

## Algorithm Objective

The algorithm is designed to calculate the volume of a 3D terrain which the user inputs in a text file named "dane\_wejsciove.txt". The program responds to the question "How much liquid will this terrain structure hold?".

## Terrain Initialization Method

The terrain is represented as a collection of numbers. Each number in the file "dane\_wejsciove.txt" represents the height of the terrain at a specific point. The first number in the file (in the first row and the first column) is found at position  $X=0, Y=0$ , and its value defines the height  $Z$ .

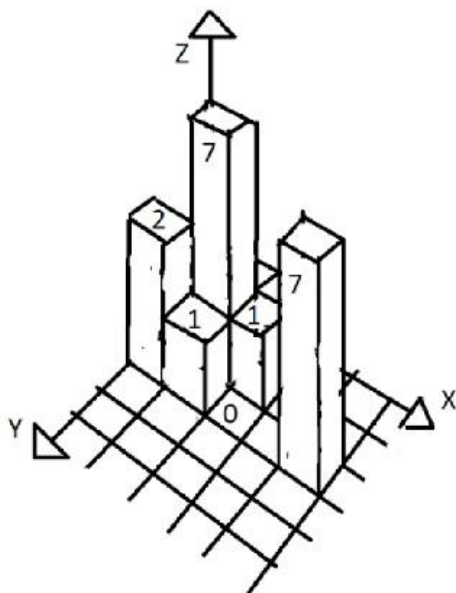
## Example of the File Structure with Visualization

In the file "dane\_wejsciove.txt", the terrain might be represented in the following way:

1 1 1

1 7 1

2 1 0 0 7



**The result is 0<sup>3</sup>** because when constructing the terrain there is nowhere to retain the liquid; it is assumed that everything that exceeds the boundaries of the terrain defined by the user has a height of -10.

**Important**

The file structure does not need to be a regular matrix. The program is designed to handle varying numbers of numbers in each row.

**Data Entry Rules**

Do not enter numbers less than zero. Separate numbers with a space.