

esercizi di conversione con numeri a fissare.

BINARIO

(10) \rightarrow (2)

| | |
|----|---|
| 57 | 2 |
| 28 | 1 |
| 14 | 0 |
| 7 | 0 |
| 3 | 1 |
| 1 | 1 |
| 0 | 1 |

$$57:2=28,5$$

$$28:2=14$$

$$14:2=7$$

$$7:2=3,5$$

$$3:2=1,5$$

(10) \rightarrow (2)

| | |
|----|---|
| 50 | 2 |
| 25 | 0 |
| 12 | 1 |
| 6 | 0 |
| 3 | 0 |
| 1 | 1 |
| 0 | 1 |

(2) \rightarrow (10)

$$1 \ 1 \ 0 \ 0 \ 1 \ 0$$

$$5 \ 4 \ 3 \ 2 \ 1 \ 0$$

$$2^5 \ 2^4 \ 2^3 \ 2^2 \ 2^1 \ 2^0$$

$$32 \ 16 \ 8 \ 4 \ 2 \ 1$$

$$32+16+0+0+2+0=50_{(10)}$$

(2) \rightarrow (10)

$$1 \ 0 \ 1 \ 0 \ 0 \ 1 \ 0 \ 1$$

$$7 \ 6 \ 5 \ 4 \ 3 \ 2 \ 1 \ 0$$

$$2^7 \ 2^6 \ 2^5 \ 2^4 \ 2^3 \ 2^2 \ 2^1 \ 2^0$$

$$128 \ 64 \ 32 \ 16 \ 8 \ 4 \ 2 \ 1$$

$$128+0+32+0+0+4+0+1=165_{(10)}$$

| | |
|----|---|
| 82 | 2 |
| 41 | 1 |
| 20 | 1 |
| 10 | 0 |
| 5 | 0 |
| 2 | 1 |
| 1 | 0 |
| 0 | 1 |

10

$$10:2=5$$

$$5:2=2,5$$

$$1:2=0,5$$

$$10100101_{(2)}$$

| | |
|-----|---|
| 131 | 2 |
| 65 | 1 |
| 32 | 1 |
| 16 | 0 |
| 8 | 0 |
| 4 | 0 |
| 2 | 0 |
| 1 | 0 |
| 0 | 1 |

$$1 \ 0 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1$$

$$7 \ 6 \ 5 \ 4 \ 3 \ 2 \ 1 \ 0$$

$$2^7 \ 2^6 \ 2^5 \ 2^4 \ 2^3 \ 2^2 \ 2^1 \ 2^0$$

$$128 \ 64 \ 32 \ 16 \ 8 \ 4 \ 2 \ 1$$

$$128+0+0+0+0+0+2+1=131_{(10)}$$

$$11000001_{(2)}$$

esercizi in sistema OTTALE

$$(8) \rightarrow (10)$$

4 5 1

2 1 0

$8^2 \ 8^1 \ 8^0$

64 8 1

$$256 + 40 + 1 = 297_{(10)}$$

e se dovessimo sbagliare?

1 2 8

2 1 0

$8^2 \ 8^1 \ 8^0$

$$16 + 8 + 1 = 25_{(10)}$$

$$(10) \rightarrow (8)$$

| 2 9 7 | 8 |
|-------|---|
| 37 | 1 |
| 4 | 5 |
| 0 | 4 |

| 88 | 8 |
|----|---|
| 11 | 0 |
| 1 | 3 |
| 0 | 1 |

IL NUMERO RISULTA SBALZATO, E NON C'È DA SCONTARE

$$(8) \rightarrow (10)$$

1 3 1

2 1 0

$8^2 \ 8^1 \ 8^0$

64 8 1

$$64 + 24 + 1 = 89_{(10)}$$

$$(10) \rightarrow (8)$$

| 89 | 8 |
|----|---|
| 11 | 1 |
| 1 | 3 |
| 0 | 1 |

$$(8) \rightarrow (10)$$

2 5 4 7

3 2 1 0

$8^3 \ 8^2 \ 8^1 \ 8^0$

512 64 8 1

$$1024 + 320 + 32 + 7 = 1383$$

$$(10) \rightarrow (8)$$

| 13 83 | 8 |
|-------|---|
| 172 | 7 |
| 21 | 4 |
| 2 | 5 |
| 0 | 2 |

$$(10) \rightarrow (8)$$

| 505 | 8 |
|-----|---|
| 63 | 1 |
| 7 | 7 |
| 0 | 7 |

ESADECIMALE (16)

SI POSSONO USARE I SEGUENTI SIMBOLI: (LE LETTERE VANNO A RAPPRESENTARE I NUMERI DAL 10 AL 16.

