

```

mkharaev@andromeda-3 06:04:56 ~/hw/hw7
$ make
g++ -std=c++11 -Wpedantic -Wall -Wextra -Werror -Weffc++ -Wzero-as-null-pointer-constant test_matrix.cpp -o test_matrix
mkharaev@andromeda-3 06:05:01 ~/hw/hw7
$ ls
Array.h Makefile Matrix.h test_matrix* test_matrix.cpp
mkharaev@andromeda-3 06:05:04 ~/hw/hw7
$ test_matrix
Current Matrix: Rows (4) / Cols (5)
  0  0  0  0  0
  0  1  2  3  4
  0  2  4  6  8
  0  3  6  9 12

Copied matrix using '=' operator
  0  0  0  0  0
  0  1  2  3  4
  0  2  4  6  8
  0  3  6  9 12

Current Matrix: Rows (7) / Cols (3)
  0.00  0.00  0.00
  0.00  1.00  2.00
  0.00  2.00  4.00
  0.00  3.00  6.00
  0.00  4.00  8.00
  0.00  5.00 10.00
  0.00  6.00 12.00

Copied matrix using '=' operator
  0.00  0.00  0.00
  0.00  1.00  2.00
  0.00  2.00  4.00
  0.00  3.00  6.00
  0.00  4.00  8.00
  0.00  5.00 10.00
  0.00  6.00 12.00

Starting...
  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
  0.00  1.00  2.00  3.00  4.00  5.00  6.00  7.00  8.00  9.00
  0.00  2.00  4.00  6.00  8.00 10.00 12.00 14.00 16.00 18.00
  0.00  3.00  6.00  9.00 12.00 15.00 18.00 21.00 24.00 27.00
  0.00  4.00  8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00
  0.00  5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00
  0.00  6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00 54.00
  0.00  7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
  0.00  1.00  2.00  3.00  4.00  5.00  6.00  7.00  8.00  9.00
  0.00  2.00  4.00  6.00  8.00 10.00 12.00 14.00 16.00 18.00
  0.00  3.00  6.00  9.00 12.00 15.00 18.00 21.00 24.00 27.00
  0.00  4.00  8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00
  0.00  5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00
  0.00  6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00 54.00
  0.00  7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00

```

```

0.00 7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
Index out of bounds
Index out of bounds
Done
Current Matrix: Rows (4) / Cols (5)
0 0 0 0 0
0 1 2 3 4
0 2 4 6 8
0 3 6 9 12

Copied matrix using '=' operator
0 0 0 0 0
0 1 2 3 4
0 2 4 6 8
0 3 6 9 12

Current Matrix: Rows (7) / Cols (3)
0.00 0.00 0.00
0.00 1.00 2.00
0.00 2.00 4.00
0.00 3.00 6.00
0.00 4.00 8.00
0.00 5.00 10.00
0.00 6.00 12.00

Copied matrix using '=' operator
0.00 0.00 0.00
0.00 1.00 2.00
0.00 2.00 4.00
0.00 3.00 6.00
0.00 4.00 8.00
0.00 5.00 10.00
0.00 6.00 12.00

Starting...
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 1.00 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00
0.00 2.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00
0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00 27.00
0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00
0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00
0.00 6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00 54.00
0.00 7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 1.00 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00
0.00 2.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00
0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00 27.00
0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00
0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00
0.00 6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00 54.00
0.00 7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
Index out of bounds
Index out of bounds
Done
Current Matrix: Rows (4) / Cols (5)

```

```
Current Matrix: Rows (4) / Cols (5)
0      0      0      0      0
0      1      2      3      4
0      2      4      6      8
0      3      6      9     12
```

```
Copied matrix using '=' operator
0      0      0      0      0
0      1      2      3      4
0      2      4      6      8
0      3      6      9     12
```

```
Current Matrix: Rows (7) / Cols (3)
0.00  0.00  0.00
0.00  1.00  2.00
0.00  2.00  4.00
0.00  3.00  6.00
0.00  4.00  8.00
0.00  5.00 10.00
0.00  6.00 12.00
```

```
Copied matrix using '=' operator
0.00  0.00  0.00
0.00  1.00  2.00
0.00  2.00  4.00
0.00  3.00  6.00
0.00  4.00  8.00
0.00  5.00 10.00
0.00  6.00 12.00
```

```
Starting...
0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
0.00  1.00  2.00  3.00  4.00  5.00  6.00  7.00  8.00  9.00
0.00  2.00  4.00  6.00  8.00 10.00 12.00 14.00 16.00 18.00
0.00  3.00  6.00  9.00 12.00 15.00 18.00 21.00 24.00 27.00
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0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
0.00  1.00  2.00  3.00  4.00  5.00  6.00  7.00  8.00  9.00
0.00  2.00  4.00  6.00  8.00 10.00 12.00 14.00 16.00 18.00
0.00  3.00  6.00  9.00 12.00 15.00 18.00 21.00 24.00 27.00
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0.00  5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00
0.00  6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00 54.00
0.00  7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
```

Index out of bounds

Index out of bounds

Done

mkharaev@andromeda-3 06:05:09 ~/hw/hw7

\$ valgrind test\_matrix

==31875== Memcheck, a memory error detector

==31875== Copyright (C) 2002-2015, and GNU GPL'd, by Julian Seward et al.

