**Test Plans:**

**Section 1: Introduction**

"Wandering in the woods" is a straightforward game in which two figures on the screen roam at random across their surroundings. The characters move around the screen in search of a meeting point or a location where they can come together and form one cohesive entity. Two players and a rectangular playing space are required for the most basic version of the game of lost in the woods. As a result of our changes to the game structure, we've been able to add more features and give you greater control over how the playing area is generated and random simulations are done. In order to achieve our final goal, students from different grade levels can participate in our game at their own level of education and understanding.

Due to the fact that it was designed specifically for students of all ages, including teachers, they will have no trouble participating in our game. Also, we wanted the characters to appeal to a younger market, which is why Oggy and Jack were chosen as inspiration. Students can learn about mathematical functions in a pleasant and engaging way if teachers and parents utilize the game to teach them to their children. It was our intention when we designed the game to allow kids to choose their grade level, which in turn allows them to personalize and customize their game or simulation in a variety of ways. The user guide that comes with the game goes into great detail on how kids can choose which game they want to play. The general perception is that the game becomes more challenging as children grow older.

We tried to keep things as easy as possible for students in grades K-2. Those children who select the k-2 option will be presented with a square grid containing only two characters in each of the upper right and lower left corners of the grid. We did offer three different grid sizes to children in this grade level, which they were able to choose from. When they select one of these grids, the game will begin automatically, with the two players moving about the grid at random until they come face to face with one another. The number of moves it takes for the two characters to finally meet is shown once they have met. Grades 3–5 students could construct their own grid from materials that we provided.

**Section 2: Test Plans**

To get the game's outcome, we had to create a substantial amount of custom software. These aims can be accomplished using the program's various features and capabilities. Every component had to be thoroughly tested one at a time to guarantee that it worked as it was supposed to. The following is a summary of the things we looked at that were crucial to the success of our program:

Getting Started with the Game

The first test was carried out when the game's core gameplay was being developed. There was music playing, and users could control the two characters using the arrow keys and the letters 'w, a, s, d’. The screen had an animated background with two characters starting at the top left and bottom right. An audio, visual, and character movement test was conducted to ensure that everything was working as it should. To keep the characters from escaping, we had to move them about the screen while maintaining the boundaries. Around five times this segment of the show was run We wanted users to be able to interact with characters and hear sound, and they were able to do both. A user-acceptance test was also designed, which takes individuals through the game step-by-step. The results of this trial will determine the final layout of the game.

Border Collision Sound and Character meetup

When characters strike a wall or each other, the game should stop playing. This test checked both of those things. We manually moved the characters until they collided on the screen to conduct this test. During this test, the step counter was checked to see if it was functioning properly, and it was. For the sake of accuracy, we ran this function roughly ten times before calling it a day. This test went out without a hitch, and the appropriate number of steps appeared.

Base Testing and Debugging

In order to see if sound plays and if the game pauses when characters collide, I ran this test. It was necessary to manually move the characters across the screen until they came into contact with each other for this experiment. To make sure that the step counter worked properly and that the total number of steps shown when the characters clashed, this test was run as well. In order to ensure that all phases were properly captured, we checked this function approximately ten times. Fortunately, everything went smoothly, and the right number of steps appeared.

Different Map Sizes and Celebration Sound

New map backdrops and a wider range of map sizes were produced. It was fun to provide party noises for when the characters were all together again. We needed to make sure that the code we already had worked with all of the different map sizes, so we experimented with moving the characters about on each one. Additionally, we tried out the celebration sound on a range of different-sized maps. Each map size was tried 5-6 times before we settled on the final one. Map sizes were adopted in a similar manner to how we created our initial map, thus everything appeared to work as expected.

Loop to Take User Back to Main Menu

If a user unintentionally pushed the wrong button, we wanted them to be able to return to a previous screen. Upon completion of the game, we wanted players the option to return to the main menu and play it again. Each button, map size, and player count were all checked to make sure they worked, and users could return to the previous screen if necessary. We had no problems using this feature. It was faultless.

Base Testing

This was a challenging day in general. We wanted to double-check everything and ensure that the functions and features we added were working properly. On the entire code, we ran roughly two dozen tests. We tried every option a person might choose and had no problems. We tweaked a few minor aspects, but the game appeared to be in good working order.

Statistics Test

The option to see the shortest, longest, and average runs of each game mode and player mode has been introduced. We next put the functionality to the test on each of the game modes a few times. The statistics were exported to a.txt file, which the user may see.

Final Testing

The goal of the test was to see how the entire code worked and how the data was displayed. The entire crew conducted their own tests to look for flaws or faults in the code. We discovered a few problems with the statistics and.txt files. We tweaked some code and conducted additional tests.