

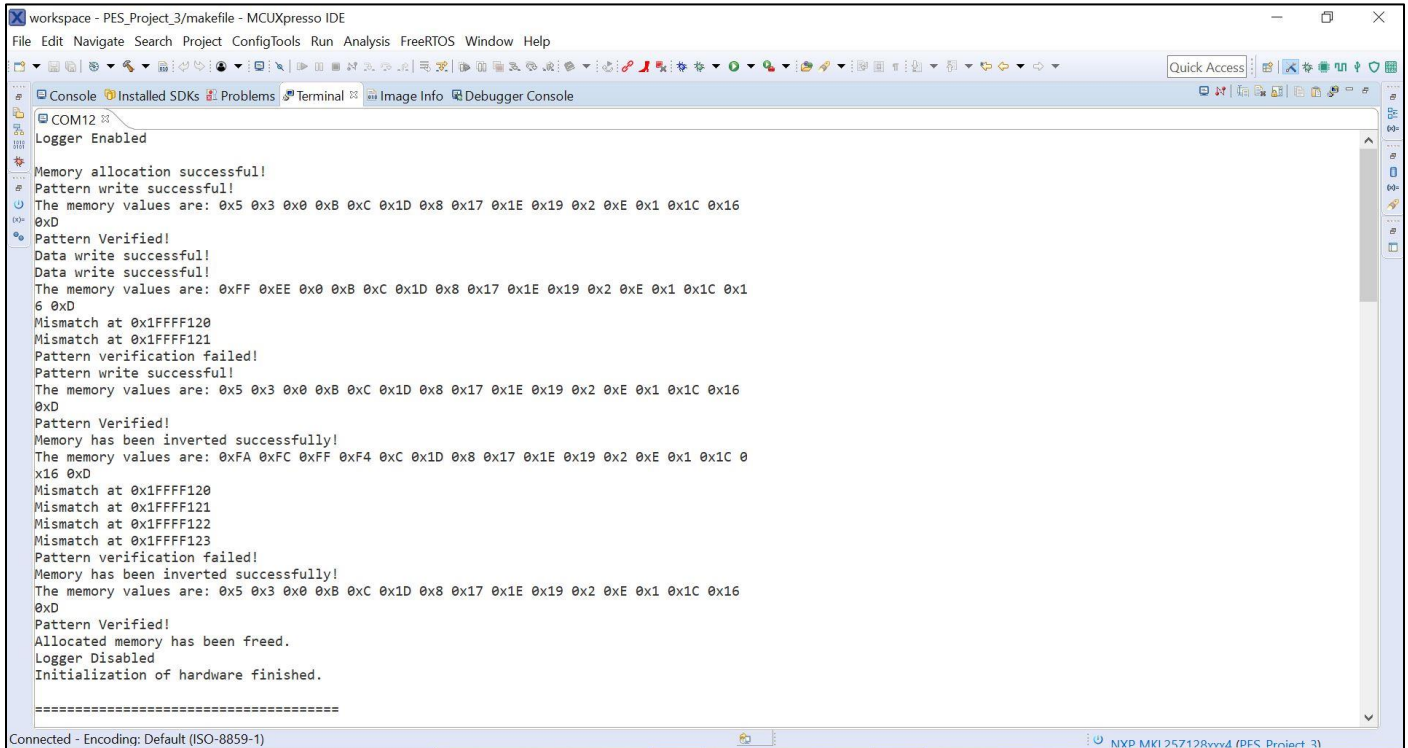
Principles of Embedded Software

Project – 3: Memory Functions and Tests

Project By – Gitanjali Suresh (gisu9983) and Sarayu Managoli (sama2321)

This file includes the screenshots of the outputs when the same program was run on different platforms i.e., on KL25Z Freedom Board and on the computer (PC).

