

Feedback

Mögliche Punkte

Test	Punkte
test_calloc_alloc	2
test_calloc_complex	2
test_calloc_alloc_next_fit	1.5
test_calloc_alloc_one	2
test_calloc_size_cases	1.5
test_calloc_free_complex	2.5
test_calloc_free_one	2
test_calloc_last_allocated_usage	2.5
test_calloc_oom	2
test_calloc_simple	2
test_mmu_accessed	1
test_mmu_extended	1
test_mmu_modified_011	0.5
test_mmu_modified_111	0.5
test_mmu_no_permission	1
test_mmu_not_present	1
test_mmu_offset	1.5
test_mmu_page_to_kachel	1.5
test_mmu_valid_pid	1
test_mmu_valid_ptbr	1

Erreichte Punkte

Test	Punkte
test_calloc_alloc	2.0
test_calloc_complex	2.0
test_calloc_alloc_next_fit	1.5
test_calloc_alloc_one	2.0
test_calloc_size_cases	0.0
test_calloc_free_complex	2.5
test_calloc_free_one	2.0
test_calloc_last_allocated_usage	2.5
test_calloc_oom	2.0
test_calloc_simple	2.0
test_mmu_accessed	1.0
test_mmu_extended	1.0
test_mmu_modified_011	0.5
test_mmu_modified_111	0.5

Test	Punkte
test_mmu_no_permission	1.0
test_mmu_not_present	1.0
test_mmu_offset	1.5
test_mmu_page_to_kachel	1.5
test_mmu_valid_pid	1.0
test_mmu_valid_ptbr	1.0
TOTAL	28.5

Logs

Lines longer than 400 characters are cropped! Logs longer than 300 lines are cropped!

test_mmu_modified_011.log

```
1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
   out/test_src/mmu.c tests/test_mmu_modified_011.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED
```

test_calloc_oom.log

```
1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
   out/test_src/calloc.c tests/test_calloc_oom.c
2 >> Running Test (with 60 sec timeout)
3 --- Beginning of memory layout ---
4 +-----+
5 | Block at:      0x5625adb1a098 |
6 | - - - - - - - - - - - - |
7 | Prev at:      (nil) |
8 | Next at:      0x5625adb1a110 |
9 | Availability:      used |
10 | Size:      96 |
11 | Data (first 8 Bytes): |
12 |   ASCII : A.A.A.A.A.A.A |
13 |   HEX   : 0x41 0x41 0x41 0x41 |
14 |           0x41 0x41 0x41 0x41 |
15 +-----+
16 | Block at:      0x5625adb1a110 |
17 | - - - - - - - - - - - - |
18 | Prev at:      0x5625adb1a098 |
19 | Next at:      (nil) |
20 | Availability:      free |
21 | Size:      8 |
22 +-----+
23 ----- End of memory layout -----
```

```

24
25 First allocation:
26 Expected: not NULL
27 Got      : 0x5625adb1a0b0
28
29 Last allocation:
30 Expected: (nil)
31 Got      : (nil)
32 RESULT: PASSED

```

test_calloc_complex.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_complex.c
2 >> Running Test (with 60 sec timeout)
3 Allocating three times
4 Freeing all
5 --- Beginning of memory layout ---
6 +-----+
7 | Block at:      0x55ffc905b0c0 |
8 | - - - - - - - - - - |
9 | Prev at:      (nil) |
10 | Next at:      0x55ffc905b0e8 |
11 | Availability:      used |
12 | Size:      16 |
13 | Data (first 8 Bytes): |
14 |   ASCII : D.D.D.D.D.D.D |
15 |   HEX   : 0x44 0x44 0x44 0x44 |
16 |           0x44 0x44 0x44 0x44 |
17 +-----+
18 | Block at:      0x55ffc905b0e8 |
19 | - - - - - - - - - - |
20 | Prev at:      0x55ffc905b0c0 |
21 | Next at:      0x55ffc905b110 |
22 | Availability:      free |
23 | Size:      16 |
24 +-----+
25 | Block at:      0x55ffc905b110 |
26 | - - - - - - - - - - |
27 | Prev at:      0x55ffc905b0e8 |
28 | Next at:      0x55ffc905b138 |
29 | Availability:      used |
30 | Size:      16 |
31 | Data (first 8 Bytes): |
32 |   ASCII : F.F.F.F.F.F.F |
33 |   HEX   : 0x46 0x46 0x46 0x46 |
34 |           0x46 0x46 0x46 0x46 |
35 +-----+
36 | Block at:      0x55ffc905b138 |
37 | - - - - - - - - - - |

```

