

CSE 213 – Homework 8 Rubric

Student Name: marisa loraas

Grader Name: Mason Bentley

| Problem | Score | Total |
|--|-----------|-----------|
| Style Guidelines | 9 | 9 |
| Submission is named cse213_<firstname>_<lastname>_hw8.tar.gz | 1 | 1 |
| Packages are named: oop.<firstinitial><lastname>.hw8.<number> where <number> is the problem number | 1 | 1 |
| Code follows Google's style guide reasonably well, and uses four-space indentation | 2 | 2 |
| Every public class and public method has a Javadoc comment | 5 | 5 |
| ClockFace.java | 8 | 13 |
| Inherits from JComponent | 1 | 1 |
| Has three private members: hour, second, minute | .5 | 0.5 |
| Has a constructor that sets to time to the local time. Has a constructor that checks that hour is between 0 and 23, and that minute and second are between 0 and 59. Uses local time if any value is out of range. Constructors should set the preferred size of the JComponent to 400x400 | .5 | 0.5 |
| Displays the background image "clock.jpg". Draws a red second hand | .5 | 0.5 |
| Draws three line segments for the second, minute, and hour hands at the correct angles | .5 | 0.5 |
| tick() moves the time forward by one second and calls repaint | 0 | 5 |
| setTimeZone() sets the time to the current local time in that time zone and calls repaint() | 5 | 5 |
| ClockFrame.java | 10 | 15 |
| Inherits from JFrame | 1 | 1 |
| Adds a JLabel with the clock's time zone. Adds a ClockFace. Has a main method that creates a new ClockFrame, opens the window to display the time, and exits when the user closes the window | 2 | 2 |
| Creates a Timer() object that performs an action every 1000ms | 2 | 2 |

| | | |
|--|----|-----------|
| The Timer()'s ActionListener is either an inner class or an anonymous class ; its actionPerformed() method calls clockFace.tick() | 5 | 5 |
| Adds three JButtons to the SOUTH of the ClockFace. Each button changes the ClockFace's timezone. | 5 | 5 |
| Stone.java | 5 | 5 |
| Defines an enumeration containing EMPTY, BLACK, and WHITE; and a method for translating the enumeration to a Color | 5 | 5 |
| GoPlayer.java | 2 | 2 |
| An interface with two methods: checkWinner() and getMove() | 2 | 2 |
| GomokuBoard.java | 26 | 26 |
| Note: Most of the drawing logic should resemble that of GoBoard.java from the previous assignment | | |
| Inherits from JComponent | 1 | 1 |
| Has a constructor that takes a GoPlayer as an argument, sets up the preferred size to 720x720, adds a PlayHandler as a mouse listener, sets scores to 0, and initializes stones array to contain all empty stones | 2 | 2 |
| paintComponent() draws "bamboo.jpg" as the background image, an 18x18 grid of squares, and the contents of the stones array with the DrawShape.drawCircle() method | 1 | 1 |
| The private inner class named PlayHandler checks if gameOver is true, and if so does nothing | 2 | 2 |
| PlayHandler converts the x and y coordinates of the click-event to indices of the stones array | 4 | 4 |
| PlayHandler calls playBlack() on the chosen point | 4 | 4 |
| PlayHandler calls the AI's checkWinner() method between moves to see if either the black move or the white move won the game - if so sets gameOver to true and increments the proper score | 5 | 5 |
| playBlack(), playWhite() attempt to place a stone of the appropriate color at the given location. Call repaint() after placing a stone. Do nothing if the location is out of range, or if there is already a stone at that location, or if gameOver is set | 5 | 5 |
| resetGame() sets every element in the stones array to Empty, resets gameOver to false, and calls repaint() | 2 | 2 |
| GomokuAI.java | 10 | 10 |
| Note: If this class contains a method that searches for a pattern on the board as specified in the Appendix (more complicated strategies are also | | |

| | | |
|--|------------|------------|
| acceptable) and if getMove() uses this method to play a better game, then the extra credit points should be awarded. | | |
| checkWinner() searches for any five-in-a-row streak of black or white in the horizontal, vertical, diagonal-up, or diagonal-down directions. Returns a Stone enumeration | 5 | 5 |
| getMove() makes a valid move on the given array by returning a pair of coordinates, or an empty array if there are no free spaces | 5 | 5 |
| Extra Credit: implements an improved strategy. | 5 | 5 |
| Extra Credit: implements an improved strategy. | 5 | 5 |
| Extra Credit: implements an improved strategy. | 5 | 5 |
| Extra Credit: implements an improved strategy. | | 5 |
| GomokuFrame.java | 10 | 20 |
| Inherits from JFrame | 1 | 1 |
| Constructor creates a new GomokuBoard and takes an instance of a GomokuAI | 2 | 2 |
| The GomokuBoard is stored as a private attribute | 2 | 2 |
| Displays two JLabels that show the score of each player in a JPanel with a 1x2 grid layout | 5 | 5 |
| Adds an event listener to the JButton that calls board.resetGame() | 5 | 5 |
| Adds a mouse listener to the board component. Updates the JLabel text after the PlayHandler mouse listener updates the board. | 5 | 5 |
| Total Score | 115 | 100 |
| Comments: | | |