

EECS 2021E

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LabD

```

addi x2,x0,1600           // stack pointer
addi x7,x0,3              // x7 = 3
addi x17,x0,2             // x17 = 2
ecall x6,x0,5             // environmental call int put it to x6
add x10,x6,x0             // store x6 in x10
addi x2,x2,-8             // two vacancies for the stack
sd x6,0(x2)               // store x2 in x6
jal x1, not_really_fac    // call recursive function
ld x6,0(x2)               // restore x6 argument
addi x2,x2,8              // restored the stack
ecall x0,x10,0            // ecall to the prompt

```

ORG 96

```

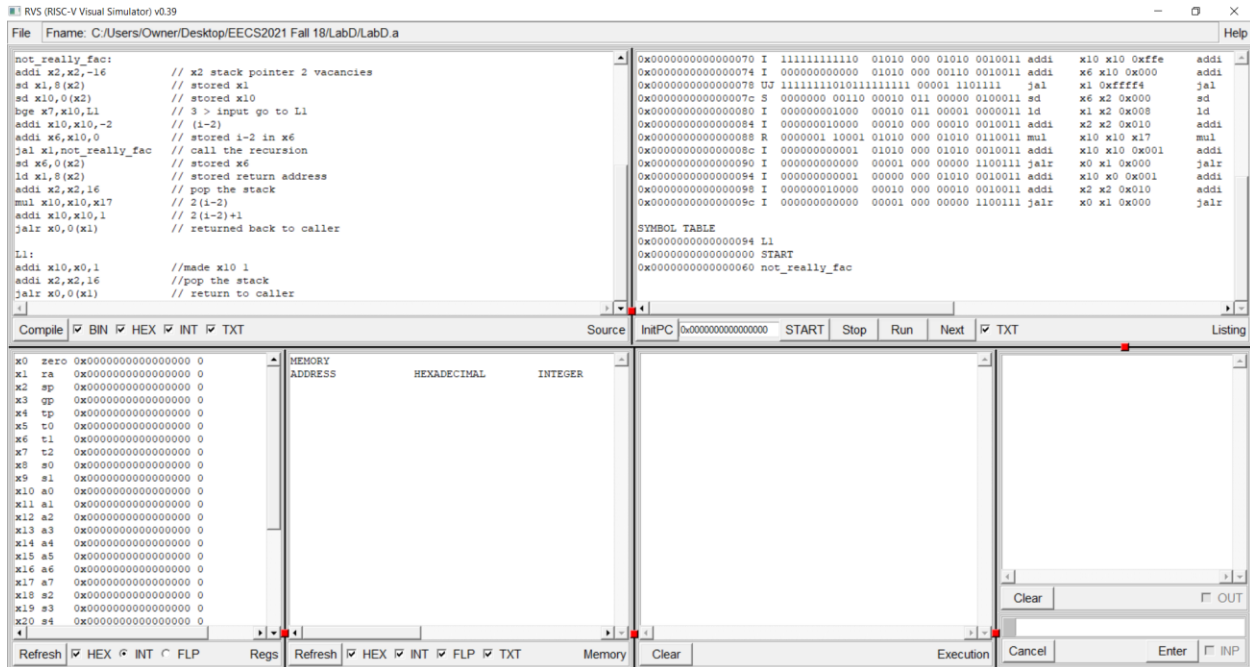
not_really_fac:
addi x2,x2,-16            // x2 stack pointer 2 vacancies
sd x1,8(x2)               // stored x1
sd x10,0(x2)              // stored x10
bge x7,x10,L1             // 3 > input go to L1
addi x10,x10,-2           // (i-2)
addi x6,x10,0             // stored i-2 in x6
jal x1,not_really_fac     // call the recursion
sd x6,0(x2)               // stored x6
ld x1,8(x2)               // stored return address
addi x2,x2,16             // pop the stack
mul x10,x10,x17            // 2(i-2)
addi x10,x10,1            // 2(i-2)+1
jalr x0,0(x1)             // returned back to caller

```

L1:

```
addi x10,x0,1           //made x10 1
addi x2,x2,16           //pop the stack
jalr x0,0(x1)           // return to caller
```

Before run:



After Compile and Run with the output:

