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| **Project Name**: Calculator | |
| **Test Case** | |
| **Test Case ID**: 106 | **Test Designed by**: Alan |
| **Test Priority (Low/Medium/High)**: Med | **Test Designed date**: 2023.10.22 |
| **Module Name**: Programmer Calculator AND (logical AND) module; | **Test Executed by**: Alan |
| **Test Title**: Logical AND operation of multiple binary numbers within 8 steps; | **Test Execution date**: 2023.10.22 |
| **Description**: User inputs multiple different binary numbers and calculates their cumulative logical AND result using the Programmer Calculator in binary mode. |  |
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| **Pre-conditions**: Programmer Calculator is set to binary mode. | |
| **Dependencies**: | |

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| **Step** | **Test Steps** | **Test Data** | **Expected Result** | **Actual Result** | **Status (Pass/Fail)** | **Notes** |
| 1 | User enters the first binary number; | Enter a valid binary number (e.g., 110101) | The entered binary number is displayed. | The entered binary number (e.g., 110101) is displayed on the calculator. | Pass |  |
| 2 | User presses the "AND" button to select the logical AND operation; | AND | The logical AND operation is selected. | The logical AND operation is selected. | Pass |  |
| 3 | User enters the second binary number; | Enter another valid binary number (e.g., 101110) | The entered binary number is displayed. | The entered binary number (e.g., 101110) is displayed on the calculator. | Pass |  |
| 4 | User presses the "AND" button to select the logical AND operation again; | AND | The logical AND operation is selected. | The logical AND operation is selected. | Pass |  |
| 5 | User enters the third binary number; | Enter a third valid binary number (e.g., 100011) | The entered binary number is displayed. | The entered binary number (e.g., 100011) is displayed on the calculator. | Pass |  |
| 6 | User presses the "AND" button to select the logical AND operation again; | AND | The logical AND operation is selected. | The logical AND operation is selected. | Pass |  |
| 7 | User enters the fourth binary number; | Enter a fourth valid binary number (e.g., 111000) | The entered binary number is displayed. | The entered binary number (e.g., 111000) is displayed on the calculator. | Pass |  |
| 8 | User presses the "=" button to calculate the result; | = | The logical AND operation is performed, and the result is displayed in binary. | The logical AND operation is performed, and the result (e.g., 100000) is displayed in binary. | Pass |  |

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| **Post-conditions:** |
| User has successfully calculated the cumulative logical AND of multiple binary numbers using the Programmer Calculator within 8 steps, and the test case is passed. |