```

38 | Prev at:      0x55ffc905b110 |
39 | Next at:      0x55ffc905b160 |
40 | Availability:      used |
41 | Size:          16 |
42 | Data (first 8 Bytes): |
43 |   ASCII : G.G.G.G.G.G.G |
44 |   HEX   : 0x47 0x47 0x47 0x47 |
45 |           0x47 0x47 0x47 0x47 |
46 +-----+
47 | Block at:      0x55ffc905b160 |
48 | - - - - - - - - - - |
49 | Prev at:      0x55ffc905b138 |
50 | Next at:      (nil) |
51 | Availability:      free |
52 | Size:          1048392 |
53 +-----+
54 ----- End of memory layout -----
55 Expected block count: 5
56 Final block count   : 5
57 Concatenating data
58 Expected: DDDDDDDDDFFFFFFFFFGGGGGGGGG
59 Found    : DDDDDDDDDFFFFFFFFFGGGGGGGGG
60 Freeing everything
61 Initial memory      : 1048552
62 Final free memory: 1048552
63 Expected block count: 1
64 Final block count   : 1
65 RESULT: PASSED

```

test_mmu_extended.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_extended.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_mmu_no_permission.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_no_permission.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_calloc_simple.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_simple.c
2 >> Running Test (with 60 sec timeout)
3 Doing three allocations

```

```

4 --- Beginning of memory layout ---
5 +-----+
6 | Block at:      0x5640b86c80f0 |
7 | - - - - - - - - - - |
8 | Prev at:      (nil) |
9 | Next at:      0x5640b86c8110 |
10 | Availability:      used |
11 | Size:      8 |
12 | Data (first 8 Bytes): |
13 |   ASCII : A.A.A.A._._._._ |
14 |   HEX   : 0x41 0x41 0x41 0x41 |
15 |           0x00 0x00 0x00 0x00 |
16 +-----+
17 | Block at:      0x5640b86c8110 |
18 | - - - - - - - - - - |
19 | Prev at:      0x5640b86c80f0 |
20 | Next at:      0x5640b86c8130 |
21 | Availability:      used |
22 | Size:      8 |
23 | Data (first 8 Bytes): |
24 |   ASCII : B.B._._._._._ |
25 |   HEX   : 0x42 0x42 0x00 0x00 |
26 |           0x00 0x00 0x00 0x00 |
27 +-----+
28 | Block at:      0x5640b86c8130 |
29 | - - - - - - - - - - |
30 | Prev at:      0x5640b86c8110 |
31 | Next at:      0x5640b86c8158 |
32 | Availability:      used |
33 | Size:      16 |
34 | Data (first 8 Bytes): |
35 |   ASCII : C.C.C.C.C.C.C.C |
36 |   HEX   : 0x43 0x43 0x43 0x43 |
37 |           0x43 0x43 0x43 0x43 |
38 +-----+
39 | Block at:      0x5640b86c8158 |
40 | - - - - - - - - - - |
41 | Prev at:      0x5640b86c8130 |
42 | Next at:      (nil) |
43 | Availability:      free |
44 | Size:      384 |
45 +-----+
46 ----- End of memory layout -----
47 Comparing order of memory
48
49 Expected: AAAABBCCCCCCCC
50 Found   : AAAABBCCCCCCCC
51
52 Freeing all allocations
53

