



[illegible]

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```

/*
 * parity[p] is the parity of Permutation p.
 *
 * 0 signifies an even permutation
 *   (corresponding to an orientation reversing gluing)
 *
 * 1 signifies an odd permutation
 *   (corresponding to an orientation preserving gluing)
 *
 * 9 signifies an invalid permutation
 *
 * Notes:
 *   (1) The typedef GluingParity relies on 0 and 1 meaning what they do.
 *   (2) The 0 and 1 are reversed relative to the parity[] table in the
 *       old version of snappea.
 *   (3) Use the constants in GluingParity; don't use 0 and 1 directly.
 */

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[illegible]

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/*
 * vt_side[i][j] is the side of the cross sectional triangle at
 * vertex i which lies between edges j and (j+1)%3, where
 * the edge numbering is as in edge3_between_faces[][] above.
 *
 * An alternate interpretation is that vt_side[v][0], vt_side[v][1]
 * and vt_side[v][2] are the three faces surrounding vertex v, given
 * in counterclockwise order relative to the right_handed orientation
 * of the Tetrahedron.
 */

```

```
const FaceIndex vt_side[4][3] = {{3, 1, 2},
                                   {2, 0, 3},
                                   {1, 3, 0},
                                   {0, 2, 1}};
```

```
/*
 * There are 24 possible Permutations of the set {3, 2, 1, 0}. The table
```

```

* permutation_by_index[] list them all. E.g. permutation_by_index[2] = 0xD2
* = 3102, which is the permutation taking 3210 to 3102.
*/
const Permutation permutation_by_index[24] = {
    0xE4, 0xE1, 0xD2, 0xD8, 0xC9, 0xC6,
    0x93, 0x9C, 0x8D, 0x87, 0xB4, 0xB1,
    0x4E, 0x4B, 0x78, 0x72, 0x63, 0x6C,
    0x39, 0x36, 0x27, 0x2D, 0x1E, 0x1B};

/*
* index_by_permutation[] is the inverse of permutation_by_index[].
* That is, for 0 <= i < 24, index_by_permutation[permutation_by_index[i]] = i.
*/
const char index_by_permutation[256] = {
    -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1,
    -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, 23, -1, -1, 22, -1,
    -1, -1, -1, -1, -1, -1, -1, -1, 20, -1, -1, -1, -1, -1, 21, -1, -1,
    -1, -1, -1, -1, -1, -1, 19, -1, -1, 18, -1, -1, -1, -1, -1, -1, -1,
    -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, 13, -1, -1, 12, -1,
    -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1,
    -1, -1, -1, 16, -1, -1, -1, -1, -1, -1, -1, -1, -1, 17, -1, -1, -1,
    -1, -1, 15, -1, -1, -1, -1, -1, 14, -1, -1, -1, -1, -1, -1, -1, -1,
    -1, -1, -1, -1, -1, -1, -1, 9, -1, -1, -1, -1, -1, -1, 8, -1, -1,
    -1, -1, -1, 6, -1, -1, -1, -1, -1, -1, -1, -1, -1, 7, -1, -1, -1,
    -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1,
    -1, 11, -1, -1, 10, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1,
    -1, -1, -1, -1, -1, -1, 5, -1, -1, 4, -1, -1, -1, -1, -1, -1, -1,
    -1, -1, 2, -1, -1, -1, -1, -1, 3, -1, -1, -1, -1, -1, -1, -1, -1,
    -1, 1, -1, -1, 0, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1,
    -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1};

```