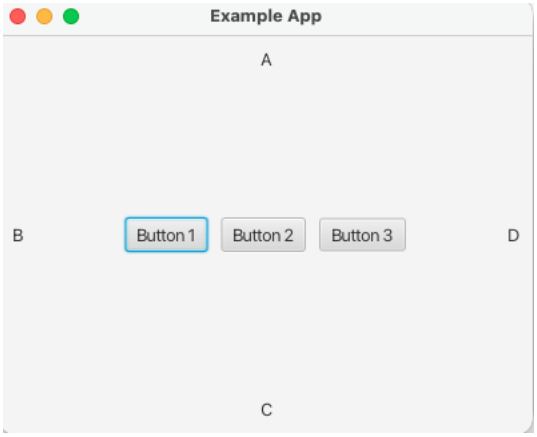
CSC 360, Quiz 5 Practice

1. Describe the layouts and UI controls used to generate the JavaFX application below.



2. The first button object in the above application is referred to by *b1*, whose *event handler* is determined by the following code. What happens if you click on this button?

```
b1.setOnAction(e -> {
        VBox vroot = new VBox();
        vroot.setAlignment(Pos.CENTER);
        vroot.getChildren().addAll(
                new Label ("Thank you!")
        );
        scene.setRoot(vroot);
});
```

3. The application below was created using a GridPane with 2 rows and 4 columns that contains labels for the letters A - H. What is the code used to add the G label to the grid pane, assuming the name of the GridPane object is *grid*?

```
A   B   C   D

E   F   G   H
```

4. In a JavaFX application,
    a. What is the difference between a *stage* and a *scene*?
    b. What method or methods of JavaFX's *Application* class must be overwritten?

    c. What method of *Application* is executed to run the application?
5. What is a *lambda expression* in Java?
6. Based on the LambdaExample from class, what does this code do?

```
printResult((x,y) -> x + y, 3, 2);
```

7. Write a lambda expression that takes an integer and returns the larger of the integer or 0.
8. The *IntPredicate* functional interface is described here: https://docs.oracle.com/javase/8/docs/api/java/util/function/IntPredicate.html

    a. Write a method called *canVote* whose first argument is an object that implements *IntPredicate* and whose second argument is a person's *age*, stored as an *int*. The method outputs the person's age followed by the following: "Eligible to vote: " which is followed by *true* or *false* depending on whether the functional method of *IntPredicate* evaluates to *true* or not. Hint: you need to call the functional method of *IntPredicate* in the *canVote* method.
    b. In the U.S. a person can vote if they are at least 18 years old. Call the *canVote* method to determine whether a 20 year old is eligible to vote.