

结果数据 (Result.txt) 及数据格式说明:

要求按照“基本要求”输出三组数据，结果如下:

(1) 求出每个数据对应的二进制编码的行列号:

(数据, 行号, 列号)

(1 , 000, 000)
(1 , 000, 001)
(1 , 000, 010)
(1 , 000, 011)
(2 , 000, 100)
(2 , 000, 101)
(3 , 000, 110)
(3 , 000, 111)
(1 , 001, 000)
(1 , 001, 001)
(1 , 001, 010)
(1 , 001, 011)
(2 , 001, 100)
(2 , 001, 101)
(3 , 001, 110)
(3 , 001, 111)
(1 , 010, 000)
(1 , 010, 001)
(1 , 010, 010)
(1 , 010, 011)
(4 , 010, 100)
(4 , 010, 101)
(5 , 010, 110)
(5 , 010, 111)
(1 , 011, 000)
(1 , 011, 001)
(1 , 011, 010)
(1 , 011, 011)
(4 , 011, 100)
(4 , 011, 101)
(5 , 011, 110)
(5 , 011, 111)
(6 , 100, 000)
(6 , 100, 001)
(7 , 100, 010)
(8 , 100, 011)
(13, 100, 100)
(13, 100, 101)
(14, 100, 110)
(14, 100, 111)

(6 , 101, 000)
 (6 , 101, 001)
 (9 , 101, 010)
 (10, 101, 011)
 (13, 101, 100)
 (13, 101, 101)
 (14, 101, 110)
 (14, 101, 111)
 (11, 110, 000)
 (11, 110, 001)
 (12, 110, 010)
 (12, 110, 011)
 (15, 110, 100)
 (16, 110, 101)
 (19, 110, 110)
 (19, 110, 111)
 (11, 111, 000)
 (11, 111, 001)
 (12, 111, 010)
 (12, 111, 011)
 (17, 111, 100)
 (18, 111, 101)
 (19, 111, 110)
 (19, 111, 111)

(2) 求出每个数据所在位置的原始四进制和十进制编码:

(数据, 四进制, 十进制)

(1 , 0 , 0)
 (1 , 1 , 1)
 (1 , 10 , 4)
 (1 , 11 , 5)
 (2 , 100, 16)
 (2 , 101, 17)
 (3 , 110, 20)
 (3 , 111, 21)
 (1 , 2 , 2)
 (1 , 3 , 3)
 (1 , 12 , 6)
 (1 , 13 , 7)
 (2 , 102, 18)
 (2 , 103, 19)
 (3 , 112, 22)
 (3 , 113, 23)
 (1 , 20 , 8)

(1 , 21 , 9)
(1 , 30 , 12)
(1 , 31 , 13)
(4 , 120, 24)
(4 , 121, 25)
(5 , 130, 28)
(5 , 131, 29)
(1 , 22 , 10)
(1 , 23 , 11)
(1 , 32 , 14)
(1 , 33 , 15)
(4 , 122, 26)
(4 , 123, 27)
(5 , 132, 30)
(5 , 133, 31)
(6 , 200, 32)
(6 , 201, 33)
(7 , 210, 36)
(8 , 211, 37)
(13, 300, 48)
(13, 301, 49)
(14, 310, 52)
(14, 311, 53)
(6 , 202, 34)
(6 , 203, 35)
(9 , 212, 38)
(10, 213, 39)
(13, 302, 50)
(13, 303, 51)
(14, 312, 54)
(14, 313, 55)
(11, 220, 40)
(11, 221, 41)
(12, 230, 44)
(12, 231, 45)
(15, 320, 56)
(16, 321, 57)
(19, 330, 60)
(19, 331, 61)
(11, 222, 42)
(11, 223, 43)
(12, 232, 46)
(12, 233, 47)
(17, 322, 58)

(18, 323, 59)
(19, 332, 62)
(19, 333, 63)

(3)输出最终每个数值对应的 Morton 码 (四叉树四进制编码)和 Morton 码 (四叉树十进制编码)

(四进制, 十进制, 深度, 数值)

(0 , 0 , 1, 1)
(10 , 4 , 2, 2)
(11 , 5 , 2, 3)
(12 , 6 , 2, 4)
(13 , 7 , 2, 5)
(20 , 8 , 2, 6)
(210, 36, 3, 7)
(211, 37, 3, 8)
(212, 38, 3, 9)
(213, 39, 3, 10)
(22 , 10, 2, 11)
(23 , 11, 2, 12)
(30 , 12, 2, 13)
(31 , 13, 2, 14)
(320, 56, 3, 15)
(321, 57, 3, 16)
(322, 58, 3, 17)
(323, 59, 3, 18)
(33 , 15, 2, 19)