

Nombre de la clase	Cuerpo de la función	Complejidad ciclomática	Nivel de anidamiento
FileLoader	<pre> public void loadFile(String fileName) { try { BufferedReader in = new BufferedReader(new FileReader(fileName)); String x; int lineNum=0; while ((x = in.readLine()) != null) { MatrixLoader(x,lineNum);<i>//pass the Matrix Loader method the line and the line number for parsing.</i> lineNum++;<i>//we will use the line number later in this class</i> } }<i>//end try</i> catch (IOException e) { JFrame frame = new JFrame("Alert"); JOptionPane.showMessageDialog(frame, "Ooops IOException error, i did it again!" + e.getMessage()); }<i>//end catch</i> }<i>//end load file method</i> </pre>	2	0
FileLoader	<pre> public void MatrixLoader(String fileTextLine, int lineNum)throws gameFileError { <i>// exitCount=0;//we must reset our variables to zero for the next level.</i> int sum=0; char textVar; if(lineNum == 0)<i>//it is the first line of the maze file, create The Matrix based on first line of the maze file</i> { </pre>	7	2

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	<pre> for(int i=0; i<fileTextLine.length();i++) { if(fileTextLine.charAt(i) == ' ')//find blank area on first line number sum+=1;//how many blank spaces between the size of the matrix aka 4 6 or 5 7 } int locationOfSpace = fileTextLine.indexOf(" ");//still handling that possible blank space in the matrix size in the file String c1=fileTextLine.substring(0,locationOfSpace);//see above String r1=fileTextLine.substring(locationOfSpace+sum,fileTextLine.length());//see above column = Integer.parseInt(c1); row = Integer.parseInt(r1); GameMatrix=new String[row][column];//create new matrix based on the size from the file } //end if else for(int i=0; i< fileTextLine.length();i++)//it is not the first line of the maze file { textVar = fileTextLine.charAt(i); //grab the individual charaters from the string. if(textVar == '.')//change . to N, so we dont have any goofy file system problems textVar='N'; String textVar1= "" + textVar; if(textVar == 'E')//Log the position of the exit for later use { exitXCord = lineNum-1; exitYCord =i; // textVar='W'; textVar1= "" + textVar;//turn the exit into a wall } GameMatrix[lineNum-1][i]=textVar1;//Load the matrix with values, aka N,W,D,H,etc } //end for loop } //end matrixloader method </pre>		

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<h1>FileLoader</h1>	<pre> public String[][] getGameMatrix() { int exitCount=0; int i1=0; int j1=0; int playerCount=0; for (int i = 0; i < GameMatrix.length; i++) { for (int j = 0; j < GameMatrix[i].length; j++) { if(GameMatrix[i][j].equals("P")) { playerCount+=1; } else if(GameMatrix[i][j].equals("E")) { exitCount+=1; i1=i; j1=j; } System.out.println(playerCount + "playerCount"); System.out.println(exitCount + "playerCount"); } } //end double for loop if(playerCount >1 exitCount>1) { throw new gameFileError(); } else GameMatrix[i1][j1]="W"; return GameMatrix; } //end getGameMatrix method </pre>	6	3

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FileLoader	<pre> public int getMatrixSizeColumn()//return the matrixsize-column { return column; } </pre>	1	0
FileLoader	<pre> public int getMatrixSizeRow()//return the matrix size-row { return row; } </pre>	1	0
FileLoader	<pre> public int ExitXCord() //return the X cordinates for the Exit { return exitXCord; } </pre>	1	0
FileLoader	<pre> public int ExitYCord()//return the Y cordinates for the Exit { return exitYCord; } </pre>	1	0
FileLoader	<pre> public int dimondCount() { int totalDimonds=0; for (int i = 0; i < GameMatrix.length; i++){ for(int j = 0; j < GameMatrix[i].length; j++){ if(GameMatrix[i][j].equals("D") GameMatrix[i][j].equals("H")) totalDimonds+=1; } } return totalDimonds; } </pre>	4	2
gameFileError	<pre> public gameFileError() { JFrame frame = new JFrame("Alert"); JOptionPane.showMessageDialog(frame, "Your maze file ether had more than one player, or more than one exit."); } </pre>	1	0

