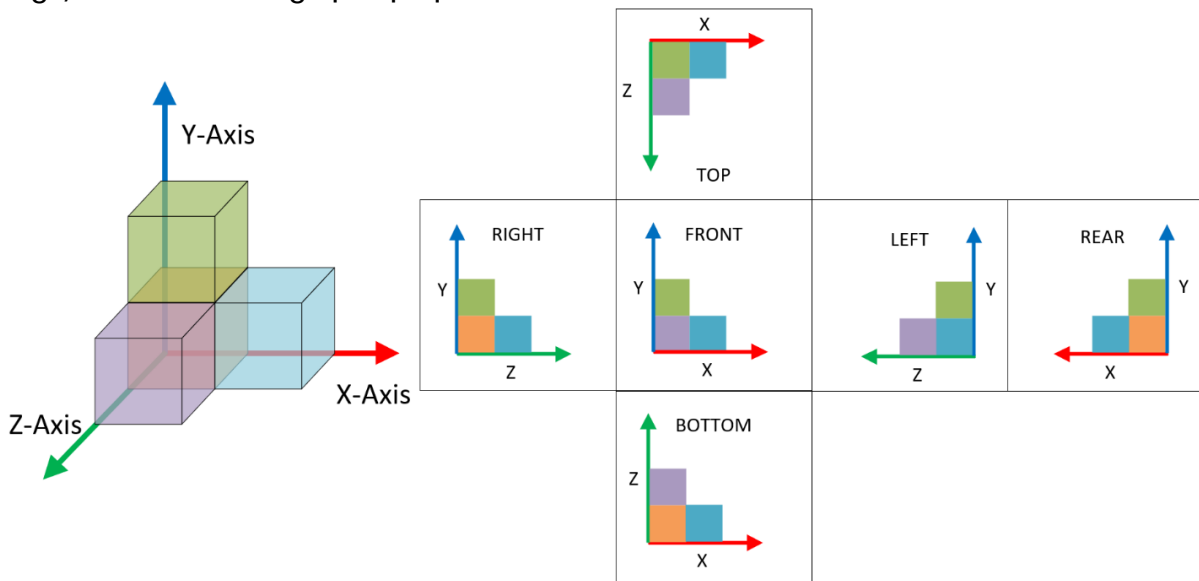## 33 Voxels
35 points

Introduction

We need a program to draw an orthographic projection of a 3D model (this is the projection of the model in 2 dimensions), which is represented by a set of voxels (a voxel is a cube positioned in the space according to the 3D coordinates (x, y, z)).
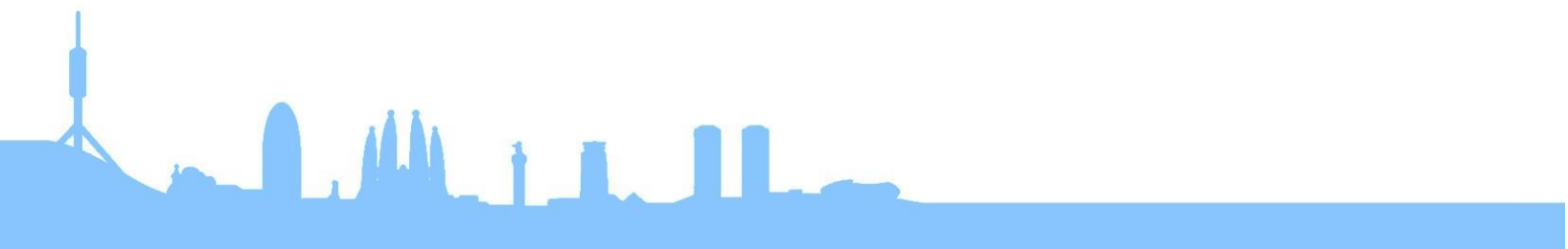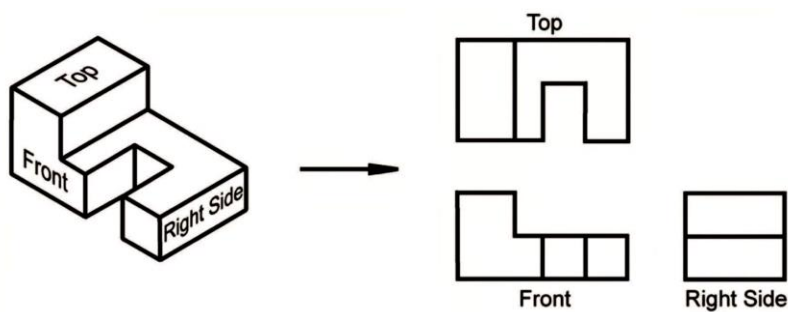The 6 projections are:

View name	Projection axes	View axis
FRONT	xy	+z
REAR	xy	-z
TOP	xz	+y
BOTTOM	xy	-y
LEFT	zy	+x
RIGHT	zy	-x

An example of the 3D model, formed by 4 voxels of different color (the orange one is hidden in the image), and their 6 orthographic projections:

We want to draw only the voxel's edges that are visible and are not touching other edges, as shown in the image below:

Input

The first line indicates the type of projection.

