

Multiplication par additions successives de nombres entiers positifs sur 24 bits, produit sur 48 bits.

- Multiplicande sur 24 bits aux adresses 0000 à 0002 (inversées).
- Multiplicateur sur 24 bits aux adresses 0004 à 0006 (inversées).
- Produit sur 48 bits aux adresses 0008 à 000D (inversées).

Exemple : (*maximum*)

⇒ décimal : $16777215 \times 16777215 = 281474943156225$

⇒ héxa : FFFFFF x FFFFFF = FFFFE000001

Saisir le multiplicande (*en héxa*) aux adresses 0000 à 0002 (nombre inversé)

[ADDR] 0000 [DATA] FF [+] 0001 FF [+] 0002 FF [+]

Saisir le multiplicateur (*en héxa*) aux adresses 0004 à 0006 (nombre inversé)

[ADDR] 0004 [DATA] FF [+] 0005 FF [+] 0006 FF [+]

Exécution [ADDR] 0200 [GO]

Afficher le produit (*en héxa*) aux adresses 0008 à 000D

[ADDR]000D[DATA] FF [-] 000C FF-[-] 000B FE-[-]

000A 00 [-] 0009 00 [-] 0008 01 [-]

Soit : FFFFE000001 (*héxa*) 281474943156225(*décimal*)

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0200: D8 20 8D 02 A4 04 20 9B 02 A5 20 85 25 A5 21 85
0210: 26 A5 22 85 27 A5 23 85 28 A5 24 85 29 20 80 02
0220: 20 8D 02 A4 05 C0 00 F0 03 20 9B 02 18 A5 25 69
0230: 00 85 08 A5 26 65 20 85 09 A5 27 65 21 85 0A A5
0240: 28 65 22 85 0B A5 29 65 23 85 0C A5 24 69 00 85
0250: 0D 20 80 02 20 8D 02 A4 06 C0 00 F0 03 20 9B 02
0260: 18 A5 0A 65 20 85 0A A5 0B 65 21 85 0B A5 0C 65
0270: 22 85 0C A5 0D 65 23 85 0D A5 24 69 00 85 0E 00
0280: A9 00 85 20 85 21 85 22 85 23 85 24 60 A2 04 CA
0290: B5 00 95 10 95 14 E0 00 D0 F5 60 88 20 B5 02 A5
02A0: 20 85 14 A5 21 85 15 A5 22 85 16 A5 23 85 17 88
02B0: C0 00 D0 E8 60 18 A5 10 65 14 85 20 A5 11 65 15
02C0: 85 21 A5 12 65 16 85 22 A5 13 65 17 85 23 A9 00
02D0: 69 00 85 24 60
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:10020000D8208D02A404209B02A5208525A5218548
:1002100026A5228527A5238528A5248529208002B7
:10022000208D02A405C000F003209B0218A52569BB
:10023000008508A52665208509A5276521850AA5CD
:10024000286522850BA5296523850CA524690085D1
:100250000D208002208D02A406C000F003209B0226
:1002600018A50A6520850AA50B6521850BA50C65D7
:1002700022850CA50D6523850DA5246900850E003A
:10028000A9008520852185228523852460A204CAB2
:10029000B50095109514E000D0F5608820B502A552
:1002A000208514A5218515A5228516A523851788E7
:1002B000C000D0E86018A51065148520A51165154B
:1002C0008521A51265168522A51365178523A9002A
:0502D0006900852460B7
:00000001FF
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0200          * = $0200
0200 D8      MULT48 CLD
0201 20 8D 02 JSR $028D
0204 A4 04    LDY $04
0206 20 9B 02 JSR $029B
0209 A5 20    LDA $20
020B 85 25    STA $25
020D A5 21    LDA $21
020F 85 26    STA $26
0211 A5 22    LDA $22
0213 85 27    STA $27
0215 A5 23    LDA $23
0217 85 28    STA $28
0219 A5 24    LDA $24
021B 85 29    STA $29
021D 20 80 02 JSR $0280
0220 20 8D 02 JSR $028D
0223 A4 05    LDY $05
0225 C0 00    CPY #$00
0227 F0 03    BEQ $022C
0229 20 9B 02 JSR $029B
022C 18      FIN1 CLC
022D A5 25    LDA $25
022F 69 00    ADC #$00
0231 85 08    STA $08
0233 A5 26    LDA $26
0235 65 20    ADC $20
0237 85 09    STA $09

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0239 A5 27    LDA $27
023B 65 21    ADC $21
023D 85 0A    STA $0A
023F A5 28    LDA $28
0241 65 22    ADC $22
0243 85 0B    STA $0B
0245 A5 29    LDA $29
0247 65 23    ADC $23
0249 85 0C    STA $0C
024B A5 24    LDA $24
024D 69 00    ADC #$00
024F 85 0D    STA $0D
0251 20 80 02 JSR $0280
0254 20 8D 02 JSR $028D
0257 A4 06    LDY $06
0259 C0 00    CPY #$00
025B F0 03    BEQ $0260
025D 20 9B 02 JSR $029B
0260 18      FIN2 CLC
0261 A5 0A    LDA $0A
0263 65 20    ADC $20
0265 85 0A    STA $0A
0267 A5 0B    LDA $0B
0269 65 21    ADC $21
026B 85 0B    STA $0B
026D A5 0C    LDA $0C
026F 65 22    ADC $22
0271 85 0C    STA $0C

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0273	A5 0D		LDA \$0D	02A7	A5 22		LDA \$22
0275	65 23		ADC \$23	02A9	85 16		STA \$16
0277	85 0D		STA \$0D	02AB	A5 23		LDA \$23
0279	A5 24		LDA \$24	02AD	85 17		STA \$17
027B	69 00		ADC #\$00	02AF	88		DEY
027D	85 0E		STA \$0E	02B0	C0 00		CPY #\$00
027F	00		BRK	02B2	D0 E8		BNE \$029C
0280	A9 00	RAZ	LDA #\$00	02B4	60		RTS
0282	85 20		STA \$20	02B5	18	ADD32	CLC
0284	85 21		STA \$21	02B6	A5 10		LDA \$10
0286	85 22		STA \$22	02B8	65 14		ADC \$14
0288	85 23		STA \$23	02BA	85 20		STA \$20
028A	85 24		STA \$24	02BC	A5 11		LDA \$11
028C	60		RTS	02BE	65 15		ADC \$15
028D	A2 04	STK	LDX #\$04	02C0	85 21		STA \$21
028F	CA	BCL1	DEX	02C2	A5 12		LDA \$12
0290	B5 00		LDA \$00,X	02C4	65 16		ADC \$16
0292	95 10		STA \$10,X	02C6	85 22		STA \$22
0294	95 14		STA \$14,X	02C8	A5 13		LDA \$13
0296	E0 00		CPX #\$00	02CA	65 17		ADC \$17
0298	D0 F5		BNE \$028F	02CC	85 23		STA \$23
029A	60		RTS	02CE	A9 00		LDA #\$00
029B	88	CALC	DEY	02D0	69 00		ADC #\$00
029C	20 B5 02	BCL2	JSR \$02B5	02D2	85 24		STA \$24
029F	A5 20		LDA \$20	02D4	60		RTS
02A1	85 14		STA \$14				
02A3	A5 21		LDA \$21				
02A5	85 15		STA \$15				