**1. Para pasar de binario a decimal**

**a) 11001, soluciones: 25**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2^4 | 2^3 | 2^2 | 2^1 | 2^0 |
| 16 | 8 | 4 | 2 | 1 |
| 1 | 1 | 0 | 0 | 1 |
|  |  |  |  |  |

**b) 1011011011, solución: 731**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2^9 | 2^8 | 2^7 | 2^6 | 2^5 | 2^4 | 2^3 | 2^2 | 2^1 | 2^0 |
| 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |

**2. Para pasar de decimal a binario**

**a) 869, solución: 1101100101**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2^9 | 2^8 | 2^7 | 2^6 | 2^5 | 2^4 | 2^3 | 2^2 | 2^1 | 2^0 |
| 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 357 | 101 | 0 | 37 | 5 | 0 | 0 | 1 | 0 | 1 |
| 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |

**b) 8426, solución: 10000011101010**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2^13 | 2^12 | 2^11 | 2^10 | 2^9 | 2^8 | 2^7 | 2^6 | 2^5 | 2^4 | 2^3 | 2^2 | 2^1 | 2^0 |
| 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
| 234 | 0 | 0 | 0 | 0 | 0 | 106 | 42 | 10 | 0 | 2 | 0 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |

**3. Para pasar de binario a octal**

**a) 111010101, solución: 725**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
|  | 7 |  |  | 2 |  |  | 5 |  |

**b) 1101101, solución: 155**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | **0** | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
|  | 1 |  |  | 5 |  |  | 5 |  |

**4. Para pasar de octal a binario**

**a) 2066, solución: 010000110110**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 |  |  | 0 |  |  | 6 |  |  | 6 |  |  |
| 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

**b) 14276, solución: 001100010111110**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 |  |  | 4 |  |  | 2 |  |  | 7 |  |  | 6 |  |  |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

**5. Para pasar de binario a hexadecimal**

**a) 110001000, solución: 188**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 |  |  |  | 8 |  |  |  | 8 |  |  |  |
| 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

**b) 100010110, solución: 116**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 |  |  |  | 1 |  |  |  | 6 |  |  |  |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |

**6. Para pasar de hexadecimal a binario**

**a) 86BF, solución: 1000011010111111**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 |  |  |  | 6 |  |  |  | b(11) |  |  |  | f(15) |  |  |  |
| 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

**b) 2d5e, solución: 0010110101011110**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 |  |  |  | d(13) |  |  |  | 5 |  |  |  | e(14) |  |  |  |
| 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |

**7. Para pasar de octal a decimal**

**a) 106, solución: 70**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Binario | 1 |  |  | 0 |  |  | 6 |  |  |
|  | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| decimal |  |  | 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 |
|  |  |  | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |

**b) 742, solución: 482**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Binario |  | 7 |  |  | 4 |  |  | 2 |  |  |
|  |  | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| decimal |  | 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 |
|  |  | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |

**8. Para pasar de decimal a octal**

**a) 236, solución: 354**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Binario |  | 2^7 | 2^6 | 2^5 | 2^4 | 2^3 | 2^2 | 2^1 | 2^0 |
|  |  | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
|  |  | 108 | 44 | 32 | 0 | 4 | 4 | 0 | 0 |
|  |  | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Octal |  | 3 |  |  | 5 |  |  | 4 |  |  |
|  |  | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |

**b) 52746, solución: 147012**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Binario |  | 2^15 | 2^14 | 2^13 | 2^12 | 2^11 | 2^10 | 2^9 | 2^8 | 2^7 | 2^6 | 2^5 | 2^4 | 2^3 | 2^2 | 2^1 | 2^0 |
|  |  | 32768 | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 |
|  |  | 19978 | 3594 | 0 | 0 | 1546 | 522 | 10 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 |
|  |  | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Octal | 1 |  | 4 |  |  | 7 |  |  | 0 |  |  | 1 |  |  | 2 |  |  |
| 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |