



Fundamentos de Arquitetura de Computadores

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Trabalho 01


Sistema operacional foi usado na construção do sistema:

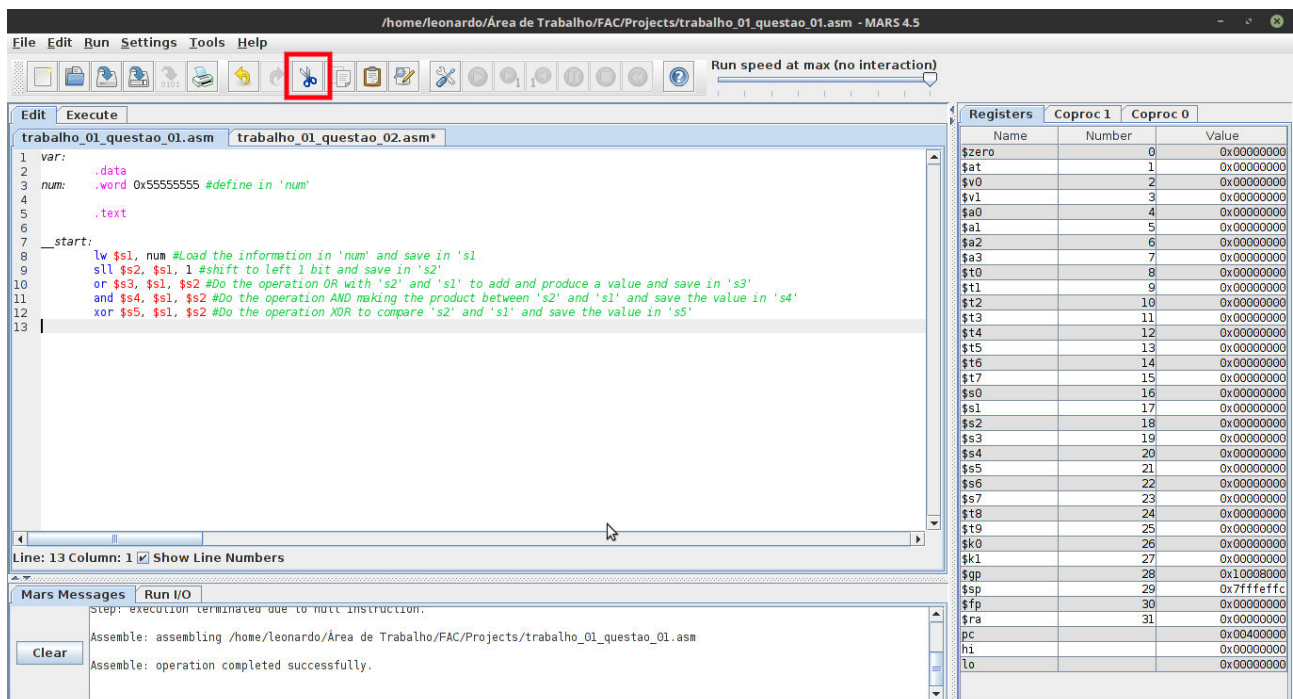
Linux Mint – 64 bits – AMD 64.

Ambiente de desenvolvimento:

MARS 4.5 – MIPS.

Instruções de Tela:

Com o Assembly MARS 4.5 aberto e com o código aberto clique na ferramenta  que irá montar o código atual e limpar os pontos



Em seguida clique no símbolo, como demonstra a imagem abaixo, para rodar passo a passo do código.

/home/leonardo/Área de Trabalho/FAC/Projects/trabalho_01_questao_01.asm - MARS 4.5

File Edit Run Settings Tools Help

Run speed at max (no interaction)

Text Segment

Bkpt	Address	Code	Basic	Source
	0x00400000	0x3c011001	lui \$1,0x00001001	8: lw \$s1, num #Load the information in 'num' and save in 's1'
	0x00400004	0x8c310000	lw \$t7,0x00000000(\$1)	
	0x00400008	0x00119040	sll \$s2, \$s1, 1 #shift to left 1 bit and save in 's2'	9: sll \$s2, \$s1, 1 #shift to left 1 bit and save in 's2'
	0x0040000c	0x02329825	or \$t9, \$t7, \$t8	10: or \$s3, \$s1, \$s2 #Do the operation OR with 's2' and 's1' to add and pr...
	0x00400010	0x0232a024	and \$t9, \$t9, \$t8	11: and \$s4, \$s1, \$s2 #Do the operation AND making the product between 's2'...
	0x00400014	0x0232a826	xor \$t9, \$t9, \$t8	12: xor \$s5, \$s1, \$s2 #Do the operation XOR to compare 's2' and 's1' and s...

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+c)	Value (+10)	Value (+14)	Value (+18)	Value (+1c)
0x10010000	0x55555555	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010020	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010040	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010060	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x10010080	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x100100a0	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x100100c0	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000
0x100100e0	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000	0x00000000

0x10010000 (.data) ☒ Hexadecimal Addresses ☒ Hexadecimal Values ☐ ASCII

Registers

Name	Number	Value
\$zero	0	0x00000000
\$at	1	0x00000000
\$v0	2	0x00000000
\$v1	3	0x00000000
\$a0	4	0x00000000
\$a1	5	0x00000000
\$a2	6	0x00000000
\$a3	7	0x00000000
\$t0	8	0x00000000
\$t1	9	0x00000000
\$t2	10	0x00000000
\$t3	11	0x00000000
\$t4	12	0x00000000
\$t5	13	0x00000000
\$t6	14	0x00000000
\$t7	15	0x00000000
\$s0	16	0x00000000
\$s1	17	0x00000000
\$s2	18	0x00000000
\$s3	19	0x00000000
\$s4	20	0x00000000
\$s5	21	0x00000000
\$s6	22	0x00000000
\$s7	23	0x00000000
\$t8	24	0x00000000
\$t9	25	0x00000000
\$k0	26	0x00000000
\$k1	27	0x00000000
\$gp	28	0x10008000
\$sp	29	0x7fffffc
\$fp	30	0x00000000
\$ra	31	0x00000000
pc		0x00400000
hi		0x00000000
lo		0x00000000

Mars Messages

Assemble: operation completed successfully.

Assemble: assembling /home/leonardo/Área de Trabalho/FAC/Projects/trabalho_01_questao_01.asm

Assemble: operation completed successfully.

Os dois códigos seguem a mesma instrução de execução, sem nenhuma exclusividade, e ambos apresentam comentários claro para o entendimento de cada passo que for rodado.



Limitações conhecidas:

Nenhum tipo de limitação declarado pelos membros .