Compilation

```
jamess-imac:program AcousticTime$ g++ -c FileCheck.cpp
jamess-imac:program AcousticTime$ g++ -c Input.cpp
jamess-imac:program AcousticTime$ g++ -c LinearRegression.cpp
jamess-imac:program AcousticTime$ g++ -c StringToFloat.cpp
jamess-imac:program AcousticTime$ g++ -o program4A program4A.cpp FileCheck.o
Input.o LinearRegression.o StringToFloat.o
jamess-imac:program AcousticTime$
```

Test 1

```
jamess-imac:program AcousticTime$ ./program6A
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 4 to calculate linear regression and prediction interval.
Enter 0 to quit.
Choice: 4
Enter the x-axis values filename: xvalues

Enter the y-axis values filename: yvalues
Enter the estimated object LOC to use: 386

B0 = -22.5524
B1 = 1.72793

Range 70% = 229.972
UPI 70% = 874.401
LPI 70% = 414.458
Range 90% = 386.053
UPI 90% = 1030.48
LPI 90% = 258.376

Prediction for 386 = 644.429
jamess-imac:program AcousticTime$
```

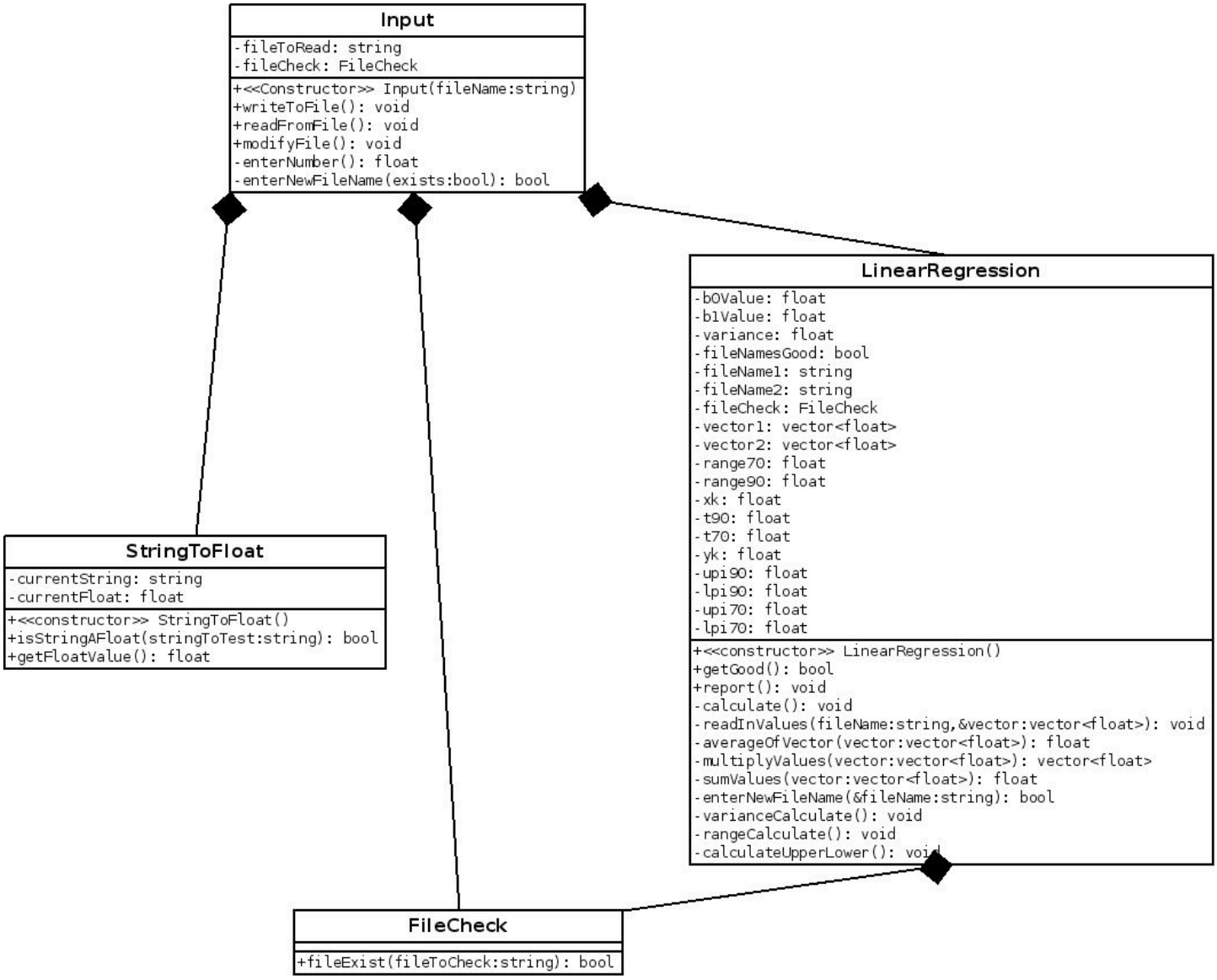
Test 2

```
jamess-imac:program AcousticTime$ ./program6A
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 4 to calculate linear regression and prediction interval.
Enter 0 to quit.
Choice: 4
Enter the x-axis values filename: x

Enter the y-axis values filename: y
Enter the estimated object LOC to use: 2

B0 = 151.055
B1 = -0.279586

Range 70% = 82.6983
UPI 70% = 233.194
LPI 70% = 67.7976
Range 90% = 138.826
UPI 90% = 289.322
LPI 90% = 11.6703

Prediction for 2 = 150.496
```

