Task 1

```
 .data
m:.word 0
n:.word 0
result:.word 1
string1:.asciiz"Answer (M^n) = "
string2:.asciiz"Enter m = "
string3:.asciiz"Enter n = "

.text
     #Enter m =
li, $v0, 4
la, $a0, string2
syscall
     # = m input
li, $v0, 5
syscall
sw $v0, m
     #Enter n =
li, $v0, 4
la, $a0, string3
syscall
     # = n input
li, $v0, 5
syscall
sw $v0, n

lw $t0, m
lw $t1, n
lw $t2, result

loop:
     # if (n=!0)
beqz $t1, exit
     #Result = Result * m
mul $t2, $t2, $t0
     # n--
sub $t1, $t1, 1

j loop
exit:

li, $v0, 4
la, $a0, string1
syscall

move $a0, $t2
li, $v0, 1
syscall
```

```
li, $v0, 10
syscall
.data
```

```
Enter m = 5
Enter n = 4
Answer (M^n) = 625
-- program is finished running --
```

Task 2

```
.data
n:.word 0
string1:.asciiz "Enter n = "
n1:.word 1
result:.word 1
string2:.asciiz "Output = "

.text
li, $v0, 4
la $a0, string1
syscall

li, $v0, 5
syscall
sw $v0, n

lw $t1,n
lw $t3,n1
lw $t4, result

loop:
blez $t1, exit
      # (n-1)
sub $t2,$t1,$t3

      #(n--)
sub $t1, $t1, 1

j innerloop

innerloop:

beqz $t2, loop

mul $t4, $t4, $t2
      # t2 --
sub $t2, $t2, 1

j innerloop

exit:
add $t4, $t4, 1

li, $v0, 4
la $a0, string2
syscall

li, $v0, 1
move $a0, $t4
```

```
syscall

li, $v0, 10
syscall
```

```
Enter n = 5
Output = 289
-- program is finished running --


Enter n = 7
Output = 24883201
-- program is finished running --


Enter n = 4
Output = 13
-- program is finished running --
```