The second line is a positive integer that indicates the number of voxels forming the 3D model.

Finally, the sequence of voxels of the 3D model, each one of them defined by a triplet of "X Y Z" coordinates. Each coordinate is an integer in the range [0, 10].

Output

Voxels are drawn using '+', '-' and '|' symbols.
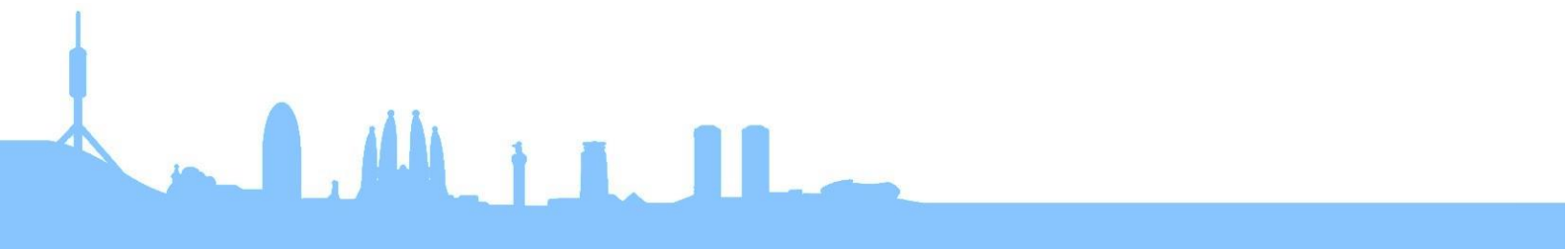
This is the representation of a single voxel:

```
+-+
| |
+-+
```

The output must be the 2D projection of the input 3D model according to the provided projection type, within a drawing space of 11x11 voxels (see the examples below).

The drawing space is framed by # symbols.

Notice that the origin of coordinates (0, 0) of each 2D projection is a different corner of the drawing space.

Example 1

Input

```
FRONT
38
2  0  3
3  0  3
4  0  3
5  0  3
6  0  3
2  1  3
3  1  3
4  1  3
5  1  3
6  1  3
2  2  3
3  2  3
4  2  3
5  2  3
6  2  3
3  0  4
4  0  4
5  0  4
3  1  4
4  1  4
5  1  4
1  9  0
1  8  0
1  7  0
2  9  0
2  7  0
3  9  0
3  7  0
5  9  0
5  8  0
5  7  0
6  7  0
7  8  0
7  7  0
8  7  0
9  9  0
9  8  0
9  7  0
```

Output

```
#########################
#                       #
#                       #
#   +-+-+-+ +-+     +-+  #
#   |     | | |     | |  #
#   + +-+-+ + + +-+ + +  #
#   | |     | | | | | |  #
#   + +-+-+ + +-+ +-+ +  #
#   |     | | |       |  #
#   +-+-+-+ +-+-+-+-+-+  #
#                       #
#                       #
#                       #
#                       #
#                       #
#                       #
#     +-+-+-+-+-+        #
#     |         |        #
#     + +-+-+-+ +        #
#     | |     | |        #
#     + +     + +        #
#     | |     | |        #
#     +-+-+-+-+-+        #
#########################
```

Example 2

Input

```
TOP
13
2 1 5
3 1 5
4 1 5
5 1 5
6 1 5
2 1 6
3 1 6
4 1 6
6 1 6
2 2 5
3 2 5
2 2 6
3 2 6
```

Output

```
########################
#                      #
#                      #
#                      #
#                      #
#                      #
#                      #
#                      #
#                      #
#                      #
#     +-+-+-+-+-+      #
#     |   |     |      #
#     +   + +-+ +      #
#     |   | | | |      #
#     +-+-+-+ +-+      #
#                      #
#                      #
#                      #
#                      #
#                      #
#                      #
#                      #
#                      #
########################
```