The following algorithm is for both task 1 and task 2.
For task 2 we chose to solve a maze with holes or with no exits.

START
IF It is possible to move
    IF It is possible to mark or memorize the junctions
        WHILE exit is not reached AND whole maze is not discovered
            IF Number of undiscovered path nearby > 1
                Mark current location as junction
                For number of junctions n reached
                    Mark junction as j(n)
            IF Junction is marked AND undiscovered paths ≤ 1
                Remove j(MAX) from the list
            REPEAT
                IF There is >=1 undiscovered paths nearby
                    While hole or deadend not reached
                        Enter random undiscovered path
                        Move along it
                        Mark the area passed as discovered
                    Return to j(MAX)
            UNTIL Junction is reached OR Got to the exit OR The whole maze was discovered
        IF The exit is reached
            Leave the maze
            END
        IF The whole maze was discovered but exit is not reached
            Yell "help me!”
    ELSE
        While exit not reached
            Walk in random directions
        END
ELSE
    Wait for help
IF The exit is reached
    Leave the maze
END