**Help file**

**The following are the headers of the two classes: CreatureClass and MazeClass:**

struct coordinate

{

int row, col;

};

enum SquareType {Wall, Clear, Visited, Path};

class CreatureClass

{

public:

CreatureClass();

~CreatureClass();

void MoveUp();

void MoveDown();

void MoveLeft();

void MoveRight();

void AssignLocation(coordinate);

coordinate ReportLocation();

private:

coordinate position;

};

class MazeClass

{ public:

MazeClass();

~MazeClass();

void ReadMaze(ifstream&);

void DisplayMaze();

bool IsWall(coordinate);

bool IsClear(coordinate);

bool IsPath(coordinate);

bool IsVisited(coordinate);

bool IsExit(coordinate);

bool InMaze(coordinate);

void MarkPath(coordinate);

void MarkVisited(coordinate);

coordinate GetEntrance();

private:

SquareType \*\*Maze;

coordinate entrance, Exit;

int height, width;

};

**The pseudoCode for the client program function GoNorth() is defined as following:**

void GoNorth(maze, oneCreature, success)

create a creature

put creature at the location of “oneCreature”

if (the square to the north is inside the maze, clear, and unvisited)

{ move to the north 🡪 move up

mark the square as part of the path

if (at exit)

success = true;

else

{ GoNorth(maze, creature, success);

if (!success)

{

GoWest(maze, creature, success);

if (!success)

{

GoEast(maze, creature, success);

if (!success)

{ Mark square visited

GoSouth(maze, creature, success);

}

}

}

}

}

else

success = false;

**Partial translation from the above pseudo code to C++ language:**

void GoNorth(MazeClass &maze, CreatureClass &oneCreature, bool & success) {

CreatureClass creature;

coordinates tmpPos = **oneCreature.**ReportLocation();

**creature.SetLocation(tmpPos);**

tmpPos.row --;

if (maze.InMaze(tmpPos) && maze.IsEmpty(tmpPos) && !maze.IsVisited(tmpPos))

{

creature.MoveUp();

tmpPos=creature.ReportLocation();

maze.MarkPath(tmpPos);

…..

Make sure MoveUp is consistent in changing row value: row—

MoveLeft is consistent in changing col value: col--