```

```
54 Total memory at start: 512
55 Total memory at end  : 512
56
57 Final block count: 1
58 Expected          : 1
59 RESULT: PASSED
```

test_calloc_alloc.log

```
1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_alloc.c
2 >> Running Test (with 60 sec timeout)
3 Expected: 0x557e38cf0080
4 Found    : 0x557e38cf0080
5 RESULT: PASSED
```

test_calloc_size_cases.log

```
1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_size_cases.c
2 >> Running Test (with 60 sec timeout)
3 In this test, the storage has the space for exactly four
  8-byte-allocations + 3 memblocks.
4 Allocating left block L.
5 Checking allocation...
6 Checking order
7   Expected: L#
8   Ok.
9 checking memory variables...
10  ok
11
12 Trying to allocate Block B. It should be too large.
13 Checking order
14   Expected: L#
15   Ok.
16 checking memory variables...
17  OK.
18
19 Trying to allocate Block C with size 8. It should be small
  enough for a new memblock to be created. Checking order
20   Expected: LC#
21   Ok.
22 checking memory variables...
23  OK.
24
25 Trying to allocate Block D with Size 16. It should fit, and
  the remaining space is too small for a new free block
26 thus, the remaining storage should be allocated to
  BChecking order
```

```

27 Expected: LCD
28 Ok.
29 checking memory variables...
30 Memory variable values do not concur with allocations.
    Failed test.
31 Used Memory usage fault. Should be 56, but is 32!
32 RESULT: FAILED

```

test_mmu_accessed.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_accessed.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_calloc_free_one.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_free_one.c
2 >> Running Test (with 60 sec timeout)
3 allocating one block of requested size 16
4 freeing block
5 checking if lsb is unset: LSB is set
6 checking if memory variables are as expected: Memory
  Variables Ok.
7 ### passed Test ###
8 RESULT: PASSED

```

test_mmu_page_to_kachel.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_page_to_kachel.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_mmu_modified_111.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_modified_111.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_calloc_alloc_one.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_alloc_one.c
2 >> Running Test (with 60 sec timeout)
3 allocating one block of requested size 14

```

```

4 checking if lsb is set
5 LSB is set
6 checking if size got rounded up
7 size is 16
8 checking if memory variables are as expected
9 Memory Variables Ok.
10 ### passed Test ###
11 RESULT: PASSED

```

test_mmu_valid_ptbr.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_valid_ptbr.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_mmu_valid_pid.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_valid_pid.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_mmu_not_present.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_not_present.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_calloc_free_complex.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_free_complex.c
2 >> Running Test (with 60 sec timeout)
3 This test checks the correct freeing of Elements. The
  storage has space for three 8-byte allocations + 3
  Memblocks.
4 Creating 3 blocks.
5 Checking order
6 Expected: ABC
7 Ok.
8 checking memory variables...
9 ok
10 Freeing B.
11 Checking order
12 Expected: A#C
13 Ok.

```



```

14 checking memory variables...
15 ok
16 Freeing C.
17 Checking order
18 Expected: A#
19 Ok.
20 checking memory variables...
21 ok
22 Freeing A.
23 Checking order
24 Expected: #
25 Ok.
26 checking memory variables...
27 ok
28 RESULT: PASSED

```

test_calloc_last_allocated_usage.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c
  tests/test_calloc_last_allocated_usage.c
2 >> Running Test (with 60 sec timeout)
3 This test checks the correct usage of last_element. The
  storage has space for three 8-byte allocations + 3
  Memblocks.
4 Creating 3 blocks.
5 --- Beginning of memory layout ---
6 +-----+
7 | Block at:      0x55a7493190a8 |
8 | - - - - - - - - - - - - |
9 | Prev at:      (nil) |
10 | Next at:      0x55a7493190c8 |
11 | Availability:      used |
12 | Size:      8 |
13 | Data (first 8 Bytes): |
14 |   ASCII : L.L.L.L.L.L.L.L |
15 |   HEX   : 0x4c 0x4c 0x4c 0x4c |
16 |           0x4c 0x4c 0x4c 0x4c |
17 +-----+
18 | Block at:      0x55a7493190c8 |
19 | - - - - - - - - - - - - |
20 | Prev at:      0x55a7493190a8 |
21 | Next at:      0x55a7493190e8 |
22 | Availability:      used |
23 | Size:      8 |
24 | Data (first 8 Bytes): |
25 |   ASCII : M.M.M.M.M.M.M.M |
26 |   HEX   : 0x4d 0x4d 0x4d 0x4d |
27 |           0x4d 0x4d 0x4d 0x4d |
28 +-----+

