

System Test Plan

Instructions. In this section, you must provide your system test plan with at least 5 test cases. **If you want to provide more than 5 test cases, add an appendix at the end of this document with the 6th, 7th, etc. test cases so that page numbers for all sections match the required template!**

Make sure:

- You provide your sample test data
- Test IDs are uniquely identified and descriptive
- Test descriptions are fully specified with complete inputs, specific values, and preconditions
 - Be sure to provide SPECIFIC INPUTs and VALUEs so that your test cases are repeatable
- Expected results are fully specified with specific output values
- All tests cover scenarios based on the problem statement
- All tests cover unique scenarios for the system
- All strategies for system testing are demonstrated in the tests (testing equivalence classes, testing boundary values, testing exceptions/unexpected inputs)

Test Data:

The first input file needed for testing is landmarks_sample.csv

```
LANDMARK_ID,DESCRIPTION,TYPE
L01,Park Entrance,Location
L02,Entrance Fountain,Fountain
L03,Waste Station 1,Pet Waste Station
L04,Entrance Restrooms,Restroom
L05,Overlook 1,Overlook
L06,Rock Formation 1,Rock Formation
L07,Overlook 2,Overlook
L08,Overlook Restrooms,Restroom
L09,Waste Station 2,Pet Waste Station
L10,Hidden Gardens,Gardens
L11,Campsite 1,Campsite
L12,Campsite Restrooms,Restroom
```

The second input file needed for testing is trails_sample.csv

LANDMARK_ID, LANDMARK_ID, DISTANCE
L01, L02, 3013
L01, L03, 1046
L01, L04, 1179
L02, L10, 3613
L03, L05, 4204
L04, L09, 2311
L05, L06, 1039
L06, L07, 2912
L07, L08, 1891
L11, L12, 1066

Test ID	Description	Expected Results	Actual Results
Test #1 testID: testInvalidInputFile Strategy: Exception/Unexpected Input Case	Preconditions: The user knows how to start the program and how to locate the desired input files on their own computer. Steps: 1. The user is prompted for a Landmarks file. 2. User enters “non_existent_file.txt” for the landmark information file	System outputs the following: “Unknown or invalid file entered. Please try again.” Then it prompts the user again.	The console prints “Unknown or invalid file entered. Please try again” on the next line, and then prompts the user for a Landmarks file again.

	<ol style="list-style-type: none"> 3. The user is prompted for a Trail file 4. The user enters “non_existent_trials.txt” for the trail information file when prompted 5. Record Results 		
Test #2 testID: testLandmarksReachableFromL02 Strategy: Equivalence Case	Preconditions: User has run the program and inputted trails_sample.csv for the trails file, and landmarks_sample.csv as the landmarks file. Steps: <ol style="list-style-type: none"> 1. The user is prompted for a command. 2. The user enters “Distances L02” 3. Report Results 	System outputs the following: Landmarks Reachable from Entrance Fountain (L02) { 3013 feet to Park Entrance (L01) 3613 feet to Hidden Gardens (L10) 4059 feet to Waste Station 1 (L03) 4192 feet to Entrance Restrooms (L04) 6503 feet (1.23 miles) to Waste Station 2 (L09) 8263 feet (1.56 miles) to Overlook 1 (L05) 9302 feet (1.76 miles) to Rock Formation 1 (L06) 12214 feet (2.31 miles) to Overlook 2 (L07) 14105 feet (2.67 miles) to Overlook Restrooms (L08) }	The following is printed to the console: Landmarks Reachable from Entrance Fountain (L02) { 3013 feet to Park Entrance (L01) 3613 feet to Hidden Gardens (L10) 4059 feet to Waste Station 1 (L03) 4192 feet to Entrance Restrooms (L04) 6503 feet (1.23 miles) to Waste Station 2 (L09)

			<p>8263 feet (1.56 miles) to Overlook 1 (L05)</p> <p>9302 feet (1.76 miles) to Rock Formation 1 (L06)</p> <p>12214 feet (2.31 miles) to Overlook 2 (L07)</p> <p>14105 feet (2.67 miles) to Overlook Restrooms (L08)</p> <p>}</p> <p>(Formatting and contents match expected results)</p>
<p>Test #3</p> <p>testID:</p> <p>testInvalidLocationEntered</p> <p>Strategy:</p> <p>Exception/Unexpected Input Case</p>	<p>Preconditions:</p> <p>The user has started the program and entered trails_sample.csv for the trails file and landmarks_sample.csv for the landmarks file.</p> <p>Steps:</p> <ol style="list-style-type: none"> The user is prompted for a command. 	<p>System outputs the following:</p> <p>“The provided landmark ID (L13) is invalid for the park.”</p>	<p>The following is printed to the console on the next line</p> <p>“The provided landmark ID (L13) is invalid for the park”</p> <p>(Formatting and contents match expected results)</p>

	2. Enter “Distances L13” 3. Record Results		
Test #4 testID: testOneTrailIntersectionInput Strategy: Equivalence Case	Preconditions: The user has started the program and entered trails_sample.csv for the trails file and landmarks_sample.csv for the landmarks file Steps: 1. The user is prompted for a command. 2. Enter “First 1”	System outputs the following: Proposed Locations for First Aid Stations { Park Entrance (L01) - 3 intersecting trails Entrance Fountain (L02) - 2 intersecting trails Entrance Restrooms (L04) - 2 intersecting trails Overlook 1 (L05) - 2 intersecting trails Overlook 2 (L07) - 2 intersecting trails Rock Formation 1 (L06) - 2 intersecting trails Waste Station 1 (L03) - 2 intersecting trails	The following is printed to the console: Proposed Locations for First Aid Stations { Park Entrance (L01) - 3 intersecting trails Entrance Fountain (L02) - 2 intersecting trails Entrance Restrooms (L04) - 2 intersecting trails

	3. Report Results	<p>Campsite 1 (L11) - 1 intersecting trails</p> <p>Campsite Restrooms (L12) - 1 intersecting trails</p> <p>Hidden Gardens (L10) - 1 intersecting trails</p> <p>Overlook Restrooms (L08) - 1 intersecting trails</p> <p>Waste Station 2 (L09) - 1 intersecting trails</p> <p>}</p>	<p>Overlook 1 (L05) - 2 intersecting trails</p> <p>Overlook 2 (L07) - 2 intersecting trails</p> <p>Rock Formation 1 (L06) - 2 intersecting trails</p> <p>Waste Station 1 (L03) - 2 intersecting trails</p> <p>Campsite 1 (L11) - 1 intersecting trails</p> <p>Campsite Restrooms (L12) - 1 intersecting trails</p> <p>Hidden Gardens (L10) - 1 intersecting trails</p> <p>Overlook Restrooms (L08) - 1 intersecting trails</p> <p>Waste Station 2 (L09) - 1 intersecting trails</p> <p>}</p> <p>(Formatting and contents match expected results)</p>
--	--------------------------	---	--

Test #5 testID: testZeroTrailsIntersectingInput Strategy: Boundary Case	Preconditions: The user has started the program and entered trails_sample.csv for the trails file and landmarks_sample.csv for the landmarks file Steps: <ol style="list-style-type: none"> 1. The user is prompted for a command 2. Enter “First 0” 3. Report Results 	System outputs: “Number of intersecting trails must be greater than 0.”	The console prints the following message on the next line: “Number of intersecting trails must be greater than 0.” (Formatting and contents match expected results)
--	---	--	---