Name	Category	Description	U	M	P	C	F	I	R	T
ann	Apps	ANN training	✗	✗			✗			✗
canny	Apps	Canny edge detector	✗	✗			✗	✗		✗
img_scaling	Apps	Bicubic image scaling algorithm	✗				✗	✗		✗
jpeg_compress	Apps	RGB JPEG compressor	✗	✗		✗		✗		✗
latnav	Apps	Aircraft autopilot with cascade PID controllers	✗	✗			✗			✗
acas	Apps	Modern airbone collision avoidance system algorithm	✗	✗			✗			✗
matrix_mult	Kernels	Matrix multiplication	✗				✗			
lu_dec	Kernels	Matrix LU decomposition	✗				✗			
matrix_det	Kernels	Matrix determinant computation	✗				✗			
matrix_inv	Kernels	Matrix inverse computation	✗				✗			
erode	Kernels	Morphological erosion on binary image	✗					✗		
dilate	Kernels	Morphological dilation on binary image	✗					✗		
avg_filter	Kernels	Average filtering on grayscale image	✗				✗	✗		
avg_filter_RGB	Kernels	Average filtering on RGB image	✗		✗	✗	✗	✗		
gauss_filter	Kernels	Gaussian filtering on a grayscale image	✗	✗			✗	✗		
gauss_filter_RGB	Kernels	Gaussian filtering on a RGB image	✗	✗	✗	✗	✗	✗		
binary_tree_sort	Kernels	Binary tree sort algorithm	✗				✗			✗
bogo_sort	Kernels	Bogo sort algorithm	✗				✗			✗
bubble_sort	Kernels	Bubble sort algorithm	✗				✗			✗
insertion_sort	Kernels	Insertion sort algorithm	✗				✗			✗
parallel_merge_sort	Kernels	Parallel sorting algorithm	✗		✗	✗	✗			✗
quick_sort	Kernels	Quick sort algorithm	✗				✗		✗	✗
fft	Kernels	FFT Cooley–Tukey algorithm	✗	✗			✗			
dct	Kernels	DCT	✗	✗			✗			
biquad	Kernels	Biquad filter	✗	✗			✗			
fir_avg	Kernels	Average filter	✗	✗			✗			
crc_32	Kernels	CRC32 computation	✗							
knn	Kernels	k-nearest neighbors(k-NN) classification algorithm	✗	✗		✗	✗			
md5	Kernels	MD5 computation	✗							
zo_adamm	Kernels	ZO-ADAMM[2] optimization algorithm	✗	✗		✗	✗			✗
array_stats	Basic	Computes simple statistics for two arrays	✗	✗			✗			
binary_search	Basic	Binary search algorithm	✗				✗			✗
bsqrt	Basic	Square root through Babylonian method	✗				✗			✗
eq_root	Basic	Complex root computation	✗	✗			✗			✗
exp_int	Basic	$Ei(x)$ computation	✗	✗			✗			✗
fibonacci	Basic	Fibonacci's sequence	✗						✗	
matrix_nn	Basic	Counts non-negative elements inside a matrix	✗				✗			✗
mc_integral	Basic	Computes integral using Monte Carlo method	✗				✗			✗
multi_search	Basic	Searches for an element inside a matrix	✗				✗			✗
select_nmax	Basic	Finds the n-th grater element inside an array	✗				✗			✗
unstruct	Basic	Example of unstructured code	✗							✗
dist_exp	Synthetic	Exponential-distributed execution time	✗			✗	✗			✗
dist_gamma	Synthetic	Gamma-distributed execution time	✗			✗	✗			✗
dist_normal	Synthetic	Gaussian-distributed execution time	✗			✗	✗			✗
dist_uniform	Synthetic	Uniform-distributed execution time	✗			✗				✗

Table 2. Bechmarks list. Legend: `U` = multi-path program, `M` = benchmark makes use of the `math` library, `P` = benchmark makes use of the `thread` library, `C` = benchmark makes use of at least one C++ standard library, `F` = benchmark uses floating point data, `I` = benchmark supports user input, `R` = benchmark is recursive, `T` = presence of output testing