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TimeCalculator	<pre> public void calcTimeforMaze(int totalDimonds, int xSize, int ySize) { if(xSize/ySize < 1) { minutes+=(ySize/xSize)*1+1; } else minutes+=(ySize/xSize)*1+1; if(totalDimonds >6 && totalDimonds*.10 + seconds <= 60) minutes+=(ySize/xSize)*1+1; else { minutes+=1; } if(minutes ==0) minutes=2; } </pre>	4	0
TimeCalculator	<pre> public int getMinutes() { return minutes; } </pre>	1	0
TimeCalculator	<pre> public int getSeconds() { return seconds; } </pre>	1	0
TimeKeeper	<pre> public void TimeKeeper(int min, int sec) { if(sec + seconds <=60) { minutes+=min1 seconds=sec+seconds; } else { </pre>	2	0

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	<pre> minutes+=min; minutes+=1*((sec+seconds)/60); seconds=(sec+seconds)%60; } } </pre>		
TimeKeeper	<pre> public int getMinutes() { return minutes; } </pre>	1	0
TimeKeeper	<pre> public int getSeconds() { return seconds; } </pre>	1	0
TheArchitect	<pre> public void setExit(int x, int y) { WallXCord=x; WallYCord=y; } </pre>	1	0
TheArchitect	<pre> public void showWall() { updatedMatrix[WallXCord][WallYCord]="E"; } </pre>	1	0

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TheArchitect	<pre> public void playerMove(int xScale, int yScale, String[][] currentMatrix,int totalDimonds)throws StupidAssMove { int x=0; int y=0; int found=0; globalTotalDimonds=totalDimonds; //use this Later for the gui dimond count nextLevel(false); //dont go to the next level yet. String[][] junkMatrix=currentMatrix;//we will be updating currentMatrix for (int i = 0; i < currentMatrix.length; i++) //for loop will find were the player is now { for (int j = 0; j < currentMatrix[i].length; j++) { if(currentMatrix[i][j].equals("P"))//we found the player { x=i;//record the players position y=j; found = 1; break; } } }//end both for loops if(currentMatrix[x+xScale][y+yScale].equals("H"))//its a hidden dimond { currentMatrix[x][y]="N"; currentMatrix[x+xScale][y+yScale]="P"; currentMatrix[x][y]="N"; collected+=1;//we got a hidden dimond! wow! } else if(currentMatrix[x+xScale][y+yScale].equals("D"))//its a dimond { currentMatrix[x][y]="N"; currentMatrix[x+xScale][y+yScale]="P"; collected+=1;//we got a dimond } else if(currentMatrix[x+xScale][y+yScale].equals("M") && currentMatrix[x+(xScale*2)][y+(yScale*2)].equals("N")) { currentMatrix[x][y]="N"; currentMatrix[x+xScale][y+yScale]="P"; currentMatrix[x+(xScale*2)][y+(yScale*2)]="M"; } else if (currentMatrix[x+xScale][y+yScale].equals("N"))//normal move foward onto nothing { currentMatrix[x][y]="N"; </pre>	10	4

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	<pre> currentMatrix[x+xScale][y+yScale]="P"; } else if (currentMatrix[x+xScale][y+yScale].equals("E"))//its an exit { currentMatrix[x][y]="N"; currentMatrix[x+xScale][y+yScale]="P"; nextLevel(true);//allow the next level to be loaded. } else throw new StupidAssMove("Ass Hole hit wall!"); if(collected==totalDimonds)//if we have all the dimonds give the player the exit showWall(); updatedMatrix=currentMatrix; //we will return updatedMatrix for the gui } //end method</pre>		

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TheArchitect	<pre> public void nextLevel(boolean tOrF)//true we go to next level, false we update current level's gui { level=tOrF; } </pre>	1	0
TheArchitect	<pre> public boolean getLevel();//returs Level true or false { return level; } </pre>	1	0
TheArchitect	<pre> public int getDimondsLeft() { return globalTotalDimonds-collected;//for GUI JLabel, show how many dimonds are left to be collected } </pre>	1	0
TheArchitect	<pre> public String[][] getUpdatedMatrix();//returns the updated matrix for the gui to display { return updatedMatrix; } </pre>	1	0
StupidAssMove	<pre> public StupidAssMove(String event) { JFrame frame = new JFrame("Warning"); JOptionPane.showMessageDialog(frame, "You Stupid Ass, Ran into something did you?"); } </pre>	1	0
HighScore	<pre> public void addHighScore(String name, int min, int sec,int level) { try{ String outData="PlayerName: "+name+" Total Time for Levels:"+min+": "+sec+ "(Minutes:Seconds)"+" Level Reached:*" + level; PrintWriter out = new PrintWriter(new FileOutputStream("scores.txt",true)); out.println(""); out.println(outData); out.close(); }//prints the highscore data to scores.txt catch(Exception ex){ System.out.println(ex); }//end catch } </pre>	1	0

