

CÓDIGO:

```
1 .text
2
3 main:
4     # Carrega o valor de N em a0
5     # Supondo que N seja 5, você pode alterar para o valor desejado
6     li a0, 5
7
8     # Inicializa o fatorial com 1 em a1
9     li a1, 1
10
11    # Loop para calcular o fatorial
12    loop:
13        beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
14
15        # Multiplica o fatorial atual (a1) por N (a0)
16        mul a1, a1, a0
17
18        # Decrementa o valor de N
19        addi a0, a0, -1
20
21        # Volta para o início do loop
22        j loop
23
24    fim:
25        # Termina o programa
26        li a7, 10
27        ecall
28
```

EXECUÇÃO:

INÍCIO

Editor

Simulator

Run Step Prev Reset Dump

Machine Code	Basic Code	Original Code
0x00500513	addi x10 x0 5	li a0, 5
0x00100593	addi x11 x0 1	li a1, 1
0x00050863	beq x10 x0 16	beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
0x02a585b3	mul x11 x11 x10	mul a1, a1, a0
0xffff50513	addi x10 x10 -1	addi a0, a0, -1
0xffff5ff06f	jal x0 -12	j loop
0x00a00893	addi x17 x0 10	li a7, 10
0x00000073	ecall	ecall

console output

Registers Memory

zero	0x00000000
ra (x1)	0x00000000
sp (x2)	0x7fffffff0
gp (x3)	0x10000000
tp (x4)	0x00000000
t0 (x5)	0x00000000
t1 (x6)	0x00000000
t2 (x7)	0x00000000
s0 (x8)	0x00000000
s1 (x9)	0x00000000
a0 (x10)	0x00000000
a1 (x11)	0x00000000
a2 (x12)	0x00000000
a3 (x13)	0x00000000

Display Settings Hex

PRIMEIRO: N=5

Editor

Simulator

RunStepPrevResetDump

Machine Code	Basic Code	Original Code
0x00500513	addi x10 x0 5	li a0, 5
0x00100593	addi x11 x0 1	li a1, 1
0x00050863	beq x10 x0 16	beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
0x02a585b3	mul x11 x11 x10	mul a1, a1, a0
0xffff50513	addi x10 x10 -1	addi a0, a0, -1
0xff5ff06f	jal x0 -12	j loop
0x00a00893	addi x17 x0 10	li a7, 10
0x00000073	ecall	ecall

console output

RegistersMemory

zero	0x00000000
ra (x1)	0x00000000
sp (x2)	0x7fffffff0
gp (x3)	0x10000000
tp (x4)	0x00000000
t0 (x5)	0x00000000
t1 (x6)	0x00000000
t2 (x7)	0x00000000
s0 (x8)	0x00000000
s1 (x9)	0x00000000
a0 (x10)	0x00000005
a1 (x11)	0x00000005
a2 (x12)	0x00000000
a3 (x13)	0x00000000

Display SettingsHex

SEGUNDO: fatorial

Editor

Simulator

RunStepPrevResetDump

Machine Code	Basic Code	Original Code
0x00500513	addi x10 x0 5	li a0, 5
0x00100593	addi x11 x0 1	li a1, 1
0x00050863	beq x10 x0 16	beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
0x02a585b3	mul x11 x11 x10	mul a1, a1, a0
0xffff50513	addi x10 x10 -1	addi a0, a0, -1
0xff5ff06f	jal x0 -12	j loop
0x00a00893	addi x17 x0 10	li a7, 10
0x00000073	ecall	ecall

console output

RegistersMemory

zero	0x00000000
ra (x1)	0x00000000
sp (x2)	0x7fffffff0
gp (x3)	0x10000000
tp (x4)	0x00000000
t0 (x5)	0x00000000
t1 (x6)	0x00000000
t2 (x7)	0x00000000
s0 (x8)	0x00000000
s1 (x9)	0x00000000
a0 (x10)	0x00000004
a1 (x11)	0x00000005
a2 (x12)	0x00000000
a3 (x13)	0x00000000

