reverseDLList

Your task is to write a function, reverseDLList, that reverses a given **doubly** linked list. You should **not** change the values in any nodes or create any new nodes - instead, you should rearrange the nodes of the given list.

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The Files

list.c	Contains the implementation of basic list functions
list.h	Contains the definition of the list data structure and function prototypes
testReverseDLList.c	Contains the main function, which reads in a list from standard input, calls reverseDLList, and prints out the original and resulting list.
reverseDLList.c	Contains reverseDLList, the function you must implement
Makefile	A makefile to compile your code
tests/	A directory containing the inputs and expected outputs for some basic tests
autotest	A script that uses the tests in the tests directory to autotest your solution. You should only run this after you have tested your solution manually.

Examples

Your program should behave like these examples:

```
$ ./testReverseDLList
Enter list: 2 3 5 7 11

Original list:
Size: 5
Forwards:  [2] -> [3] -> [5] -> [7] -> [11] -> X
Backwards: [11] -> [7] -> [5] -> [3] -> [2] -> X

Reversed list:
Size: 5
Forwards:  [11] -> [7] -> [5] -> [3] -> [2] -> X
Backwards: [2] -> [3] -> [5] -> [7] -> [11] -> X
```

```
$ ./testReverseDLList
Enter list:

Original list:
Size: 0
Forwards:  X
Backwards: X

Reversed list:
Size: 0
Forwards:  X
Backwards: X
```

```
$ ./testReverseDLList
Enter list: 1 2 7 9 2 1

Original list:
Size: 6
Forwards:  [1] -> [2] -> [7] -> [9] -> [2] -> [1] -> X
Backwards: [1] -> [2] -> [9] -> [7] -> [2] -> [1] -> X

Reversed list:
Size: 6
Forwards:  [1] -> [2] -> [9] -> [7] -> [2] -> [1] -> X
Backwards: [1] -> [2] -> [7] -> [9] -> [2] -> [1] -> X
```

Testing

You can test your program manually by compiling your code using `make`, and then running `./testReverseDLList`, as shown above. After you are satisfied with your solution, you can autotest it by running `./autotest`. This will run some basic tests on your program, as well as check for memory leaks/errors.