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MyKeyHandler	<pre> public void keyPressed (KeyEvent theEvent) { switch (theEvent.getKeyCode()) { case KeyEvent.VK_UP: { theArc.playerMove(-1,0,scrapMatrix,f1.dimondCount());<i>//Let the Architect know we moved, along with the current matrix</i> loadMatrixGui("updateLoad");<i>//reload the gui to show the move</i> if (theArc.getLevel()==true) { nextLevelLoad();<i>//if the player hit an exit door, load the next level</i> } break; } case KeyEvent.VK_DOWN: { theArc.playerMove(1,0,scrapMatrix,f1.dimondCount());<i>//see above</i> loadMatrixGui("updateLoad");<i>//see above</i> if (theArc.getLevel()==true)<i>//see above</i> { nextLevelLoad();<i>//see above</i> } break; } case KeyEvent.VK_LEFT: { theArc.playerMove(0,-1,scrapMatrix,f1.dimondCount());<i>//see above</i> loadMatrixGui("updateLoad");<i>//see above</i> if (theArc.getLevel()==true)<i>//see above</i> { </pre>	8	2

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	<pre> nextLevelLoad();//see above } break; } case KeyEvent.VK_RIGHT: { theArc.playerMove(0,1,scrapMatrix,f1.diamondCount()); //see above loadMatrixGui("updateLoad");//see above if (theArc.getLevel()==true) { nextLevelLoad();//see above } break; } } } //end switch JLabel mainLabel=new JLabel("Total Dimonds Left to Collect"+theArc.getDimondsLeft()+"", JLabel.CENTER);//show how many dimonds are left to collect on the gui! JPanel dimondsPanel = new JPanel(); dimondsPanel.add(mainLabel); cp.add(dimondsPanel,BorderLayout.SOUTH); } //end method </pre>		
GameGui	<pre> public GameGui() { super("Maze, a game of wondering"); //call super to initilize title bar of G.U.I. cp=getContentPane(); shagLabel = new JLabel("",new ImageIcon("yeababyyea.jpg"),JLabel.LEFT);//GUI background for initial Load cp.add(shagLabel); //Add Exit & New Game Menu Items itemExit = new JMenuItem("Exit"); </pre>	1	0

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	<pre> itemExit.setAccelerator (KeyStroke.getKeyStroke (KeyEvent.VK_X, KeyEvent.CTRL_MASK));<i>//press CTRL+X to</i> <i>exit if you want</i> itemSaveScore = new JMenuItem("Save High Score"); itemSaveScore.setAccelerator (KeyStroke.getKeyStroke (KeyEvent.VK_S, KeyEvent.CTRL_MASK));<i>//press</i> <i>CTRL+S to save high score if you want</i> itemHighScore=new JMenuItem("High Score"); itemHighScore.setAccelerator (KeyStroke.getKeyStroke (KeyEvent.VK_H, KeyEvent.CTRL_MASK));<i>//press</i> <i>CTRL+H to view high score if you want</i> itemEnterName = new JMenuItem("Enter Player Name"); itemEnterName.setAccelerator (KeyStroke.getKeyStroke (KeyEvent.VK_N, KeyEvent.CTRL_MASK));<i>//press</i> <i>CTRL+N to enter your name if you want</i> newGameItem = new JMenuItem("New Game"); openFileItem = new JMenuItem("Open Maze File."); openFileItem.setAccelerator (KeyStroke.getKeyStroke (KeyEvent.VK_O, KeyEvent.CTRL_MASK));<i>//press CTRL+O</i> <i>to open a Level if you want</i> newGameItem.setActionCommand("New Game"); newGameItem.addActionListener(this); itemEnterName.setActionCommand("EnterName"); itemEnterName.addActionListener(this); itemSaveScore.setActionCommand("SaveScore"); itemSaveScore.addActionListener(this); itemHighScore.setActionCommand("HighScore"); itemHighScore.addActionListener(this); itemExit.setActionCommand("Exit"); itemExit.addActionListener(this); openFileItem.setActionCommand("Open"); openFileItem.addActionListener(this); newMenu = new JMenu("File"); newMenu.add(newGameItem); newMenu.add(itemEnterName); newMenu.add(openFileItem); </pre>		

