# Системы счисления

|  |  |  |
| --- | --- | --- |
| **(10→2)** | **(10→8)** | **(10→16)** |
|  | \\Head\PMO Data\Персоналии\Kostina\Новая папка\Методические указания Арифметические основы ЭВМ и систем_ (Электронное учебное пособие).files\ris1.gif | ris2 |
| Ответ: **2310 = 101112** | Ответ: **18110 = 2658** | Ответ: **62210 = 26E16  (1410= Е16)** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | Десятичная | Двоичная | Восьмеричная | | 0 | 000 | 0 | | 1 | 001 | 1 | | 2 | 010 | 2 | | 3 | 011 | 3 | | 4 | 100 | 4 | | 5 | 101 | 5 | | 6 | 110 | 6 | | 7 | 111 | 7 | | 8 | 1000 | 10 | | |  |  |  | | --- | --- | --- | | Десятичная | Двоичная | 16-ричная | | 0 | 0000 | 0 | | 1 | 0001 | 1 | | 2 | 0010 | 2 | | 3 | 0011 | 3 | | 4 | 0100 | 4 | | 5 | 0101 | 5 | | 6 | 0110 | 6 | | 7 | 0111 | 7 | | 8 | 1000 | 8 | | 9 | 1001 | 9 | | 10 | 1010 | A | | 11 | 1011 | B | | 12 | 1100 | C | | 13 | 1101 | D | | 14 | 1110 | E | | 15 | 1111 | F | | 16 | 10000 | 10 | |

***Перевод числа из*** ***8→2***

***Перевод числа из*** ***16*→2**

:

***Перевод числа из*** ***2→8*** или ***из*** ***2*→16**

### 

**(2→10)**

Разряды 3 2 1 0

Число **1 1 0 1**2 = **1**\*23 + **1**\*22 + **0**\*21 + **1**\*20  = 8 + 4 + 0 + 1 = 1310

**(8→10)**

Разряды 2 1 0

Число **1 2 3** 8 = **1**\*82 + **2**\*81 + **3**\*80 = 64 + 16 + 3 = 8310

Разряды 3 2 1 0

Число **1 1 0 1**8 = **1**\*83 + **1**\*82 + **0**\*81 + **1**\*80  = 512 + 64 + 0 + 1 = 57710

**(16→10)**

Разряды 2 1 0

Число **1 2 3** 16 =**1**\*162 + **2**\*161 + **3**\*160 = 256 + 32 + 3 = 29110

Разряды 2 1 0

Число **B 2 E** 16 =**B**\*162 + **2**\*161 + **E**\*160 = 11\*256 + 32 + 14\*1 = 286210

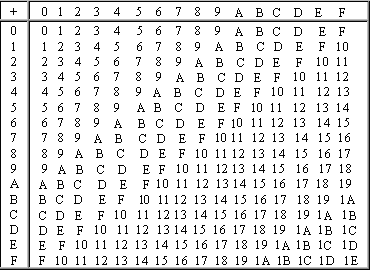
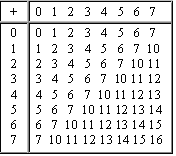
Разряды 3 2 1 0

Число **1 1 0 1**16 = **1**\*163 + **1**\*162 + **0**\*161 +**1**\*180  = 4096 + 256 + 0+1 = 435310

* ***Сложение***



|  |
| --- |
| **0 + 0 = 0**  **0 + 1 = 1**  **1 + 0 = 1**  **1 + 1 = 10** |



# Побитовые операции