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Abstract

A program which collects student data and stores it in a Hash Map data structure, using a numeric Student ID as a key.

student database  
 project 4

CMIS242 Intermediate Programming

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Figure 1 Successful Compilation of Source Code

Add Function

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Input | Expected Output | Pass/Fail |
| 1 | 1, Steve Thaw, Cyber Security Minor Computer Science | Operation Successful: Student Added | Pass |
| 2 | 2, Nate Temple, Wizardry | Operation Successful: Student Added | Pass |
| 3 | 3, Othello, Ethical Hacking | Operation Successful: Student Added | Pass |
| 4 | 4, Callie Penrose, Religious Studies | Operation Successful: Student Added | Pass |
| 5 | Quinn McKenna, Basket Weaving | "Please enter a Student ID!" | Pass |

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Figure 2 Test Case 1

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Figure 3 Test Case 2

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Figure 4 Test Case 3

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Figure 5 Test Case 4

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Figure 6 Test Case 5

Delete Function

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Input | Expected Output | Pass/Fall |
| 6 | 5 | Student ID does not exist, please use add feature | Pass |
| 7 | 4 | Operation Successful: Student Deleted | Pass |

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Figure 7 Test Case 6

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Figure 8 Test Case 7

Update Function

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Input | Expected Output | Pass/Fail |
| 8 | 1, A, 3 | Update Complete | Pass |
| 9 | 2, B, 2 | Update Complete | Pass |
| 10 | 1, C, 4 | Update Complete | Pass |
| 11 | 4, D, 1 | Student ID Does Not Exist! | Pass |

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Figure 9 Test Case 8-1

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Figure 10 Test Case 8-2

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Figure 11 Test Case 8-3

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Figure 12 Test Case 9-1

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Figure 13 Test Case 9-2

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Figure 14 Test Case 9-3

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Figure 15 Test Case 10-1

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Figure 16 Test Case 10-2

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Figure 17 Test Case 10-3

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Figure 18 Test Case 11

Find Function

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Input | Expected Output | Pass/Fail |
| 12 | 1 | Current Student Data:  Name: Steve Thaw  Major: Cyber Security Minor Computer Science  GPA: 2.86 | Pass |
| 13 | 2 | Current Student Data:  Name: Nate Temple  Major: Wizardry  GPA: 3.00 | Pass |
| 14 | 3 | Current Student Data:  Name: Othello  Major: Ethical Hacking  GPA: 4.00 | Pass |
| 15 | 4 | Student ID Does Not Exist! | Pass |

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Figure 19 Test Case 12

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Figure 20 Test Case 13

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Figure 21 Test Case 14

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Figure 22 Test Case 15