==31875== Using Valgrind-3.11.0 and LibVEX; rerun with -h for copyright info

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==31875== Using Valgrind-3.11.0 and LibVEX; rerun with -h for copyright info
==31875== Command: test_matrix
==31875==
Current Matrix: Rows (4) / Cols (5)
  0  0  0  0  0
  0  1  2  3  4
  0  2  4  6  8
  0  3  6  9  12

Copied matrix using '=' operator
  0  0  0  0  0
  0  1  2  3  4
  0  2  4  6  8
  0  3  6  9  12

Current Matrix: Rows (7) / Cols (3)
0.00 0.00 0.00
0.00 1.00 2.00
0.00 2.00 4.00
0.00 3.00 6.00
0.00 4.00 8.00
0.00 5.00 10.00
0.00 6.00 12.00

Copied matrix using '=' operator
0.00 0.00 0.00
0.00 1.00 2.00
0.00 2.00 4.00
0.00 3.00 6.00
0.00 4.00 8.00
0.00 5.00 10.00
0.00 6.00 12.00

Starting...
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 1.00 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00
0.00 2.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00
0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00 27.00
0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00
0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00
0.00 6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00 54.00
0.00 7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 1.00 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00
0.00 2.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00
0.00 3.00 6.00 9.00 12.00 15.00 18.00 21.00 24.00 27.00
0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00
0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00
0.00 6.00 12.00 18.00 24.00 30.00 36.00 42.00 48.00 54.00
0.00 7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
Index out of bounds
Index out of bounds
Done
Current Matrix: Rows (4) / Cols (5)
  0  0  0  0  0

```

```

0      0      0      0      0
0      1      2      3      4
0      2      4      6      8
0      3      6      9     12

Copied matrix using '=' operator
0      0      0      0      0
0      1      2      3      4
0      2      4      6      8
0      3      6      9     12

Current Matrix: Rows (7) / Cols (3)
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0.00  1.00  2.00
0.00  2.00  4.00
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0.00  5.00 10.00
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0.00  2.00  4.00
0.00  3.00  6.00
0.00  4.00  8.00
0.00  5.00 10.00
0.00  6.00 12.00

Starting...
0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
0.00  1.00  2.00  3.00  4.00  5.00  6.00  7.00  8.00  9.00
0.00  2.00  4.00  6.00  8.00 10.00 12.00 14.00 16.00 18.00
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0.00  7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00  0.00
0.00  1.00  2.00  3.00  4.00  5.00  6.00  7.00  8.00  9.00
0.00  2.00  4.00  6.00  8.00 10.00 12.00 14.00 16.00 18.00
0.00  3.00  6.00  9.00 12.00 15.00 18.00 21.00 24.00 27.00
0.00  4.00  8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00
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0.00  7.00 14.00 21.00 28.00 35.00 42.00 49.00 56.00 63.00
Index out of bounds
Index out of bounds
Done
Current Matrix: Rows (4) / Cols (5)
0      0      0      0      0
0      1      2      3      4
0      2      4      6      8
0      3      6      9     12

```

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      0      3      6      9     12
Copied matrix using '=' operator
      0      0      0      0      0
      0      1      2      3      4
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      0      3      6      9     12

Current Matrix: Rows (7) / Cols (3)
      0.00    0.00    0.00
      0.00    1.00    2.00
      0.00    2.00    4.00
      0.00    3.00    6.00
      0.00    4.00    8.00
      0.00    5.00   10.00
      0.00    6.00   12.00

Copied matrix using '=' operator
      0.00    0.00    0.00
      0.00    1.00    2.00
      0.00    2.00    4.00
      0.00    3.00    6.00
      0.00    4.00    8.00
      0.00    5.00   10.00
      0.00    6.00   12.00

Starting...
      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00
      0.00    1.00    2.00    3.00    4.00    5.00    6.00    7.00    8.00    9.00
      0.00    2.00    4.00    6.00    8.00   10.00   12.00   14.00   16.00   18.00
      0.00    3.00    6.00    9.00   12.00   15.00   18.00   21.00   24.00   27.00
      0.00    4.00    8.00   12.00   16.00   20.00   24.00   28.00   32.00   36.00
      0.00    5.00   10.00   15.00   20.00   25.00   30.00   35.00   40.00   45.00
      0.00    6.00   12.00   18.00   24.00   30.00   36.00   42.00   48.00   54.00
      0.00    7.00   14.00   21.00   28.00   35.00   42.00   49.00   56.00   63.00
      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00
      0.00    1.00    2.00    3.00    4.00    5.00    6.00    7.00    8.00    9.00
      0.00    2.00    4.00    6.00    8.00   10.00   12.00   14.00   16.00   18.00
      0.00    3.00    6.00    9.00   12.00   15.00   18.00   21.00   24.00   27.00
      0.00    4.00    8.00   12.00   16.00   20.00   24.00   28.00   32.00   36.00
      0.00    5.00   10.00   15.00   20.00   25.00   30.00   35.00   40.00   45.00
      0.00    6.00   12.00   18.00   24.00   30.00   36.00   42.00   48.00   54.00
      0.00    7.00   14.00   21.00   28.00   35.00   42.00   49.00   56.00   63.00
Index out of bounds
Index out of bounds
Done
==31875==
==31875== HEAP SUMMARY:
==31875==    in use at exit: 72,704 bytes in 1 blocks
==31875==   total heap usage: 202 allocs, 201 frees, 79,046 bytes allocated
==31875==
==31875== LEAK SUMMARY:
==31875==    definitely lost: 0 bytes in 0 blocks
==31875==    indirectly lost: 0 bytes in 0 blocks
==31875==    possibly lost: 0 bytes in 0 blocks

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==31875==    possibly lost: 0 bytes in 0 blocks
==31875==   still reachable: 72,704 bytes in 1 blocks
==31875==    suppressed: 0 bytes in 0 blocks
==31875== Rerun with --leak-check=full to see details of leaked memory
==31875==
==31875== For counts of detected and suppressed errors, rerun with: -v
==31875== ERROR SUMMARY: 0 errors from 0 contexts (suppressed: 0 from 0)
mkharaev@andromeda-3 06:05:21 ~/hw/hw7
$

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