

Level Program	-O0	-O1	-O2	-O3	-Ofast	-Os
<b>MMC</b>	34.361	24.552	24.402	23.649	24.265	25.740
<b>Grades</b>	40.038	32.378	31.239	31.226	31.060	31.091
<b>Bzip</b>	36.755	20.408	20.396	20.361	20.399	22.115
<b>Bzip2</b>	36.755	20.493	20.366	20.477	20.427	21.773
<b>Oggenc</b>	46.068	19.958	17.648	17.256	16.359	20.177
<b>Pbrt</b>	47.008	12.614	12.761	12.413	12.175	19.547

Table 1: Execution times of C/C++ programs in seconds by optimization level.

Level Program	-O0	-O1	-O2	-O3	-Ofast	-Os
<b>MMC</b>	354.934	237.568	239.599	240.192	238.445	227.809
<b>Grades</b>	352.228	257.912	246.786	248.958	245.701	249.664
<b>Bzip</b>	406.914	214.438	216.539	215.882	213.496	234.162
<b>Bzip2</b>	402.516	212.324	212.327	215.639	213.947	229.156
<b>Oggenc</b>	523.992	216.264	195.844	190.472	180.038	213.51
<b>Pbrt</b>	556.222	141.461	142.815	136.84	134.378	209.164

Table 2: Selected C/C++ programs and their energy consumption (CPU and memory) in Joules by optimization level.

<b>Level</b> <b>Program</b>	<b>-O0</b>	<b>-O1</b>	<b>-O2</b>	<b>-O3</b>	<b>-Ofast</b>	<b>-Os</b>
<b>Matmul</b>	22.247	21.396	8.420	8.429	8.434	21.347
<b>PGo</b>	35.803	11.117	5.066	4.961	4.853	16.567
<b>Sudoku</b>	36.586	24.557	14.951	13.156	13.162	26.169

Table 3: Execution times of Go programs in seconds by optimization level.

<b>Level</b> <b>Program</b>	<b>-O0</b>	<b>-O1</b>	<b>-O2</b>	<b>-O3</b>	<b>-Ofast</b>	<b>-Os</b>
<b>Matmul</b>	290.775	246.092	105.301	105.514	105.541	231.753
<b>PGo</b>	791.741	237.263	112.529	108.662	106.343	362.635
<b>Sudoku</b>	414.359	265.79	164.581	145.177	146.065	286.753

Table 4: Selected Go programs and their energy consumption (CPU and memory) in Joules by optimization level.

<b>Level</b> <b>Program</b>	<b>-O0</b>	<b>-O1</b>	<b>-O2</b>	<b>-O3</b>	<b>-Ofast</b>	<b>-Os</b>
<b>Matmulobjc</b>	3.882	3.882	3.882	3.880	3.881	3.878
<b>Miscellany</b>	9.346	9.341	9.347	9.347	9.351	9.350
<b>Sorting</b>	35.643	35.652	35.585	35.643	35.624	35.596

Table 5: Execution times of Objective-C programs in seconds by optimization level.

<b>Level</b> <b>Program</b>	<b>-O0</b>	<b>-O1</b>	<b>-O2</b>	<b>-O3</b>	<b>-Ofast</b>	<b>-Os</b>
<b>Matmulobjc</b>	121.262	47.532	47.053	30.714	30.867	48.664
<b>Miscellany</b>	248.844	129.711	95.549	107.859	107.713	129.914
<b>Sorting</b>	456.098	435.695	435.908	439.173	433.084	438.992

Table 6: Selected Objective-C programs and their energy consumption (CPU and memory) in Joules by optimization level.