CS2303_HW02

For this assignment three programs were created:

1. at – This program demonstrates fixed size integer arrays in C.
2. at2 – This program takes in an array of doubles from the command line, prints them, sorts them, and prints them out again.
3. at3 – This program generates an array of random integers, prints them, sorts them, and prints them out again.

Compilation

To run the program, open the directory into any unix environment and enter make to compile all the source files.

```
$ cd <path to directory>/cs2303_hw02
~/<path to directory>/cs2303_hw02$ make
```

To get doxygen output, configure the target folder in the makefile and enter make docs.

```
$ make docs
```

at usage

```
$ ./at
```

This program doesn't require input from the command line.

Note: This program only prints out 10 integers due to the **INT_ARRAY_SIZE** constant in at.c which can be changed.

at2 usage

```
$ ./at2 double1 double2 double3 double4 double5 double6 double7 double8 double9 double10
```

Parameter	Type	Description
double1	double	**Required**. Any valid double.
double2 to double10	double	Any valid double as well

This program is only designed to handle a maximum of 10 floats due to the **DOUBLE_ARRAY_SIZE** constant in at2.c. This can be changed to handle more input.

Entering any more or any less will result in an error.

at3 usage

```
$ ./at3 max_random num_randoms
```

Parameter	Type	Description
max_random	integer	**Required**. Maximum random number to be populated within the array (inclusive).
num_randoms	integer	**Required**. Number of items to be stored in the array.

This program only requires these two inputs. Entering any more or less will result in an error.

Tests

1. at tests

```
$ ./at
0
1
2
3
4
5
6
7
8
9



$ ./at 10
This program requires no inputs. Try again!
```

2. at2 tests

```
$ ./at2 5.5 10.3 3.7 6.5
Before Sorting:
5.500000
10.300000
3.700000
6.500000
After Sorting:
3.700000
5.500000
6.500000
10.300000


$ ./at2
No arguments were entered. Try again.


$ ./at2 1.1 2.2 3.3 4.4 5.5 6.6 7.7 8.8 9.9 10.1 11.2
The array can only hold 10 elements. You entered 11 elements.
Try again with fewer parameters.
```

3. at3 tests

```
2$ ./at3 10 8
Before Sorting:
9
4
10
6
4
3
0
2
After Sorting:
0
2
3
4
4
6
9
10
```

```
$ ./at3 10 8
Before Sorting:
2
5
10
6
2
4
8
2
After Sorting:
2
2
2
4
5
6
8
10




$ ./at3
Enter an argument into the command line!




$ ./at3 10
You entered 1 argument(s). This program requires exactly 2.
```