

Algorithm for Maximum sum of path of triangle:

I have used the bottom-up approach to solve this problem. The idea is to start at the bottom row and collapse the triangle row by row till there is just one value left.

1. Let all the rows of the triangle be in a list of lists.
2. Create a list of tuples containing the values of the last row and a list with elements in the path (For last row, the path will be itself)
3. Pop the last row
4. Get the elements of the current last row
5. For each element v in current last row
 - Find the max of the left or right element in the row below it (popped row)
 - Add the max value to v and add to the path of v , the value v and the path of the max value
6. Continue steps 3-5 until there are no more rows left.
7. Return the first element of the list of lists of tuples.