###############################################

# This program generates the factorial of an integer, n > 0

# It stores the result in Reg[2] ($2)

# Pseudo-code

# function: factorial(n)

# i = 1

# j = 1

# while [j != n] do

# temp = i \* j

# i = temp

# j = j + 1

# end while

# return i

# end function

# Example: 6! = 1 \* 2 \* 3 \* 4 \* 5

# n = 6

addi $2, $0, 6

# init i = 1

addi $3, $0, 1

# init j = 1

addi $4, $0, 1

loop: beq $2, $4, DONE

mult $3, $4

mflo $3

addi $4, $4, 1

j loop

# store result

DONE: addi $2, $3, 0

###############################################

0

    addi $2, $0, 6

00100000000000100000000000000110

1

    addi $3, $0, 1

00100000000000110000000000000001

2

    addi $4, $0, 1

00100000000001000000000000000001

3

loop: beq $2, $4, DONE

00010000010001000000000000000100

4

    mult $3, $4

00000000011001000000000000011000

5

    mflo $3

00000000000000000001100000010010

6

    addi $4, $4, 1

00100000100001000000000000000001

7

    j loop

00001000000000000000000000000011

8

DONE: addi $2, $3, 0

00100000011000100000000000000000