**Compilation**

jamess-imac:program AcousticTime$ g++ -c Input.cpp

jamess-imac:program AcousticTime$ g++ -o program2b program2b.cpp Input.o

jamess-imac:program AcousticTime$

**Test 1**

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 2

Enter the file name to access: test1

Enter the amount of numbers to write: 10

Enter number 1: 160

Enter number 2: 591

Enter number 3: 114

Enter number 4: 229

Enter number 5: 230

Enter number 6: 270

Enter number 7: 128

Enter number 8: 1657

Enter number 9: 624

Enter number 10: 1503

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 3

Enter the file name to access: test1

What would you like to do with this number, 160?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 186

What would you like to do with this number, 591?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 699

What would you like to do with this number, 114?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 132

What would you like to do with this number, 229?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 272

What would you like to do with this number, 230?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 291

What would you like to do with this number, 270?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 331

What would you like to do with this number, 128?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 199

What would you like to do with this number, 1657?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 1890

What would you like to do with this number, 624?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 788

What would you like to do with this number, 1503?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 1601

Would you like to replace the current file or create a new file?

Enter 1 to replace the current file's contents.

Enter 2 to create a new file.

Choice: 1

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 3

Enter the file name to access: test1

What would you like to do with this number, 186?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 15.0

What would you like to do with this number, 699?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 69.9

What would you like to do with this number, 132?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 6.5

What would you like to do with this number, 272?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 22.4

What would you like to do with this number, 291?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 28.4

What would you like to do with this number, 331?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 65.9

What would you like to do with this number, 199?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 19.4

What would you like to do with this number, 1890?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 198.7

What would you like to do with this number, 788?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 38.8

What would you like to do with this number, 1601?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 4

Enter number: 138.2

Would you like to replace the current file or create a new file?

Enter 1 to replace the current file's contents.

Enter 2 to create a new file.

Choice: 1

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 3

Enter the file name to access: test1

What would you like to do with this number, 186?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 15?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 699?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 69.9?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 132?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 6.5?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 272?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 22.4?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 291?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 28.4?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 331?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 65.9?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 199?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 19.4?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 1890?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 198.7?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 788?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 38.8?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 1601?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 138.2?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

Would you like to replace the current file or create a new file?

Enter 1 to replace the current file's contents.

Enter 2 to create a new file.

Choice: 1

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 1

Enter the file name to access: test1

15

69.9

6.5

22.4

28.4

65.9

19.4

198.7

38.8

138.2

**Test 2**

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 2

Enter the file name to access: test2

Enter the amount of numbers to write: 5

Enter number 1: 1

Enter number 2: 2

Enter number 3: 3

Enter number 4: 4

Enter number 5: 5

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 3

Enter the file name to access: test2

What would you like to do with this number, 1?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 101

What would you like to do with this number, 2?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 102

What would you like to do with this number, 3?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 103

What would you like to do with this number, 4?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 104

What would you like to do with this number, 5?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 2

Enter number: 105

Would you like to replace the current file or create a new file?

Enter 1 to replace the current file's contents.

Enter 2 to create a new file.

Choice: 1

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 3

Enter the file name to access: test2

What would you like to do with this number, 101?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 102?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 103?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 104?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 105?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

Would you like to replace the current file or create a new file?

Enter 1 to replace the current file's contents.

Enter 2 to create a new file.

Choice: 2

Enter the file name to access: newtest2

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 1

Enter the file name to access: newtest2

102

104

**Test 3**

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 2

Enter the file name to access: test3

Enter the amount of numbers to write: 10

Enter number 1: 1

Enter number 2: 2

Enter number 3: 3

Enter number 4: 4

Enter number 5: 5

Enter number 6: 6

Enter number 7: 7

Enter number 8: 8

Enter number 9: 9

Enter number 10: 10

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 3

Enter the file name to access: test3

What would you like to do with this number, 1?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 2?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 1

What would you like to do with this number, 3?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 4?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 3

What would you like to do with this number, 5?

Enter 1 to accept this number.

Enter 2 to replace this number.

Enter 3 to delete this number.

Enter 4 to insert a new number after current number.

Enter 5 to accept the remainder of the numbers.

Choice: 5

Would you like to replace the current file or create a new file?

Enter 1 to replace the current file's contents.

Enter 2 to create a new file.

Choice: 1

jamess-imac:program AcousticTime$ ./program2b

What would you like to do?

Enter 1 to read from file.

Enter 2 to write to file.

Enter 3 to modify a file.

Enter 0 to quit.

Choice: 1

Enter the file name to access: test3

1

2

5

6

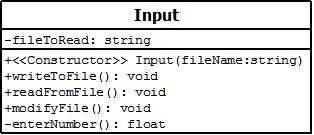
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8

9

10

**UML Class Diagram**



**UML Use Case Diagram**