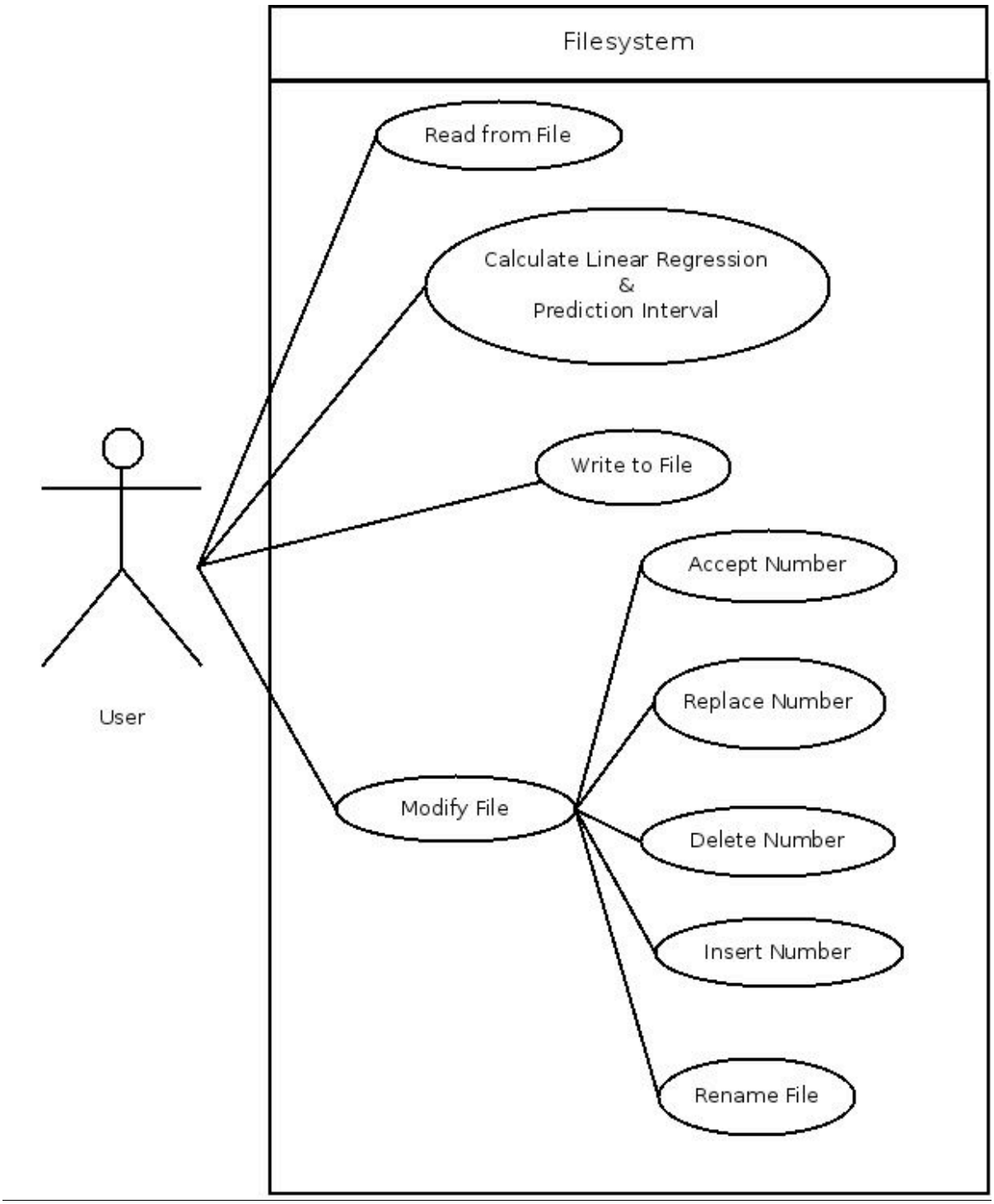
Test 3

```
jamess-imac:program AcousticTime$ ./program6A
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 4 to calculate linear regression and prediction interval.
Enter 0 to quit.
Choice: 4
Enter the x-axis values filename: x

Enter the y-axis values filename: y2
Enter the estimated object LOC to use: 2

B0 = 100.656
B1 = 0.024859

Range 70% = 28.445
UPI 70% = 129.15
LPI 70% = 72.2603
Range 90% = 47.7507
UPI 90% = 148.456
LPI 90% = 52.9547

Prediction for 2 = 100.705
```

UML Class Diagram



UML Use Case Diagram



Test	Parameter	Expected Value	Actual Value
1	B0	-22.55	-22.5524
	B1	1.7279	1.72793
	UPI 70%	874	874.401
	LPI 70%	414	414.458
	UPI 90%	1030	1030.48
	LPI 90%	258	258.376
2	Estimated New and Changed LOC		150.496
	UPI 70%		233.194
	LPI 70%		67.7976
	UPI 90%		289.322
	LPI 90%		11.6703
	Actual New and Changed LOC		78
3	Estimated New and Changed LOC		150.496
	UPI 70%		129.15
	LPI 70%		72.2603
	UPI 90%		148.456
	LPI 90%		52.9597
	Actual Time		121