```

```

29 | Block at:      0x55a7493190e8 |
30 | - - - - - - - - - - |
31 | Prev at:      0x55a7493190c8 |
32 | Next at:      (nil) |
33 | Availability:      used |
34 | Size:      8 |
35 | Data (first 8 Bytes): |
36 |   ASCII : R.R.R.R.R.R.R.R |
37 |   HEX   : 0x52 0x52 0x52 0x52 |
38 |           0x52 0x52 0x52 0x52 |
39 +-----+
40 ----- End of memory layout -----
41 Checking order
42 Expected: LMR
43 Ok.
44 Freeing M.
45 Checking order
46 Expected: L#R
47 Ok.
48 Reallocating M.
49 Checking order
50 Expected: LMR
51 Ok.
52 Freeing L.
53 Checking order
54 Expected: #MR
55 Ok.
56 Freeing M.
57 Checking order
58 Expected: #R
59 Ok.
60 Reallocating L. This checks test case
61 Checking order
62 Expected: L#R
63 Ok.
64 RESULT: PASSED

```

test_mmu_offset.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/mmu.c tests/test_mmu_offset.c
2 >> Running Test (with 60 sec timeout)
3 RESULT: PASSED

```

test_calloc_alloc_next_fit.log

```

1 clang -Wno-everything -Wfatal-errors -fcommon -std=c11 -o
  out/test src/calloc.c tests/test_calloc_alloc_next_fit.c
2 >> Running Test (with 60 sec timeout)

```

```

3 This test checks the correct implementation of the next fit
  algorithm.
4 An # in the Test output marks a free block.
5 Creating 4 blocks - A B C D, each of size 8. Storage has
  exactly the space needed.
6 --- Beginning of memory layout ---
7 +-----+
8 | Block at:      0x563c036930a8 |
9 | - - - - - - - - - - - - |
10 | Prev at:      (nil) |
11 | Next at:      0x563c036930c8 |
12 | Availability:      used |
13 | Size:      8 |
14 | Data (first 8 Bytes): |
15 |   ASCII : A.A.A.A.A.A.A |
16 |   HEX   : 0x41 0x41 0x41 0x41 |
17 |           0x41 0x41 0x41 0x41 |
18 +-----+
19 | Block at:      0x563c036930c8 |
20 | - - - - - - - - - - - - |
21 | Prev at:      0x563c036930a8 |
22 | Next at:      0x563c036930e8 |
23 | Availability:      used |
24 | Size:      8 |
25 | Data (first 8 Bytes): |
26 |   ASCII : B.B.B.B.B.B.B |
27 |   HEX   : 0x42 0x42 0x42 0x42 |
28 |           0x42 0x42 0x42 0x42 |
29 +-----+
30 | Block at:      0x563c036930e8 |
31 | - - - - - - - - - - - - |
32 | Prev at:      0x563c036930c8 |
33 | Next at:      0x563c03693108 |
34 | Availability:      used |
35 | Size:      8 |
36 | Data (first 8 Bytes): |
37 |   ASCII : C.C.C.C.C.C.C |
38 |   HEX   : 0x43 0x43 0x43 0x43 |
39 |           0x43 0x43 0x43 0x43 |
40 +-----+
41 | Block at:      0x563c03693108 |
42 | - - - - - - - - - - - - |
43 | Prev at:      0x563c036930e8 |
44 | Next at:      (nil) |
45 | Availability:      used |
46 | Size:      8 |
47 | Data (first 8 Bytes): |
48 |   ASCII : D.D.D.D.D.D.D |
49 |   HEX   : 0x44 0x44 0x44 0x44 |
50 |           0x44 0x44 0x44 0x44 |

```

```
51 +-----+
52 ----- End of memory layout -----
53 Checking order
54   Expected: ABCD
55   Ok.
56 Freeing A,C, and D.
57 Checking order
58   Expected: #B#
59   Ok.
60 Reallocating CD.
61 Checking order
62   Expected: #BCD
63   Ok.
64 Freeing CD.
65 Checking order
66   Expected: #B#
67   Ok.
68 Reallocating C.
69 Checking order
70   Expected: #BC#
71   Ok.
72 Reallocating D.
73 Freeing C.
74 Reallocating A.
75 Checking order
76   Expected: AB#D
77   Ok.
78 RESULT: PASSED
```