjuta DevStudio	5 (1.8)	5 (3.5)	6 (2.8)	2 (1.2)	5 (2.0)
Qt Creator	4 (1.7)	4 (3.4)	4 (2.4)	1 (1.0)	4 (1.9)
DialogBlocks	3 (1.5)	2 (3.0)	5 (2.5)	1 (1.0)	5 (2.0)
ZinjaI	6 (2.0)	1 (2.5)	1 (1.5)	1 (1.0)	1 (1.0)
GPS	3 (1.5)	3 (3.2)	3 (2.2)	1 (1.0)	5 (2.0)
Oracle Developer Studio	6 (2.0)	5 (3.5)	5 (2.5)	1 (1.0)	5 (2.0)
Sphere Engine	6 (2.0)	7 (4.0)	7 (3.0)	1 (1.0)	5 (2.0)
AWS Cloud9	3 (1.5)	1 (2.5)	1 (1.5)	1 (1.0)	2 (1.5)

Table 2: Thread-ring tools ranked with 1 decimal points

Tool Name	Execution Time (s)	Total Energy (J)	CPU Energy (J)	Memory Energy (J)	Energy/Time (J/s)
CMake	7 (4.2)	11 (12.5)	9 (10.5)	8 (6.0)	2 (2.2)
qmake	3 (3.3)	4 (8.3)	3 (7.0)	5 (5.3)	5 (2.7)
Qbs	4 (3.5)	12 (13.5)	10 (11.5)	8 (6.0)	7 (3.0)
NetBeans IDE	4 (3.5)	9 (11.5)	7 (9.5)	6 (5.5)	3 (2.5)
Code::Blocks	2 (3.0)	5 (9.0)	6 (9.0)	1 (4.0)	7 (3.0)
CLion	7 (4.2)	11 (12.5)	9 (10.5)	8 (6.0)	2 (2.2)
CodeLite	2 (3.0)	7 (10.0)	5 (8.5)	3 (4.5)	7 (3.0)
Eclipse CDT	4 (3.5)	13 (14.0)	11 (12.0)	6 (5.5)	7 (3.0)
KDevelop	7 (4.2)	11 (12.5)	9 (10.5)	8 (6.0)	2 (2.2)
Geany	2 (3.0)	3 (7.0)	2 (5.0)	4 (5.0)	7 (3.0)
Anjuta DevStudio	6 (4.0)	10 (12.2)	9 (10.5)	8 (6.0)	3 (2.5)
Qt Creator	5 (3.8)	8 (11.3)	8 (9.6)	7 (5.8)	4 (2.6)
DialogBlocks	1 (2.5)	7 (10.0)	7 (9.5)	1 (4.0)	8 (3.5)
ZinjaI	4 (3.5)	2 (6.5)	1 (4.0)	9 (6.5)	1 (2.0)
GPS	2 (3.0)	6 (9.2)	4 (8.2)	2 (4.2)	6 (2.8)
Oracle Developer Studio	4 (3.5)	9 (11.5)	7 (9.5)	6 (5.5)	3 (2.5)
Sphere Engine	8 (5.0)	14 (17.0)	12 (14.0)	10 (9.0)	1 (2.0)
AWS Cloud9	4 (3.5)	1 (5.5)	2 (5.0)	3 (4.5)	1 (2.0)

Table 3: Thread-ring tools ranked with 2 decimal points

Tool Name	Execution Time (s)	Total Energy (J)	CPU Energy (J)	Memory Energy (J)	Energy/Time (J/s)
CMake	11 (13.5)	12 (15.2)	9 (15.8)	10 (14.2)	3 (7.5)
qmake	6 (8.7)	4 (9.7)	3 (10.0)	6 (11.0)	5 (8.3)
Qbs	8 (11.0)	13 (17.0)	11 (18.0)	11 (14.5)	10 (11.5)
NetBeans IDE	8 (11.0)	10 (14.0)	8 (14.5)	8 (13.0)	8 (10.0)
Code::Blocks	1 (4.0)	5 (10.0)	5 (13.0)	1 (4.0)	13 (15.0)
CLion	11 (13.5)	12 (15.2)	9 (15.8)	10 (14.2)	3 (7.5)
CodeLite	3 (7.0)	7 (11.5)	5 (13.0)	2 (7.0)	11 (12.0)
Eclipse CDT	11 (13.5)	13 (17.0)	12 (18.5)	8 (13.0)	7 (9.5)
KDevelop	11 (13.5)	12 (15.2)	9 (15.8)	10 (14.2)	3 (7.5)
Geany	2 (5.0)	3 (7.0)	2 (7.0)	2 (7.0)	8 (10.0)
Anjuta DevStudio	7 (10.8)	11 (15.0)	10 (16.0)	7 (12.2)	9 (10.2)
Qt Creator	9 (11.3)	9 (13.8)	7 (14.3)	9 (13.2)	6 (8.7)
DialogBlocks	5 (8.5)	8 (13.0)	6 (14.0)	5 (10.5)	12 (13.5)
ZinjaI	10 (12.0)	2 (6.5)	1 (6.0)	12 (15.5)	1 (3.0)
GPS	4 (7.2)	6 (10.5)	4 (12.2)	3 (8.2)	11 (12.0)
Oracle Developer Studio	8 (11.0)	10 (14.0)	8 (14.5)	8 (13.0)	8 (10.0)
Sphere Engine	12 (19.0)	14 (22.0)	13 (22.0)	13 (23.0)	2 (4.0)
AWS Cloud9	5 (8.5)	1 (6.0)	2 (7.0)	4 (8.5)	4 (8.0)

Table 4: Thread-ring tools ranked with 3 decimal points