TITLE / TITRE: Factorial (Version 3)

Calculates the factorial of n (n stored in register 0f20)
Limited to 16! Result is **48 bits**, therefore a maximum of FFFFFFFFFFFF.
*(281474976710655 in **decimal**)*

Example : 16!

1) Input 10 (hex) at address **0f20** :

[Abort] 0F20 [Term] 10 [Mem]

2) Launch the program :

[Abort] 0F2F [GO]

3) Result at addresses **0f29** to **0f2e** :

[Abort] 0F29 [Term] ... [Mem] ...

0F29 **13** [Mem] *0F2A* **07** [Mem] *0F2B* **77** [Mem]
0F2C **75** [Mem] *0F2D* **80** [Mem] *0F2E* **00**

soit : **130777758000**
*(20922789888000 in **decimal**)*

```
:100F2000000000000000000000000000000000C001
:100F3000F0C8EFC8FAC400C8F1C8F0C8EFC8EEC8DE
:100F4000ED9018C0DFC8E3C0DCC8E0C0D9C8DDC080
:100F5000D6C8DAC0D3C8D7C0D0C8D4C400C8C5C8A2
:100F6000C4C8C3C8C2C8C1C8C0C0B703FC01C8B2A6
:100F7000C8B102C0B4F0B8C8B0C0ADF0B1C8A9C023
:100F8000A6F0AAC8A2C09FF0A3C89BC098F09CC8B6
:100F900094C091F095C88DB88A9CD7B8849CA43F22
:00000001FF
```

TITLE / TITRE: Factorial (Version 3)


```
0f2f        .OR   0xf2f

  0f20   Nbr    .eq 0xf20
  0f21   Mul    .eq 0xf21
  0f22   Cpt    .eq 0xf22
  0f23   nb10   .eq 0xf23
  0f24   nb11   .eq 0xf24
  0f25   nb12   .eq 0xf25
  0f26   nb13   .eq 0xf26
  0f27   nb14   .eq 0xf27
  0f28   nb15   .eq 0xf28
  0f29   nb20   .eq 0xf29
  0f2a   nb21   .eq 0xf2a
  0f2b   nb22   .eq 0xf2b
  0f2c   nb23   .eq 0xf2c
  0f2d   nb24   .eq 0xf2d
  0f2e   nb25   .eq 0xf2e

0f2f        FAC:
0f2f c0 f0    LD Nbr
0f31 c8 ef    ST Mul
0f33 c8 fa    ST nb25
0f35 c4 00    LDI 0
0f37 c8 f1    ST nb20
0f39 c8 f0    ST nb21
0f3b c8 ef    ST nb22
0f3d c8 ee    ST nb23
0f3f c8 ed    ST nb24
0f41 90 18    JMP LBL2

0f43        LBL1:
0f43 c0 df    LD nb10
0f45 c8 e3    ST nb20
0f47 c0 dc    LD nb11
0f49 c8 e0    ST nb21
0f4b c0 d9    LD nb12
0f4d c8 dd    ST nb22
0f4f c0 d6    LD nb13
0f51 c8 da    ST nb23
0f53 c0 d3    LD nb14
0f55 c8 d7    ST nb24
0f57 c0 d0    LD nb15
0f59 c8 d4    ST nb25

0f5b        LBL2:
0f5b c4 00    LDI 0
0f5d c8 c5    ST nb10
0f5f c8 c4    ST nb11
0f61 c8 c3    ST nb12
0f63 c8 c2    ST nb13
0f65 c8 c1    ST nb14
0f67 c8 c0    ST nb15

0f69        LBL3:
0f69 c0 b7    LD Mul
0f6b 03       SCL
0f6c fc 01    CAI 1
0f6e c8 b2    ST Mul
0f70 c8 b1    ST Cpt

0f72        LBL4:
0f72 02       CCL
0f73 c0 b4    LD nb15
0f75 f0 b8    ADD nb25
0f77 c8 b0    ST nb15
0f79 c0 ad    LD nb14
0f7b f0 b1    ADD nb24
0f7d c8 a9    ST nb14
0f7f c0 a6    LD nb13
0f81 f0 aa    ADD nb23
0f83 c8 a2    ST nb13
0f85 c0 9f    LD nb12
0f87 f0 a3    ADD nb22
0f89 c8 9b    ST nb12
0f8b c0 98    LD nb11
0f8d f0 9c    ADD nb21
0f8f c8 94    ST nb11
0f91 c0 91    LD nb10
0f93 f0 95    ADD nb20
0f95 c8 8d    ST nb10

0f97 b8 8a    DLD Cpt
0f99 9c d7    JNZ LBL4

0f9b b8 84    DLD Nbr
0f9d 9c a4    JNZ LBL1
0f9f 3f       XPPC 3
```