

# CODE MODE implementation manual

Public class WelcomeScreen

- Extends application class from JavaFX
- Includes many methods as well as the main() method
- First method seen is the start() method
  - This includes all the elements that are seen on the welcome screen, such as the welcomeLabel, startButton, and directionsButton
  - startButton leads user to showNextScreen
  - directionsButton leads user to showDirectionsScreen
  - welcomeBox is the screen which includes all the elements and it's position is set using Margins
  - Scene is made with the margins (600,400)
  - The private showWelcomeScreen method is used where an object is created and the start() method is called
- When the directions button is clicked on by the user, the private method showDirectionsScreen is called
  - backButton which calls showWelcomeScreen() taking the user to the main screen
  - directionsText which displays the directions for the application
  - directionBox created
  - directionsScene is created with same margins as other scenes
- When startButton is pressed in the welcome screen, the private method showNextScreen is displayed
  - backButton created to go back to the welcome screen
  - firstButton which will call the showFirstScreen() method, and take user to section 1 screen of the application
  - secondButton which will call the showSecondScreen() method, and take user to section 2 screen of the application
  - thirdButton which will call the showThirdScreen() method, and take user to section 3 screen of the application
  - nextScreenBox and buttonsBox were created to position the buttons and box, along with the spacing
  - Scene is created with same dimensions as other scenes

- When firstButton is pressed, the showFirstScreen() method is called
  - Labels are created in order for direction of this scene
  - backButton created to go back to showNextScreen()
  - level1Button calls showS1L1Q1Screen() to show the first question for level 1
  - level2Button calls showS1L2Q1Screen() to show the first question for level 2
  - Button boxes are created and scene is created
- When secondButton is pressed, the showSecondScreen() method is called
  - Labels are created in order for direction of this scene
  - backButton created to go back to showNextScreen()
  - level1Button calls showS2L1Q1Screen() to show the first questions for level 2
  - level2Button calls showS2L2Q1Screen() to show the first question for level 2
  - Button boxes and scenes are created
- When thirdButton is pressed, the showThirdScreen() method is called
  - Labels are created in order for direction of this scene
  - backButton created to go back to showNextScreen()
  - level1Button calls showS3L1Q1Screen() to show the first question for level 1
  - level2Button calls showS3L2Q1Screen() to show the first question for level 2
  - Button boxes and scenes are created
- When level1Button is pressed for section one, it calls the method showS1L1Q1, all level 1 questions have the same format described below:
  - S1L1ScreenLabel to clarify what question it is
  - questionLabel to show the question
  - backButton to take user back to showFirstScreen
  - nextButton to take user to the next question (showS1L1Q2)
  - Array answerButtons with [3] elements stored for the multiple choice options
  - Button boxes and scenes created

- When button for the multiple choice question is pressed, it calls the private method `handleAnswerButton()` which uses an if...else statement to turn the button green if correct and red if incorrect
  - This method can be seen in `showS1L1Q1`, `showS1L1Q2`, `showS1L1Q3`, `showS2L1Q1`, `showS2L1Q2`, `showS2L1Q3`, `showS3L1Q1`, `showS3L1Q2`, `showS3L1Q3`
    - Question 3's do not have the `nextButton`, only the `backButton`
- When `level2Button` is pressed for section two, it calls the method `S1L2Q1`, all level 2 question share the same format described below:
  - `S1L2Q1ScreenLabel` to clarify which question it is
  - `questionLabel` to show the question
  - `backButton` to take user back to `showFirstScreen`
  - `textField` `answerField` for the user to type in their answer
  - `checkButton` for the user to click once they have entered in their answer
  - `nextButton` to take them to the next question
  - Button boxes and scenes created
  - Once the back button is pressed, the private method `checkAnswer()` is called where there is an if...else statement to turn the `checkButton` green if correct and red if incorrect
  - This method can be seen in `showS1L2Q1`, `showS1L2Q2`, `showS1L2Q3`, `showS2L2Q1`, `showS2L2Q2`, `showS2L2Q3`, `showS3L2Q1`, `showS3L2Q2`, `showS3L2Q3`
    - Question 3's do not have the `nextButton`, only the `backButton`
      - `showS3L2Q3Screen` also has a `completeButton` which takes the user to `showCertificateScreen`
- When `completeButton` is pressed user is taken to `showCertificateScreen`
  - `showCertificateScreen` has a `Label` with text as the certificate
  - `backButton` to take user back to the welcome screen
  - `congratsText` which congratulates user on completing the questions

- Image of a crown along with positioning of image
- Button boxes and scenes also set
- The main class which ensures the launch of the GUI