0 1 2 3 4 5 6 7 8 9 A B C D E F
10 11 12 13 14 15

$$(16) \rightarrow (10)$$

4 A

1 0

$16^2 \ 16^1 \ 16^0$

16 1

$$64 + 10 = 74_{(10)}$$

$$(10) \rightarrow (16)$$

| 74 | 16 |
|----|------|
| 4 | 10=A |
| 0 | 4 |

4A₍₁₆₎

$$(10) \rightarrow (16)$$

| 14 32 | 16 |
|-------|----|
| 83 | 4 |
| 5 | 13 |
| 0 | 5 |

5D4₍₁₆₎

$$(16) \rightarrow (10)$$

5 D 4

2 1 0

$16^2 \ 16^1 \ 16^0$

256 16 1

$$1000 + 208 + 4 = 1212_{(10)}$$

$$(16) \rightarrow (10)$$

1 C 4 E

3 2 1 0

$16^3 \ 16^2 \ 16^1 \ 16^0$

4096 256 16 1

$$4096 + 256 + 64 + 14 = 4370_{(10)}$$

$$(10) \rightarrow (16)$$

| 7246 | 16 |
|------|----|
| 452 | 14 |
| 28 | 4 |
| 1 | 12 |
| 0 | 1 |

1C4E₍₁₆₎

$$(16) \rightarrow (10)$$

1 F 8

2 1 0

$16^2 \ 16^1 \ 16^0$

256 16 1

$$256 + 240 + 8 = 494_{(10)}$$

$$(10) \rightarrow (16)$$

| 504 | 16 |
|-----|----|
| 31 | 8 |
| 1 | 15 |
| 0 | 1 |

1F8₍₁₆₎

$$(14) \rightarrow (10)$$

A 5 1

2 1 0

$16^2 \ 16^1 \ 16^0$

256 16 1

$$2560 + 80 + 1 = 2641_{(10)}$$

$$(10) \rightarrow (16)$$

| 2641 | 16 |
|------|----|
| 165 | 1 |
| 10 | 5 |
| 0 | 10 |

A51₍₁₆₎

$$(2) \leftrightarrow (8)$$

$$8^1 = 2^3$$

| (8) | (2) |
|-----|-----|
| 0 | 000 |
| 1 | 001 |
| 2 | 010 |
| 3 | 011 |
| 4 | 100 |
| 5 | 101 |
| 6 | 110 |
| 7 | 111 |

TABELA DA RECORDAR
(SCORCIAMIA)

$$2 \ 5 \ 3 \ 1 \ (8)$$

$$0 \ 10 \ 10 \ 10 \ 11 \ 00 \ 1 \ (2)$$

| | | | | |
|-----|-----|-----|-----|-------------------------|
| 010 | 110 | 111 | 001 | 000 |
| 2 | 6 | 7 | 1 | 0 ⁽²⁾ (8) |

2° METODO:

$$\frac{5}{01010} = \frac{1}{4} \ \frac{0}{2} \ \frac{1}{1}$$

$$(2) \leftrightarrow (16)$$

| (16) | (2) |
|------|------|
| 0 | 0000 |
| 1 | 0001 |
| 2 | 0010 |
| 3 | 0011 |
| 4 | 0100 |
| 5 | 0101 |
| 6 | 0110 |
| 7 | 0111 |
| 8 | 1000 |
| 9 | 1001 |
| A | 1010 |
| B | 1011 |
| C | 1100 |
| D | 1101 |
| E | 1110 |
| F | 1111 |

TABELA DA RECORDAR
(SCORCIAMIA)

$$16^1 = 2^4$$

$$8^1 \quad 7 \ C \ 1 \ F \ (16)$$

$$0 \ 111 \ 1100 \ 001 \ 111 \ (2)$$

| | | | |
|------|------|------|----------|
| 0110 | 1011 | 1000 | 1000 (2) |
| 6 | 8 | 8 | 8 (16) |

$$\frac{7}{01101100} = \frac{0}{8} \ \frac{1}{4} \ \frac{1}{2} \ \frac{1}{1}$$

$$(2) \rightarrow (16)$$

| (16) | (2) |
|------|------|
| 0 | 0000 |
| 1 | 0001 |
| 2 | 0010 |
| 3 | 0011 |
| 4 | 0100 |
| 5 | 0101 |
| 6 | 0110 |
| 7 | 0111 |
| 8 | 1000 |
| 9 | 1001 |
| A | 1010 |
| B | 1011 |
| C | 1100 |
| D | 1101 |
| E | 1110 |
| F | 1111 |

| | | | | | | |
|------|------|------|------|------|------|------|
| A | F | 2 | 7 | 7 | 1 | E |
| 1010 | 1111 | 0010 | 0111 | 0111 | 0001 | 1110 |
| 1110 | 1100 | 1000 | 0001 | 1010 | | |
| E | C | 8 | 1 | A | | |

$$(2) \leftrightarrow (8)$$

| (8) | (2) |
|-----|-----|
| 0 | 000 |
| 1 | 001 |
| 2 | 010 |
| 3 | 011 |
| 4 | 100 |
| 5 | 101 |
| 6 | 110 |
| 7 | 111 |

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| 1 | 3 | 4 | 7 | 5 | 2 |
| 001 | 011 | 100 | 111 | 101 | 010 |
| 011 | 110 | 010 | 100 | 101 | 001 |
| 3 | 6 | 2 | 4 | 5 | 1 |

$$(16) \rightarrow (10)$$

3 7 2 1

3 2 1 0

16^3 16^2 16^1 16^0

4096 256 16 1

$$12288 + 1742 + 32 + 1 = 14113_{(10)}$$

1 0 1 1 0 1 0 1 0

8 7 6 5 4 3 2 1 0

2^8 2^7 2^6 2^5 2^4 2^3 2^2 2^1 2^0

256 128 64 32 16 8 4 2 1

$$256 + 0 + 64 + 32 + 0 + 8 + 0 + 2 + 0 = 362_{(10)}$$

$$(10) \rightarrow (16)$$

14 13 16

8 5

5 8

0 5

$$(8) \rightarrow (2)$$

7 6 1 2
111 110 001 010

$$(10) \rightarrow (8)$$

925 8

115 10

14 6

1 12

0 1

0 000

1 001

2 010

3 011

4 100

5 101

6 110

7 111