

Assignment 2 Design Goals and Test Discussion

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Design Goals

- Ensure that the shared memory is stable by only initializing it once.
- Delegate major tasks, like sorting and semaphore operations, to other files to make main as readable as possible.
- Ensure mutual exclusion using two semaphores, one for A3 and one for A5.
- Have a debug argument to provide more control over debug mode.
- Have debug mode output more useful information about what each process is doing.

Test Discussion

All of the test cases shown below have been verified and all tests were run in standard mode.

Test 1

```
This version of the CSORT program was written by Jeremy Trendoff - 101160306

Welcome to the CSORT Program!
Please follow the prompts!
Enter the char array of length 7 to sort (EXAMPLE: ACVbhic) : XAzMwYD

The sorted array is:
a d m w x y z
```

Test 2

```
This version of the CSORT program was written by Jeremy Trendoff - 101160306

Welcome to the CSORT Program!
Please follow the prompts!
Enter the char array of length 7 to sort (EXAMPLE: ACVbhic) : QHtbUSa

The sorted array is:
a b h q s t u
```

Test 3

```
This version of the CSORT program was written by Jeremy Trendoff - 101160306

Welcome to the CSORT Program!
Please follow the prompts!
Enter the char array of length 7 to sort (EXAMPLE: ACVbhic) : ABcdefG

The sorted array is:
a b c d e f g
```

Test 4

```
This version of the CSORT program was written by Jeremy Trendoff - 101160306

Welcome to the CSORT Program!
Please follow the prompts!
Enter the char array of length 7 to sort (EXAMPLE: ACVbhic) : abcdegf

The sorted array is:
a b c d e f g
```

Test 5

```
This version of the CSORT program was written by Jeremy Trendoff - 101160306

Welcome to the CSORT Program!
Please follow the prompts!
Enter the char array of length 7 to sort (EXAMPLE: ACVbhic) : ZxCVbnm

The sorted array is:
b c m n v x z
```