Laboratory 3 – PDP

Test 1 *– Multiplying the matrix one element at a time*

A Thread for Each Task		***A Thread Pool***	
Matrix Size	*Time for Running*	*Matrix Size*	*Time for Running*
4 by 4	*0.0 sec*	*4 by 4*	*0.0 sec*
9 by 9	*0.0 sec*	*9 by 9*	*0.0 sec*
10 by 10	*0.032 sec*	*10 by 10*	*0.032 sec*
100 by 100	*0.096 sec*	*100 by 100*	*19.52 sec*
1000 by 1000	*2.944 sec*	*1000 by 1000*	*Not patient enough*

Test 2 *– Multiplying the matrix row by row with a number of tasks (task1)*

A Thread for Each Task			***A Thread Pool***		
Matrix Size	*Tasks no.*	*Time*	*Matrix Size*	*Tasks no.*	*Time*
4 by 4	*4*	*0.0 sec*	*4 by 4*	*4*	*0.0 sec*
9 by 9	*4*	*0.0 sec*	*9 by 9*	*4*	*0.032 sec*
10 by 10	*5*	*0.0 sec*	*10 by 10*	*5*	*0.032 sec*
100 by 100	*10*	*0.0 sec*	*100 by 100*	*10*	*error*
100 by 100	*20*	*0.0 sec*	*100 by 100*	*20*	*error*

Test 3 *– Multiplying the matrix column by column with a number of tasks (task2)*

A Thread for Each Task			***A Thread Pool***		
Matrix Size	*Tasks no.*	*Time*	*Matrix Size*	*Tasks no.*	*Time*
4 by 4	*4*	*0.0 sec*	*4 by 4*	*4*	*0.0 sec*
9 by 9	*4*	*0.0 sec*	*9 by 9*	*4*	*0.032 sec*
10 by 10	*5*	*0.0 sec*	*10 by 10*	*5*	*0.032 sec*
100 by 100	*10*	*0.0 sec*	*100 by 100*	*10*	
100 by 100	*20*	*0.0 sec*	*100 by 100*	*20*	

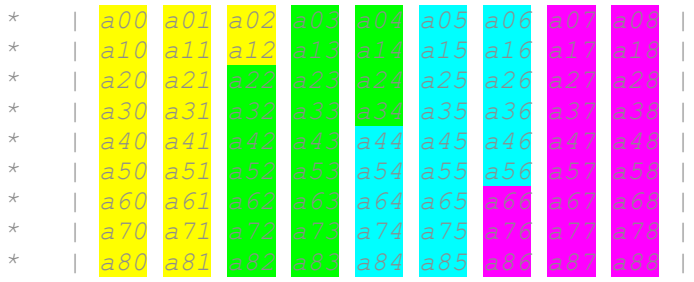
A Thread for Each Task			***A Thread Pool***		
Matrix Size	*Tasks no.*	*Time*	*Matrix Size*	*Tasks no.*	*Time*
4 by 4	*4*	*0.0 sec*	*4 by 4*	*4*	*0.0 sec*
9 by 9	*4*	*0.0 sec*	*9 by 9*	*4*	*0.0 sec*
10 by 10	*5*	*0.0 sec*	*10 by 10*	*5*	*0.032 sec*
100 by 100	*10*	*0.32 sec*	*100 by 100*	*10*	*Error*
100 by 100	*20*	*0.32 sec*	*100 by 100*	*20*	*error*

Test 3 *– Multiplying the matrix column by column with a number of tasks (task2)*

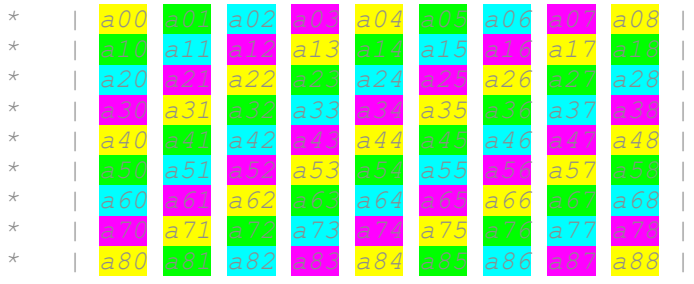
A Thread for Each Task			***A Thread Pool***		
Matrix Size	*Tasks no.*	*Time*	*Matrix Size*	*Tasks no.*	*Time*
4 by 4	*4*	*0.0 sec*	*4 by 4*	*4*	*0.0 sec*
9 by 9	*4*	*0.0 sec*	*9 by 9*	*4*	*0.0 sec*
10 by 10	*5*	*0.0 sec*	*10 by 10*	*5*	*0.0 sec*
100 by 100	*10*	*0.0 sec*	*100 by 100*	*10*	*0.032 sec*
100 by 100	*20*	*0.032 sec*	*100 by 100*	*20*	*0.032 sec*

task0 -> 20 elements
task1 -> 20 elements
task2 -> 20 elements
task3 -> 21 elements (the rest)

9x9 matrix → 81 elements → 81/4 = 20 + the rest



task0 -> 20 elements
task1 -> 20 elements
task2 -> 20 elements
task3 -> 21 elements (the rest)



task0 -> 21 elements

task1 -> 20 elements
task2 -> 20 elements
task3 -> 20 elements

a00 a01 a02 a03	b00 b01 b02 b03 b04	c00 c01 c02 c03 c04
a10 a11 a12 a13	b10 b11 b12 b13 b14	c10 c11 c12 c13 c14
a20 a21 a22 a23	b20 b21 b22 b23 b24	c20 c21 c22 c23 c24
a30 a31 a32 a33	b30 b31 b32 b33 b34	c30 c31 c32 c33 c34