

## AM

## Projects

201800223	2-Dimensional arrays 20x20: A, B, C, D filled with "rand in C". Compute (AxB)x(CxD): a) single thread b) seven threads. Check the difference in the execution time.
201900034	Four 1-dimensional arrays of $10^6$ numbers A, B, C and D. Fill the A, B, C with "rand in C". Use the numbers in the A(i), B(i) C(i) for the D(i)=square root(A(i)+B(i)+C(i)) in: a) single thread b) nine threads. Check the difference in the execution time.
201900040	1-Dimensional arrays $10^6$ : A, B, C, D filled with "rand in C". Compute the inner product of A and B and of C and D: a) single thread b) eight threads. Check the difference in the execution time.
201900064	for values n=1,2...100 print the results computed by 3 different threads and with the following symbols in each result: # $n^{-\lambda}$ \$ $n^{-\mu}$ , & $n^{-(\mu/\mu-\lambda)}$
201900083	for values n=1000,2000...100 000 print the results computed by 24different threads and with the following symbols in each (thread) result: # $\Sigma \log n$ , & $\Sigma \log \log n$ , * $\sqrt[n]{n}$ , $^n n$
201900085	Two 1-dimensional arrays of $10^6$ numbers A(1)=1, A(2)=2, ... A( $10^6$ )= $10^6$ . Compute the B(i)=square (A(i)) in: a) single thread b) four threads. Check the difference in the execution time.
201900192	Four 1-dimensional arrays of $10^6$ numbers A, B, C and D. Fill the C, D with "rand in C". Compute A(i)=(C(i)) <sup>2</sup> , B(i)=5xD(i) and compute the inner product of A(i) and B(i). All these in: a) single thread b) four threads. Check the difference in the execution time. In the case of the four threads: for each thread of the four for the first 25 computations print for the first thread the symbol @, for the 2nd __, for the third the ** and for the fourth the #. Check the parallism of the threads execution by examining the regularity of the printed symbols.
202000034	2-Dimensional arrays 30x30: A, B, C, D filled with "rand in C". Compute (AxB)x(CxD): a) single thread b) four threads. Check the difference in the execution time.
202000037	two 2-dimensional arrays A, B, 4x4 each. Print the results of their multiplication (Array C) completed with 4 threads. Use a different symbol for the results of each thread( !, @, #, \$).
202000043	Four 1-dimensional arrays of $10^6$ numbers A, B, C and D. Fill the A, B, C with "rand in C". Use the numbers in the A(i), B(i) C(i) for the A(i)x <sup>2</sup> +B(i)x+C(i). Set D(i) "2" if it has two roots "1" for a single and "0" if any is zero in: a) single thread b) five threads. Check the difference in the execution time.
202000051	Two 1-dimensional arrays of $5 \times 10^6$ numbers. A is filled with "rand in C". Compute the B(i)=third root of (A(i)) in: a) single thread b) four threads. Check the difference in the execution time.

202000104	for values n=1000,2000...100 000 print the results computed by 3 different threads and with the following symbols in each (thread) result: # logn, & loglogn, * n
202000147	2-Dimensional arrays $10^3 \times 10^3$ A, B, C filled with "rand in C". Compute the max of each array in : a) single thread b) five threads. Check the difference in the execution time.
202000148	Two 1-dimensional arrays of $10^6$ numbers A, B. Fill with "rand in C". Compute the inner product of A(i) and B(i). All these in: a) single thread b) four threads. Check the difference in the execution time. In the case of the four threads: for each thread of the four for the first 25 computations print for the first thread the symbol @, for the 2nd __, for the third the ** and for the fourth the #. Check the parallism of the threads execution by examining the regularity of the printed symbols.
202000197	2-Dimensional arrays A 200x1, B 10X200: filled with "rand in C". Compute (Ax B): a) single thread b) three threads. Check the difference in the execution time.
202000221	2-Dimensional arrays $10^3 \times 10^3$ A, B, C filled with "rand in C". Compute the product (Ax B)x C : a) single thread b) five threads. Check the difference in the execution time.
7110132100211	for values n=1,2...100 print the results computed by 2 different threads and with the following symbols in each result: # $an^3+bn^2$ , & $kn^3+p$
7110132200101	for values n=1,2...100 print the results computed by 3 different threads and with the following symbols in each result: # $an^4+bn^2$ , & $kn^4+p$ , * $qn^3$
7110132300201	A 1-dimensional array of $10^6$ numbers A(1)=1, A(2)=2, ... A( $10^6$ )= $10^6$ . Divide all numbers by 3,14 in: a) single thread b) four threads. Check the difference in the execution time.
7110132300204	2-Dimensional arrays $10^3 \times 10^3$ A, B filled with "rand in C". Compute the product of A and B : a) single thread b) eight threads. Check the difference in the execution time.