



## Laboratório 05

### Matrizes

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Disciplina: Organização de Computadores I

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### Print Screens

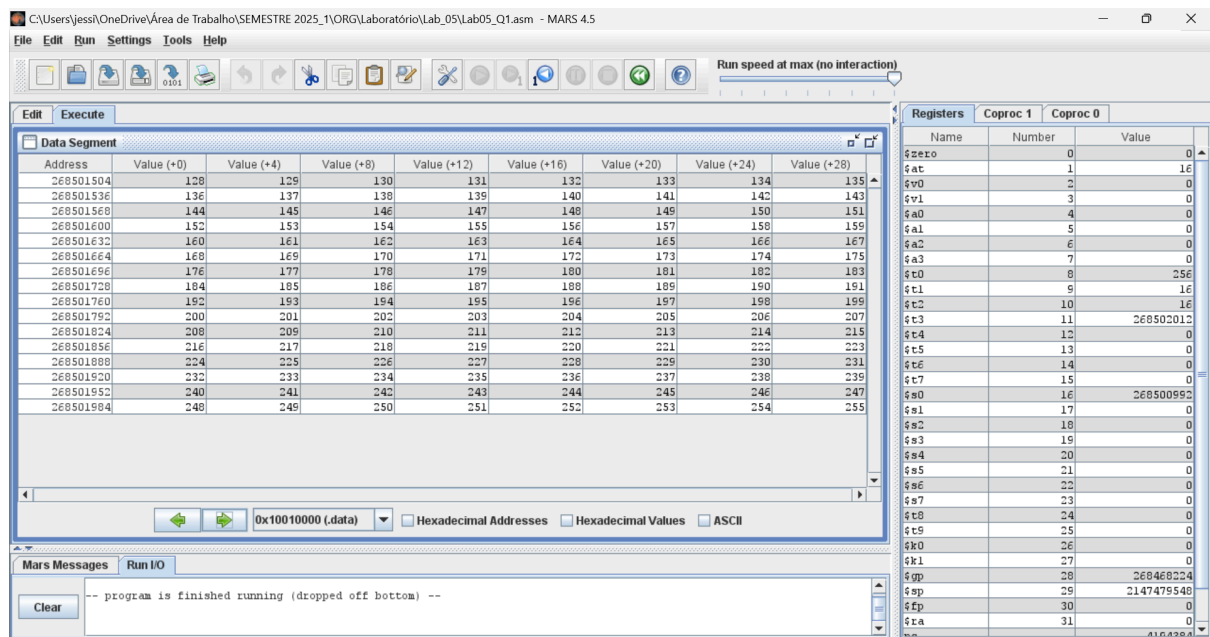
Questão 1) Percorrendo a matriz 16x16 linha a linha.

The screenshot displays the MARS MIPS simulator interface. The main window shows a data segment with a 16x16 matrix of values. The registers window on the right shows the state of various registers. The status bar at the bottom indicates the program is finished running.

Address	Value (+0)	Value (+4)	Value (+8)	Value (+12)	Value (+16)	Value (+20)	Value (+24)	Value (+28)
268500992	0	1	2	3	4	5	6	7
268501024	8	9	10	11	12	13	14	15
268501056	16	17	18	19	20	21	22	23
268501088	24	25	26	27	28	29	30	31
268501120	32	33	34	35	36	37	38	39
268501152	40	41	42	43	44	45	46	47
268501184	48	49	50	51	52	53	54	55
268501216	56	57	58	59	60	61	62	63
268501248	64	65	66	67	68	69	70	71
268501280	72	73	74	75	76	77	78	79
268501312	80	81	82	83	84	85	86	87
268501344	88	89	90	91	92	93	94	95
268501376	96	97	98	99	100	101	102	103
268501408	104	105	106	107	108	109	110	111
268501440	112	113	114	115	116	117	118	119
268501472	120	121	122	123	124	125	126	127

The registers window shows the state of various registers, including \$zero, \$at, \$v0, \$v1, \$a0, \$a1, \$a2, \$a3, \$t0, \$t1, \$t2, \$t3, \$t4, \$t5, \$t6, \$t7, \$s0, \$s1, \$s2, \$s3, \$s4, \$s5, \$s6, \$s7, \$t8, \$t9, \$k0, \$k1, \$gp, \$sp, \$fp, and \$ra.