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	<pre> newMenu.add(itemHighScore); newMenu.add(itemSaveScore); newMenu.add(itemExit); //Add Exit Menu Item //Add Menu Bar menuBar = new JMenuBar(); menuBar.add(newMenu); setJMenuBar(menuBar); //Add Menu Bar newPanel = new JPanel(); hs = new HighScore(); tk=new TimeKeeper(); pack(); setVisible (true);<i>//show our menu bar and shagLabel.. Yea baby Yea! Whoa.. to much java.</i> } <i>//end constructor</i> </pre>		
GameGui	<pre> public void actionPerformed(ActionEvent e) { if (e.getActionCommand().equals("Exit"))<i>//exit on the menu bar</i> { new Timer(1000, updateCursorAction).stop(); System.exit(0); <i>//exit the system.</i> } else if (e.getActionCommand().equals("New Game"))<i>//new game on the menu bar</i> { return; <i>//maybe implent this feature later</i> } <i>//end New Game Command</i> else if(e.getActionCommand().equals("EnterName"))<i>//Allows user to enter their name for high score</i> { JOptionPane optionPane = new JOptionPane(); playerName=optionPane.showInputDialog("Please Enter your Earth Name"); } } </pre>	5	5

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	<pre> else if(e.getActionCommand().equals("HighScore"))//Displays the high scores { ScoreGui sg = new ScoreGui(); sg.ScoreGui(); } else if(e.getActionCommand().equals("SaveScore"))//allows the user to save their score at any time. { hs.addHighScore(playerName,tk.getMinutes(),tk.getSeconds(),levelNum); } else if(e.getActionCommand().equals("Open"))//to start the game you have to open a maze file. this is on the menu { JFileChooser chooser = new JFileChooser(); int returnVal = chooser.showOpenDialog(this); if(returnVal == JFileChooser.APPROVE_OPTION) { fl.loadFile(chooser.getSelectedFile().getName());//Load the file we need theArc.setExit(fl.ExitXCord(),fl.ExitYCord()); loadMatrixGui("newLoad"); } } } } </pre>		
GameGui	<pre> public void loadMatrixGui(String event) { if (event == "newLoad") { remove(newPanel);//remove the previous Level's game from the screen if(progBarPanel !=null)//remove the progress bar from the gui as long as its already been created. remove(progBarPanel); } } </pre>	8	2

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	<pre> String[][] temp = f1.getGameMatrix(); scrapMatrix = new String[f1.getMatrixSizeRow()][f1.getMatrixSizeColumn()]; for (int i = 0; i < scrapMatrix.length; i++){ for (int j = 0; j < scrapMatrix[i].length; j++){ scrapMatrix[i][j]= temp[i][j];<i>//create a new matrix so we dont have a</i> <i>refrence to another objects matrix!</i> } }<i>//end double for Loop</i> timeCalc = new TimeCalculator();<i>//create the time calculator used to</i> <i>determine how much time each level is given.</i> timeCalc.calcTimeforMaze(f1.diamondCount(),f1.getMatrixSizeRow(),f1.getMatrixSizeColumn()) ;<i>//let time calculator know the parameters of the game</i> timeLeft=timeCalc.getMinutes();<i>//get the minutes allowed for the Level</i> ix=timeCalc.getSeconds();<i>//get the seconds allowed for the level;</i> jx=0;<i>//reset the variable used for keeping time to zero since its a new Level</i> timely = new Timer(1000,updateCursorAction);<i>//create a timer to update the</i> <i>progress bar</i> timely.start();<i>//start the timer</i> progBarPanel = new JPanel();<i>//panel for progress bar</i> progressBar = new JProgressBar(0, timeCalc.getMinutes()*100);<i>//minutes</i> <i>returns a single digit, we have to multiply it for Bar.</i> progressBar.setStringPainted(true); progBarPanel.add(progressBar); cp.add(progBarPanel, BorderLayout.NORTH); newPanel = new JPanel(); newPanel.setLayout(new GridLayout(f1.getMatrixSizeRow(),f1.getMatrixSizeColumn()));<i>//set our panel for the game</i> <i>to the size of the matrix</i> labelMatrix=new JLabel[f1.getMatrixSizeRow()][f1.getMatrixSizeColumn()]; newPanel.addKeyListener(new MyKeyHandler()); </pre>		

