Black Box Testing

(Equivalence Class and Boundary Value Testing)

1. View Bus Service and Timing Information

Description of Tests

|  |  |  |
| --- | --- | --- |
| Test ID | Input Description | Expected Output |
| 1 | Attempt a search with a valid bus stop name | System displays the desired bus stop information |
| 2 | Attempt a search with an invalid bus stop name | System displays error message “No bus stop found” with guiding messages |
| 3 | Attempt a search with a valid road name | System displays all desired bus stop information along the road |
| 4 | Attempt a search with an invalid road name | System displays error message “No bus stop found” with guiding messages |
| 5 | Attempt a search with a valid bus stop name during bus service hours | System displays correct bus service numbers and bus timings |
| 6 | Attempt a search with a valid bus stop name during bus service off-hours (conducted at 3am) | System displays error message “No buses found” |

Test Cases Performed

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Inputs | Expected Output | | Actual Output | |
| Bus Stop | Distance (km) | Bus Stop | Distance (km) |
| 1a | “Lee Wee Nam Lib” | “Lee Wee Nam Lib” | 0.15 | “Lee Wee Nam Lib” | 0.15 |
| 1b | “Lee Wee” | “Lee Wee Nam Lib” | 0.15 | “Lee Wee Nam Lib” | 0.15 |
| 1c | “lee WEE” | “Lee Wee Nam Lib” | 0.15 | “Lee Wee Nam Lib” | 0.15 |
| 1d | “Boon Lay Int” | “Boon Lay Int” | 1.70 | “Boon Lay Int” | 1.70 |
| 1e | “Chinese Gdn” | “Chinese Gdn” | 2.96 | “Chinese Gdn” | 2.96 |
| 1f | “min of foreign” | “After Min Of Foreign Affairs” | 9.55 | “After Min Of Foreign Affairs” | 9.55 |
| 2a/4a | “invalidlocation” | No bus stop found | - | No bus stop found | - |
| 2b/4b | “ASD FGH JKL” | No bus stop found | - | No bus stop found | - |
| 2c/4c | “Blk qwerty123” | No bus stop found | - | No bus stop found | - |
| 3a | “Jurong West St 22” | “Blk 729” | 1.10 | “Blk 729” | 1.10 |
| 3b | “WEST st 22” | “Blk 729” | 1.10 | “Blk 729” | 1.10 |
| 3c | “Tuas Ave 5” | “YCH Distripk” | 2.64 | “YCH Distripk” | 2.64 |
| “Chugoku Marine Paints” | 2.64 | “Chugoku Marine Paints” | 2.64 |
| “Times Printers” | 2.65 | “Times Printers” | 2.65 |
| 3d | “LiEn YiNg cH” | “Hall 2” | 0.31 | “Hall 2” | 0.31 |
| “Opp Hall 6” | 0.36 | “Opp Hall 6” | 0.36 |
| “Hall 1” | 0.43 | “Hall 1” | 0.43 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Inputs | Expected Output | | Actual Output | |
| Bus Number | Bus Timings | Bus Number | Bus Timings |
| 5a | Lee Wee Nam Lib | 179 | 8, 20, 48 | 179 | 8, 20, 48 |
| 5b | Opp Blk 643 | 179 | 9, 21, 45 | 179 | 9, 21, 45 |
| 185 | 14 | 185 | 14 |
| 193 | 10, 14 | 193 | 10, 14 |
| 241 | 9, 24, 44 | 241 | 9, 24, 44 |
| 5c | Pioneer Stn Exit B | 179 | 7, 17, 46 | 179 | 7, 17, 46 |
| 192 | 1, 50, 53 | 192 | 1, 50, 53 |
| 241 | 2, 46, 51 | 241 | 2, 46, 51 |
| 258 | 2, 45, 53 | 258 | 2, 45, 53 |
| 974 | 6, 44, 50 | 974 | 6, 44, 50 |
| 6a | Lee Wee Nam Lib | No buses found | - | No buses found | - |
| 6b | Opp Blk 643 | No buses found | - | No buses found | - |
| 6c | Pioneer Stn Exit B | No buses found | - | No buses found | - |

White Box Testing

(Control Flow Testing)

1. View Bus Stop Information

A screenshot of a computer

Description automatically generated with low confidence

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test No. | Basis Path | Inputs | Expected Output | Actual Output |
| 1 | 1, 2, 3, 6, 7  (select from menu) | 6 = Lee Wee Nam Lib selected | System Displays the bus stop information of Lee Wee name Lib bus stop, such as distance, road name and bus services available, and it is accurate | System Displays the bus stop information of Lee Wee name Lib bus stop, such as distance, road name and bus services available, and it is correct |
| 2 | 1, 2, 6, 7  (select from favourites) | 6 = Logishub @ Clementi selected | System Displays the bus stop information of Logishub @ Clementi bus stop, such as distance, road name and bus services available, and it is accurate | System Displays the bus stop information of Logishub @ Clementi bus stop, such as distance, road name and bus services available, and it is accurate |
| 3 | 1, 2, 3, 4, 5, 6, 7  (select from search) | 4 = “Sch of ADM” inputted  6 = Sch of ADM selected | System Displays the bus stop information of Sch of ADM bus stop, such as distance, road name and bus services available, and it is accurate | System Displays the bus stop information of Sch of ADM bus stop, such as distance, road name and bus services available, and it is accurate |
| 4 | 1, 2, 3, 4, 5, 4, 5, 6, 7  (select from search, invalid once) | 4 = “invalidstop” inputted  4 = “Hall 12” inputted  6 = Hall 12 selected | System Displays error message “No bus stops found” on first invalid input  System Displays the bus stop information of Hall 12 bus stop, such as distance, road name and bus services available, and it is accurate | System Displays error message “No bus stops found” on first invalid input  System Displays the bus stop information of Hall 12 bus stop, such as distance, road name and bus services available, and it is accurate |