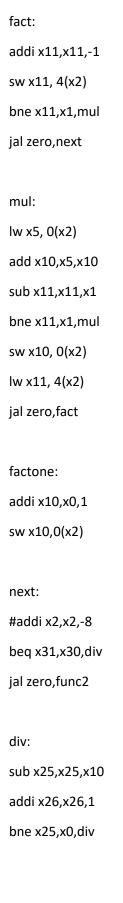#Define 2 numbers to find permutation or possible arrangement

```
addi x22,x0,6

addi x23,x0,4

sub x24,x22,x23


addi x31,x0,2

addi x30,x0,1

addi x26,x0,0


func1:

addi x15,x22,0

jal zero,factorial


func2:

addi x31,x31,-1

lw x25,0(x2)

addi x15,x24,0

jal zero,factorial


factorial:

#Program to find factorial of a number

addi x2,x2,8 #stack pointer

add x10,x0,x15 #Compute the factorial of N = N!

addi x6,x0,2 #this case is to check for 0 and 1

blt x10,x6,factone #Abort as 0! & 1! are both== 1


addi x1,x0,1 #Register to hold

addi x11,x10,0 #to hold the decrementing values starting from 4

sw x10,0(x2)
```

```
fact:

addi x11,x11,-1

sw x11, 4(x2)

bne x11,x1,mul

jal zero,next


mul:

lw x5, 0(x2)

add x10,x5,x10

sub x11,x11,x1

bne x11,x1,mul

sw x10, 0(x2)

lw x11, 4(x2)

jal zero,fact


factone:

addi x10,x0,1

sw x10,0(x2)


next:

#addi x2,x2,-8

beq x31,x30,div

jal zero,func2


div:

sub x25,x25,x10

addi x26,x26,1

bne x25,x0,div
```

```
jal zero,stop


stop:
sw x26,0(x0)
ecall
```