The status bar at the bottom indicates the program is finished running (dropped off bottom).



## Questão 2) Percorrendo a matriz 16x16 coluna por coluna.

C:\Users\jessi\OneDrive\Área de Trabalho\SEMESTRE 2025\_1\ORG\Laboratório\Lab\_05\Lab07\_Q2.asm - MARS 4.5

File Edit Run Settings Tools Help

Run speed at max (no interaction)

Edit Execute

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+12)	Value (+16)	Value (+20)	Value (+24)	Value (+28)
268500992	0	16	32	48	64	80	96	112
268501024	128	144	160	176	192	208	224	240
268501056	1	17	33	49	65	81	97	113
268501088	129	145	161	177	193	209	225	241
268501120	2	18	34	50	66	82	98	114
268501152	130	146	162	178	194	210	226	242
268501184	3	19	35	51	67	83	99	115
268501216	131	147	163	179	195	211	227	243
268501248	4	20	36	52	68	84	100	116
268501280	132	148	164	180	196	212	228	244
268501312	5	21	37	53	69	85	101	117
268501344	133	149	165	181	197	213	229	245
268501376	6	22	38	54	70	86	102	118
268501408	134	150	166	182	198	214	230	246
268501440	7	23	39	55	71	87	103	119
268501472	135	151	167	183	199	215	231	247

Mars Messages Run I/O

Clear -- program is finished running (dropped off bottom) --

Registers Coproc 1 Coproc 0

Name	Number	Value
\$zero	0	0
\$at	1	16
\$v0	2	0
\$v1	3	0
\$a0	4	0
\$a1	5	0
\$a2	6	0
\$a3	7	0
\$t0	8	256
\$t1	9	16
\$t2	10	16
\$t3	11	268502012
\$t4	12	0
\$t5	13	0
\$t6	14	0
\$t7	15	0
\$s0	16	268500992
\$s1	17	0
\$s2	18	0
\$s3	19	0
\$s4	20	0
\$s5	21	0
\$s6	22	0
\$s7	23	0
\$s8	24	0
\$s9	25	0
\$k0	26	0
\$k1	27	0
\$gp	28	268468224
\$sp	29	2147479548
\$fp	30	0
\$ra	31	0

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File Edit Run Settings Tools Help

Run speed at max (no interaction)

Edit Execute

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+12)	Value (+16)	Value (+20)	Value (+24)	Value (+28)
268501504	0	24	40	56	72	88	104	120
268501536	136	152	168	184	200	216	232	248
268501568	9	25	41	57	73	89	105	121
268501600	137	153	169	185	201	217	233	249
268501632	10	26	42	58	74	90	106	122
268501664	138	154	170	186	202	218	234	250
268501696	11	27	43	59	75	91	107	123
268501728	139	155	171	187	203	219	235	251
268501760	12	28	44	60	76	92	108	124
268501792	140	156	172	188	204	220	236	252
268501824	13	29	45	61	77	93	109	125
268501856	141	157	173	189	205	221	237	253
268501888	14	30	46	62	78	94	110	126
268501920	142	158	174	190	206	222	238	254
268501952	15	31	47	63	79	95	111	127
268501984	143	159	175	191	207	223	239	255

Mars Messages Run I/O

Clear -- program is finished running (dropped off bottom) --

Registers Coproc 1 Coproc 0

Name	Number	Value
\$zero	0	0
\$at	1	16
\$v0	2	0
\$v1	3	0
\$a0	4	0
\$a1	5	0
\$a2	6	0
\$a3	7	0
\$t0	8	256
\$t1	9	16
\$t2	10	16
\$t3	11	268502012
\$t4	12	0
\$t5	13	0
\$t6	14	0
\$t7	15	0
\$s0	16	268500992
\$s1	17	0
\$s2	18	0
\$s3	19	0
\$s4	20	0
\$s5	21	0
\$s6	22	0
\$s7	23	0
\$s8	24	0
\$s9	25	0
\$k0	26	0
\$k1	27	0
\$gp	28	268468224
\$sp	29	2147479548
\$fp	30	0
\$ra	31	0