Display SettingsHex

TERCEIRO

Editor

Simulator

RunStepPrevResetDump

Machine Code	Basic Code	Original Code
0x00500513	addi x10 x0 5	li a0, 5
0x00100593	addi x11 x0 1	li a1, 1
0x00050863	beq x10 x0 16	beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
0x02a585b3	mul x11 x11 x10	mul a1, a1, a0
0xffff50513	addi x10 x10 -1	addi a0, a0, -1
0xff5ff06f	jal x0 -12	j loop
0x00a00893	addi x17 x0 10	li a7, 10
0x00000073	ecall	ecall

console output

RegistersMemory

zero	0x00000000
ra (x1)	0x00000000
sp (x2)	0x7fffffff0
gp (x3)	0x10000000
tp (x4)	0x00000000
t0 (x5)	0x00000000
t1 (x6)	0x00000000
t2 (x7)	0x00000000
s0 (x8)	0x00000000
s1 (x9)	0x00000000
a0 (x10)	0x00000004
a1 (x11)	0x00000014
a2 (x12)	0x00000000
a3 (x13)	0x00000000

Display SettingsHex

QUARTO

Editor

Simulator

RunStepPrevResetDump

Machine Code	Basic Code	Original Code
0x00500513	addi x10 x0 5	li a0, 5
0x00100593	addi x11 x0 1	li a1, 1
0x00050863	beq x10 x0 16	beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
0x02a585b3	mul x11 x11 x10	mul a1, a1, a0
0xffff50513	addi x10 x10 -1	addi a0, a0, -1
0xff5ff06f	jal x0 -12	j loop
0x0a00893	addi x17 x0 10	li a7, 10
0x00000073	ecall	ecall

console output

RegistersMemory

zero	0x00000000
ra (x1)	0x00000000
sp (x2)	0x7fffffff0
gp (x3)	0x10000000
tp (x4)	0x00000000
t0 (x5)	0x00000000
t1 (x6)	0x00000000
t2 (x7)	0x00000000
s0 (x8)	0x00000000
s1 (x9)	0x00000000
a0 (x10)	0x00000003
a1 (x11)	0x00000014
a2 (x12)	0x00000000
a3 (x13)	0x00000000

Display SettingsHex

...

QUINTO: último loop

Editor

Simulator

RunStepPrevResetDump

Machine Code	Basic Code	Original Code
0x00500513	addi x10 x0 5	li a0, 5
0x00100593	addi x11 x0 1	li a1, 1
0x00050863	beq x10 x0 16	beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
0x02a585b3	mul x11 x11 x10	mul a1, a1, a0
0xffff50513	addi x10 x10 -1	addi a0, a0, -1
0xff5ff06f	jal x0 -12	j loop
0x0a00893	addi x17 x0 10	li a7, 10
0x00000073	ecall	ecall

console output

RegistersMemory

zero	0x00000000
ra (x1)	0x00000000
sp (x2)	0x7fffffff0
gp (x3)	0x10000000
tp (x4)	0x00000000
t0 (x5)	0x00000000
t1 (x6)	0x00000000
t2 (x7)	0x00000000
s0 (x8)	0x00000000
s1 (x9)	0x00000000
a0 (x10)	0x00000001
a1 (x11)	0x00000078
a2 (x12)	0x00000000
a3 (x13)	0x00000000

Display SettingsHex

FIM

Editor

Simulator

RunStepPrevResetDump

Machine Code	Basic Code	Original Code
0x00500513	addi x10 x0 5	li a0, 5
0x00100593	addi x11 x0 1	li a1, 1
0x00050863	beq x10 x0 16	beqz a0, fim # Se a0 for igual a zero, pula para o final do programa
0x02a585b3	mul x11 x11 x10	mul a1, a1, a0
0xffff50513	addi x10 x10 -1	addi a0, a0, -1
0xff5ff06f	jal x0 -12	j loop
0x0a00893	addi x17 x0 10	li a7, 10
0x00000073	ecall	ecall

Invalid ecall 0

RegistersMemory

zero	0x00000000
ra (x1)	0x00000000
sp (x2)	0x7fffffff0
gp (x3)	0x10000000
tp (x4)	0x00000000
t0 (x5)	0x00000000
t1 (x6)	0x00000000
t2 (x7)	0x00000000
s0 (x8)	0x00000000
s1 (x9)	0x00000000
a0 (x10)	0x00000000
a1 (x11)	0x00000078
a2 (x12)	0x00000000
a3 (x13)	0x00000000

Display SettingsHex