

ALN - Aula Prática 3

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Questão 1

Matrizes utilizadas nas questões 1 a 4:

"A"			"A"				
			16.9	5.25	13.27	22.56	10.08
1.	1.	1.	8.06	23.25	3.21	21.08	13.28
1.	0.	1.	20.65	10.43	19.83	11.52	5.4
0.	1.	1.	21.78	6.29	17.63	17.7	20.36
			23.74	10.5	1.78	10.18	4.68

Resultados de qr_GS:

"QT * Q"			"QT * Q"				
1.	1.110D-16	3.886D-16	1.	-1.179D-16	1.610D-16	-1.179D-17	-1.736D-16
1.110D-16	1.	-5.421D-16	-1.179D-16	1.	2.375D-16	-2.032D-16	3.321D-16
3.886D-16	-5.421D-16	1.	1.610D-16	2.375D-16	1.	-5.936D-16	1.993D-16
			-1.179D-17	-2.032D-16	-5.936D-16	1.	6.214D-16
			-1.736D-16	3.321D-16	1.993D-16	6.214D-16	1.
"Q * R"			"Q * R"				
1.	1.	1.	16.9	5.25	13.27	22.56	10.08
1.	0.	1.	8.06	23.25	3.21	21.08	13.28
0.	1.	1.	20.65	10.43	19.83	11.52	5.4
			21.78	6.29	17.63	17.7	20.36
			23.74	10.5	1.78	10.18	4.68
"Erro: "			"Erro: "				
0.			3.775D-15				

Questão 2

Resultados de qr_GSM:

"QT * Q"			"QT * Q"				
1.	1.110D-16	3.886D-16	1.	-1.179D-16	1.610D-16	1.829D-17	-1.904D-16
1.110D-16	1.	-2.849D-16	-1.179D-16	1.	2.928D-17	-1.043D-16	-2.264D-16
3.886D-16	-2.849D-16	1.	1.610D-16	2.928D-17	1.	-1.157D-17	1.917D-16
			1.829D-17	-1.043D-16	-1.157D-17	1.	7.571D-17
			-1.904D-16	-2.264D-16	1.917D-16	7.571D-17	1.
"Q * R"			"Q * R"				
1.	1.	1.	16.9	5.25	13.27	22.56	10.08
1.	0.	1.	8.06	23.25	3.21	21.08	13.28
0.	1.	1.	20.65	10.43	19.83	11.52	5.4
			21.78	6.29	17.63	17.7	20.36
			23.74	10.5	1.78	10.18	4.68
"Erro: "			"Erro: "				
0.			1.110D-15				

Questão 3

Resultados de qr_GSP:

"QT * Q"			"QT * Q"				
1.	-3.989D-16	-7.652D-16	1.	-1.179D-16	1.610D-16	-1.179D-17	-1.736D-16
-3.989D-16	1.	6.399D-16	-1.179D-16	1.	2.375D-16	-2.032D-16	3.321D-16
-7.652D-16	6.399D-16	1.	1.610D-16	2.375D-16	1.	-5.936D-16	1.993D-16
			-1.179D-17	-2.032D-16	-5.936D-16	1.	6.214D-16
			-1.736D-16	3.321D-16	1.993D-16	6.214D-16	1.
"Q * R"			"Q * R"				
1.	1.	1.	16.9	5.25	13.27	22.56	10.08
1.	0.	1.	8.06	23.25	3.21	21.08	13.28
1.	1.	-3.584D-17	20.65	10.43	19.83	11.52	5.4
			21.78	6.29	17.63	17.7	20.36
			23.74	10.5	1.78	10.18	4.68
"Erro: "			"Erro: "				
0.			3.775D-15				

Questão 4

Questão 4.1

Resultados de qr_House_v1:

"QT * Q"			"QT * Q"						
1.	2.220D-16	2.220D-16	1.	8.491D-17	-1.777D-16	3.409D-16	-2.916D-16		
2.220D-16	1.	-4.695D-16	8.491D-17	1.	1.432D-17	-3.253D-17	7.219D-17		
2.220D-16	-4.695D-16	1.	-1.777D-16	1.432D-17	1.	7.838D-17	-8.030D-17		
			3.409D-16	-3.253D-17	7.838D-17	1.	-5.749D-17		
			-2.916D-16	7.219D-17	-8.030D-17	-5.749D-17	1.		
"Q * R"			"Q * R"						
1.	1.	1.	16.9	5.25	13.27	22.56	10.08		
1.	1.579D-16	1.	8.06	23.25	3.21	21.08	13.28		
9.065D-17	1.	1.	20.65	10.43	19.83	11.52	5.4		
			21.78	6.29	17.63	17.7	20.36		
			23.74	10.5	1.78	10.18	4.68		
"Erro: "			"Erro: "						
5.303D-15			3.042D-13						

Resultados de qr_House_v2:

"QT * Q"			"QT * Q"						
1.	2.220D-16	2.220D-16	1.	8.491D-17	-1.777D-16	3.409D-16	-2.916D-16		
2.220D-16	1.	-4.695D-16	8.491D-17	1.	1.432D-17	-3.253D-17	7.219D-17		
2.220D-16	-4.695D-16	1.	-1.777D-16	1.432D-17	1.	7.838D-17	-8.030D-17		
			3.409D-16	-3.253D-17	7.838D-17	1.	-5.749D-17		
			-2.916D-16	7.219D-17	-8.030D-17	-5.749D-17	1.		
"Q * R"			"Q * R"						
1.	1.	1.	16.9	5.25	13.27	22.56	10.08		
1.	1.579D-16	1.	8.06	23.25	3.21	21.08	13.28		
9.065D-17	1.	1.	20.65	10.43	19.83	11.52	5.4		
			21.78	6.29	17.63	17.7	20.36		
			23.74	10.5	1.78	10.18	4.68		
"Erro: "			"Erro: "						
5.303D-15			3.042D-13						

Questão 4.2

Matrizes:

M1 =							M2 =						
30.	39.	48.	1.	10.	19.	28.	35.	1.	6.	26.	19.	24.	
38.	47.	7.	9.	18.	27.	29.	3.	32.	7.	21.	23.	25.	
46.	6.	8.	17.	26.	35.	37.	31.	9.	2.	22.	27.	20.	
5.	14.	16.	25.	34.	36.	45.	8.	28.	33.	17.	10.	15.	
13.	15.	24.	33.	42.	44.	4.	30.	5.	34.	12.	14.	16.	
21.	23.	32.	41.	43.	3.	12.	4.	36.	29.	13.	18.	11.	
22.	31.	40.	49.	2.	11.	20.							
H =													
49.	-1176.	8820.	-29400.	48510.	-38808.	12012.							
-1176.	37632.	-317520.	1128960.	-1940400.	1596672.	-504504.							
8820.	-317520.	2857680.	-10584000.	18711000.	-15717240.	5045040.							
-29400.	1128960.	-10584000.	40320000.	-72765000.	62092800.	-20180160.							
48510.	-1940400.	18711000.	-72765000.	1.334D+08	-1.153D+08	37837800.							
-38808.	1596672.	-15717240.	62092800.	-1.153D+08	1.006D+08	-33297264.							
12012.	-504504.	5045040.	-20180160.	37837800.	-33297264.	11099088.							

Resultados de qr_GS:

Resultados de qr_GSM:

Resultados de qr_GSP:

Resultados de qr_House_v1:

Resultados de qr_House_v2:

"QT * Q"							"QT * Q"						
1.	-9.740D-17	1.362D-16	2.022D-16	1.542D-17	-5.912D-18	8.674D-18	1.	0.	4.163D-17	0.	5.551D-17	0.	
-9.740D-17	1.	1.008D-16	-2.351D-17	4.640D-17	1.595D-19	-1.041D-17	0.	1.	-1.908D-17	0.	9.021D-17	-2.776D-17	
1.362D-16	1.008D-16	1.	-3.654D-17	-4.466D-17	-6.108D-17	-4.163D-17	4.163D-17	-1.908D-17	1.	1.388D-17	-8.327D-17	-1.943D-16	
2.022D-16	-2.351D-17	-3.654D-17	1.	-1.056D-16	1.448D-16	-1.388D-17	0.	0.	1.388D-17	1.	1.561D-16	2.776D-16	
1.542D-17	4.640D-17	-4.466D-17	-1.056D-16	1.	-4.387D-17	5.204D-17	3.469D-17	7.362D-17	-5.551D-17	1.527D-16	1.	4.331D-16	
-5.912D-18	1.595D-19	-6.108D-17	1.448D-16	-4.387D-17	1.	-8.413D-17	0.	-2.776D-17	-2.220D-16	2.776D-16	4.331D-16	1.	
1.150D-17	-1.217D-19	-4.254D-17	-2.471D-17	1.134D-16	-8.838D-17	1.							
"Q * R"							"Q * R"						
30.	39.	48.	1.	10.	19.	28.	35.	1.	6.	26.	19.	24.	
38.	47.	7.	9.	18.	27.	29.	3.	32.	7.	21.	23.	25.	
46.	6.	8.	17.	26.	35.	37.	31.	9.	2.	22.	27.	20.	
5.	14.	16.	25.	34.	36.	45.	8.	28.	33.	17.	10.	15.	
13.	15.	24.	33.	42.	44.	4.	30.	5.	34.	12.	14.	16.	
21.	23.	32.	41.	43.	3.	12.	4.	36.	29.	13.	18.	11.	
22.	31.	40.	49.	2.	11.	20.							
"Erro: "							"Erro: "						
3.810D-13							-4.374D-14						
"QT * Q"													
1.	-4.305D-17	-2.148D-17	-5.120D-17	1.994D-17	7.987D-17	1.388D-17	-4.305D-17	1.	7.787D-17	1.561D-16	-9.149D-17	3.436D-17	-6.939D-17
-2.148D-17	7.787D-17	1.	1.128D-17	-1.814D-16	-6.161D-17	-1.804D-16	-2.148D-17	7.787D-17	1.	1.128D-17	-1.814D-16	-6.161D-17	-1.804D-16
-5.120D-17	1.561D-16	1.128D-17	1.	6.430D-17	1.204D-16	1.110D-16	-5.120D-17	1.561D-16	1.128D-17	1.	6.430D-17	1.204D-16	1.110D-16
1.994D-17	-9.149D-17	-1.814D-16	6.430D-17	1.	-6.244D-17	-5.551D-17	1.994D-17	-9.149D-17	-1.814D-16	6.430D-17	1.	-6.244D-17	-5.551D-17
7.987D-17	3.436D-17	-6.161D-17	1.204D-16	-6.244D-17	1.	2.082D-16	7.987D-17	3.436D-17	-6.161D-17	1.204D-16	-6.244D-17	1.	2.082D-16
-3.003D-19	-8.169D-17	-1.963D-16	7.018D-17	-3.919D-17	2.093D-16	1.	-3.003D-19	-8.169D-17	-1.963D-16	7.018D-17	-3.919D-17	2.093D-16	1.
"Q * R"													
49.	-1176.	8820.	-29400.	48510.	-38808.	12012.	49.	-1176.	8820.	-29400.	48510.	-38808.	12012.
-1176.	37632.	-317520.	1128960.	-1940400.	1596672.	-504504.	-1176.	37632.	-317520.	1128960.	-1940400.	1596672.	-504504.
8820.	-317520.	2857680.	-10584000.	18711000.	-15717240.	5045040.	8820.	-317520.	2857680.	-10584000.	18711000.	-15717240.	5045040.
-29400.	1128960.	-10584000.	40320000.	-72765000.	62092800.	-20180160.	-29400.	1128960.	-10584000.	40320000.	-72765000.	62092800.	-20180160.
48510.	-1940400.	18711000.	-72765000.	1.334D+08	-1.153D+08	37837800.	48510.	-1940400.	18711000.	-72765000.	1.334D+08	-1.153D+08	37837800.
-38808.	1596672.	-15717240.	62092800.	-1.153D+08	1.006D+08	-33297264.	-38808.	1596672.	-15717240.	62092800.	-1.153D+08	1.006D+08	-33297264.
12012.	-504504.	5045040.	-20180160.	37837800.	-33297264.	11099088.	12012.	-504504.	5045040.	-20180160.	37837800.	-33297264.	11099088.
"Erro: "													
-7.351D-09													