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	<pre> }//end if else if(event == "updateLoad")//every time the player moves the gui must be updated. { scrapMatrix = theArc.getUpdatedMatrix();//get the new matrix to be displayed from the architect remove(newPanel);//remove the old game newPanel = new JPanel(); newPanel.setLayout(new GridLayout(fl.getMatrixSizeRow(),fl.getMatrixSizeColumn())); newPanel.addKeyListener(new MyKeyHandler()); newPanel.grabFocus(); } for (int i = 0; i < labelMatrix.length; i++){ for (int j = 0; j < labelMatrix[i].length; j++){ labelMatrix[i][j]= mo=new mazeObject(scrapMatrix[i][j]);//add our maze images into the gui } }//end double for loop cp.add(newPanel); remove(shagLabel);//remove the constructors initial background System.gc();//force java to clean up memory use. pack(); setVisible (true); newPanel.grabFocus(); }//end LoadMatrixGui method </pre>		
GameGui	<pre> public void nextLevelLoad() { levelNum+=1; </pre>	1	0

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	<pre> tk.TimeKeeper(timeLeft,ix);//The TimeKeeper object keeps a running tab of the total time the player has used.(for high score) timely.stop();//dont count while we are loading the next level. theArc = new TheArchitect();//flush everything from TheArchitect so we dont get goffee results catFileName+="01";//the next file to be loaded (number) String fileName="level"+catFileName+".maz"; System.gc(); fl.loadFile(fileName);//load the file we need scrapMatrix=fl.getGameMatrix();//get the new matrix from the fileloader for the next level. theArc.setExit(fl.ExitXCord(),fl.ExitYCord()); loadMatrixGui("newLoad"); } </pre>		
GameGui	<pre> public void actionPerformed(ActionEvent e)throws SlowAssPlayer //this inner class generates an exeption if the player takes to long to finish a level { ix-=1; jx+=1; if(ix<0) { ix=60; timeLeft-=1; } if(timeLeft==0 && ix==0) { timely.stop(); JLabel yousuckLabel = new JLabel("",new ImageIcon("yousuck.jpg"),JLabel.LEFT); cp.add(yousuckLabel); remove(newPanel); } } </pre>	5	1

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	<pre> remove(progBarPanel); pack(); setVisible (true); timely.stop(); catFileName-=01; if(catFileName<01) throw new SlowAssPlayer("Slow ass took to long."); else loadMatrixGui("newLoad"); } //end first if progressBar.setValue(jx); progressBar.setString(timeLeft+": "+ix); } //end actionPerformed </pre>		
mazeObject	<pre> public mazeObject(String fileName) { fileName+=".png"; JLabel fancyLabel; fancyLabel = new JLabel("",new ImageIcon(fileName),JLabel.LEFT); newPanel.add(fancyLabel); } </pre>	1	0
SlowAssPlayer	<pre> public SlowAssPlayer(String event) { //the game is over, here we must tell our high score method to record the details. hs.addHighScore(playerName,tk.getMinutes(),tk.getSeconds(),levelNum); JFrame frame = new JFrame("Warning"); JOptionPane.showMessageDialog(frame, "You Stupid Ass, Did you eat to much for dinner? Move Faster!"); //the entire game has ended. } </pre>	1	0
ScoreGui	<pre> public ScoreGui() { </pre>	1	0

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ScoreGui	<pre> super(); } public void ScoreGui()<i>//the ScoreGui Method displays the scores in order from Lowest to highest.</i> { Container cp = getContentPane(); JButton ok = new JButton("OK"); ok.setActionCommand("OK"); ok.addActionListener(this); int lineNum=0; cp.add(ok,BorderLayout.SOUTH); try{ String line = ""; String[] myScoreArray = new String[100]; for(int i=0; i<myScoreArray.length;i++) myScoreArray[i]=" "; String line1=""; BufferedReader br1 = new BufferedReader(new InputStreamReader(new FileInputStream("scores.txt")));<i>//read in the scores data</i> int recordsCount=0; while((line = br1.readLine()) != null) { line = br1.readLine(); if(line!="") { recordsCount+=1; int tempPOS = line.indexOf("*");<i>//use the star to indicate the next charator is</i> <i>going to be the maze level which we will sort by.</i> String pos=line.substring(tempPOS+1); int index = Integer.parseInt(pos); if(myScoreArray[index] == " ") myScoreArray[index]=line;<i>//add in the score to the array.</i> } } } } </pre>	9	3

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	<pre> JOptionPane.showMessageDialog(frame, "Problem with scores.txt file. Cant load high Scores"); }//end catch pack(); setVisible (true); }//end constructor </pre>		
ScoreGui	<pre> public void actionPerformed(ActionEvent e) { dispose(); } </pre>	1	0