

# CME213 Spring 2023 Homework 1

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By turning in this assignment, I agree by the Stanford honor code and declare that all of this is my own work.

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## Problem 1

```
1 [=====] Running 8 tests from 1 test suite.
2 [-----] Global test environment set-up.
3 [-----] 8 tests from testMatrix
4 [ RUN      ] testMatrix.sampleTest
5 [         OK ] testMatrix.sampleTest (0 ms)
6 [ RUN      ] testMatrix.emptyMatrix
7 [         OK ] testMatrix.emptyMatrix (0 ms)
8 [ RUN      ] testMatrix.emptyMatrix2
9 [         OK ] testMatrix.emptyMatrix2 (0 ms)
10 [ RUN      ] testMatrix.invalidArgument
11 [         OK ] testMatrix.invalidArgument (0 ms)
12 [ RUN      ] testMatrix.NormL0
13 [         OK ] testMatrix.NormL0 (0 ms)
14 [ RUN      ] testMatrix.elements
15 [         OK ] testMatrix.elements (0 ms)
16 [ RUN      ] testMatrix.out_of_bounds
17 [         OK ] testMatrix.out_of_bounds (0 ms)
18 [ RUN      ] testMatrix.stream_operator
19 [         OK ] testMatrix.stream_operator (0 ms)
20 [-----] 8 tests from testMatrix (0 ms total)
21
22 [-----] Global test environment tear-down
23 [=====] 8 tests from 1 test suite ran. (0 ms total)
24 [ PASSED  ] 8 tests.
```

## Problem 2

```
1 [=====] Running 5 tests from 1 test suite.
2 [-----] Global test environment set-up.
3 [-----] 5 tests from testMatrix
4 [ RUN      ] testMatrix.sampleTest
5 [          OK ] testMatrix.sampleTest (0 ms)
6 [ RUN      ] testMatrix.shape1
7 [          OK ] testMatrix.shape1 (0 ms)
8 [ RUN      ] testMatrix.shape2
9 [          OK ] testMatrix.shape2 (0 ms)
10 [ RUN      ] testMatrix.shape3
11 [          OK ] testMatrix.shape3 (0 ms)
12 [ RUN      ] testMatrix.shape4
13 [          OK ] testMatrix.shape4 (0 ms)
14 [-----] 5 tests from testMatrix (0 ms total)
15
16 [-----] Global test environment tear-down
17 [=====] 5 tests from 1 test suite ran. (0 ms total)
18 [ PASSED  ] 5 tests.
19
```

## Problem 3

```
1 sparse
2 toeplitz
```

## Problem 4

```
1 Range test passed.
2 Number of elements in range [-1, 1]: 6843 (est. = 6830)
```

## Problem 5

```
1 Q5a: PASSED
2 Q5b: PASSED
3 Q5b: PASSED
4 Q5b: PASSED
5 Q5b: PASSED
6 Q5c: PASSED
7 Q5d empty list: PASSED
8 Q5d: PASSED
```