Venn Diagram Application:
Testing Document

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What test cases were implemented

        This document required many situations for the user to be able to go in and modify information. Due to the large need and desire for the user to modify their Venn diagram to their likings, many additional methods had to be made to do so. Two of the biggest user modifications features this Venn Diagram Application offers is the modification of the colours for each side of the Venn Diagram and the Size of the Venn Diagram the user would like to go and use. Since these two were the biggest desires for modifications of users in the Venn diagram, the test cases were each designed around these two topics of colour (test cases for each customizable colour) and size.

Test Cases and Descriptions

These following test cases are implemented, for size of the Venn diagram and colours with following descriptions. Another addition was the use of Unit testing to test the features of the application that would help it be more user friendly. This was done using JUnit. The other form of testing was done manually by the use of test cases to visualize how the application would act to different user inputs.

Test Case Number	Test Case	Description
1	Venn Diagram Size Test	This test was done to check if the Venn diagram appropriately changed sizes as instructed. The user would have to select a size from the drop-down menu of: Small, Medium, or Large. Once the size was set the user would click the change size button to see if the size of the Venn diagram matched their choosing. Since the Venn-Diagram switches to a different panel so the size would be more appropriate for their liking, this test case looks to see if the application was switched to the correct panel.
2	Circles Colour Test	This test was done to check if the user was able to switch the colour for their respective circle correctly. The user would have to select from a drop-down menu which colour they would like: white (default colour or can be changed back), red, orange, yellow, green blue, indigo, or violet. This application sets the colour of

		only one specific topic at a time which allows for more customizability. This test case looks to check if the value of the colour chosen by the user matches the output colour displayed. Due to the many different circles required for each panel of the application, respective test cases were used for each circle to check for equality.

Derivation of Test Cases and Sufficiency

In order to understand more on why these two main test cases were used, we must first understand where they have gotten derived from. This can range from simply checking for equality of values or to satisfy user needs. The table below will show why these main test cases were sufficient and why they were derived to satisfy the user needs and compilation of the program.

Test Case Number	Test Case	How Test Case was Derived and How are they Sufficient
1	Venn Diagram Size Test	This application requires modification abilities for user satisfaction. One main desire for users is how big or small would they like their Venn diagram to be. The user may also want to write more descriptive points or more simple and precise points. Therefore, the adjustment of the Venn diagram sizes whether it be increase or decrease would be a necessity to satisfy any user's needs. These test cases for size was sufficient enough to satisfy the user needs but in order to be fully sufficient it needed to compile with the program. It is important to consider that the test cases revolved around the size are needed to make sure the diagram switches to the corresponding size and compiles.
2	Circles Colour Test	Another modification required by this application to satisfy user needs would be colour modification.

| | | In order for the user to have some personal customizations they would need colour modifications. To help the user get more customizations it is also important to include modifiability to both of the Venn diagram circle colours. Additionally, the correct transparency had to be used to allow the user to read and modify the points in the middle. |
| | | Similar to the first test case, this test case was sufficient enough just by satisfying the user needs but in order to fully satisfy the application, it must be checked that the colours change respectively. That is why these test cases were needed for the circle colours to make sure the colours changed appropriately. |

Final Thoughts and Test Coverage Discussion

The main purpose for these test cases were to cover the modifying abilities that the user is able to do. Although the user can do many other modifications, the main modification that this application would need to cover is the modifications to increase and decrease the size and the modifications to change the colour of the Venn Diagram. Test cases were needed to cover these aspects of user needs.

The test cases were also needed to check for equality. This means that test cases must ensure that the user switches to the correct colour or the user switches to the correct size based on their choosing. Without test casing the application may not compile correctly and deliver an output that the user was not looking for. That is why the use of these two main test cases were relevant.