Outputs from the terminal console on MCUXpresso IDE – Freedom Board Version

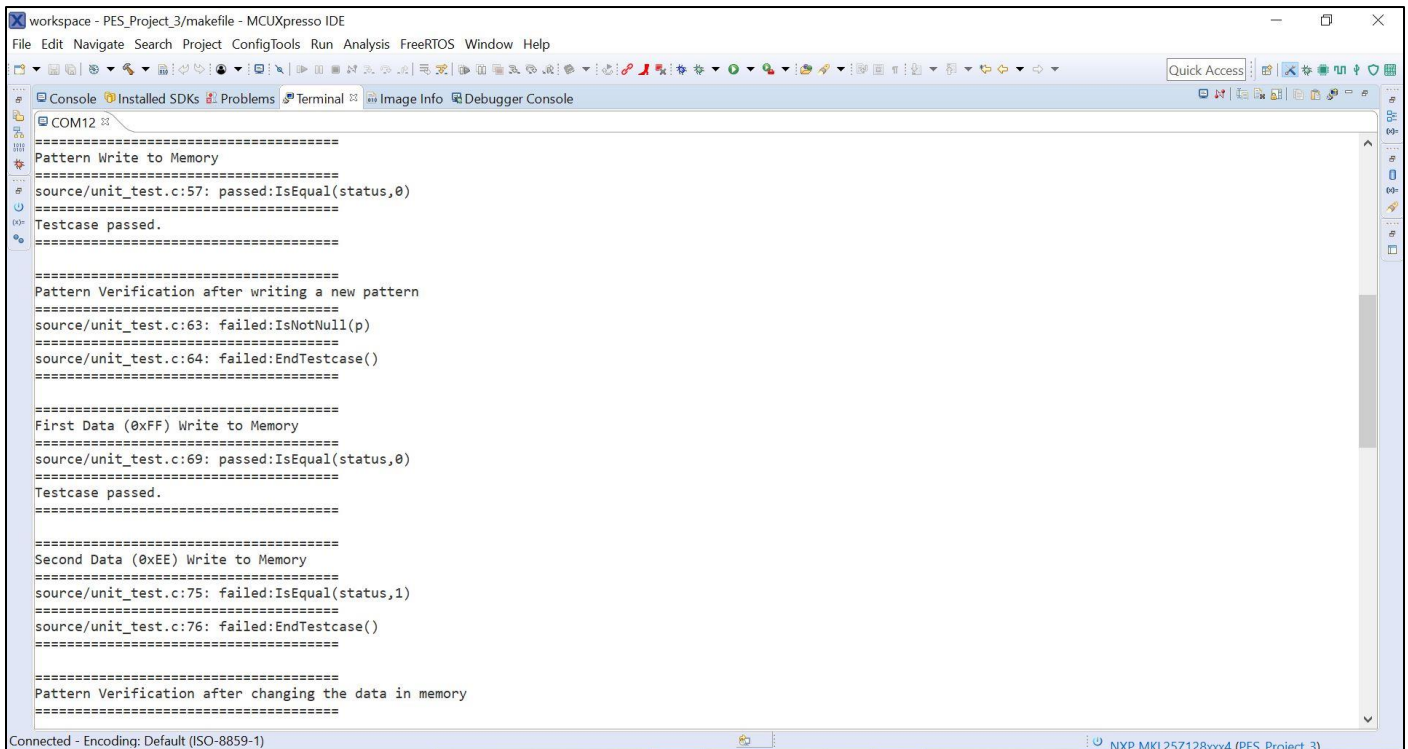


```
workspace - PES_Project_3/makefile - MCUXpresso IDE
File Edit Navigate Search Project ConfigTools Run Analysis FreeRTOS Window Help

Console Installed SDKs Problems Terminal Image Info Debugger Console
COM12
Logger Enabled

Memory allocation successful!
Pattern write successful!
The memory values are: 0x5 0x3 0x0 0xB 0xC 0xD 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16
0xD
Pattern Verified!
Data write successful!
Data write successful!
The memory values are: 0xFF 0xEE 0x0 0xB 0xC 0xD 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16
6 0xD
Mismatch at 0x1FFFF120
Mismatch at 0x1FFFF121
Pattern verification failed!
Pattern write successful!
The memory values are: 0x5 0x3 0x0 0xB 0xC 0xD 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16
0xD
Pattern Verified!
Memory has been inverted successfully!
The memory values are: 0xFA 0xFC 0xFF 0xF4 0xC 0xD 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0
x16 0xD
Mismatch at 0x1FFFF120
Mismatch at 0x1FFFF121
Mismatch at 0x1FFFF122
Mismatch at 0x1FFFF123
Pattern verification failed!
Memory has been inverted successfully!
The memory values are: 0x5 0x3 0x0 0xB 0xC 0xD 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16
0xD
Pattern Verified!
Allocated memory has been freed.
Logger Disabled
Initialization of hardware finished.

=====
Connected - Encoding: Default (ISO-8859-1)
NXP MK125712Rev4 (PES_Project_3)
```



```
workspace - PES_Project_3/makefile - MCUXpresso IDE
File Edit Navigate Search Project ConfigTools Run Analysis FreeRTOS Window Help

Console Installed SDKs Problems Terminal Image Info Debugger Console
COM12

=====
Pattern Write to Memory
=====
source/unit_test.c:57: passed:IsEqual(status,0)
=====
Testcase passed.
=====

=====
Pattern Verification after writing a new pattern
source/unit_test.c:63: failed:IsNotNull(p)
=====
source/unit_test.c:64: failed:EndTestcase()
=====

=====
First Data (0xFF) Write to Memory
=====
source/unit_test.c:69: passed:IsEqual(status,0)
=====
Testcase passed.
=====

=====
Second Data (0xEE) Write to Memory
=====
source/unit_test.c:75: failed:IsEqual(status,1)
=====
source/unit_test.c:76: failed:EndTestcase()
=====

=====
Pattern Verification after changing the data in memory
=====
Connected - Encoding: Default (ISO-8859-1)
NXP MK125712Rev4 (PES_Project_3)
```

```
workspace - PES_Project_3/makefile - MCUXpresso IDE
File Edit Navigate Search Project ConfigTools Run Analysis FreeRTOS Window Help
Quick Access
Console Installed SDKs Problems Terminal Image Info Debugger Console
COM12
=====
Pattern Verification after changing the data in memory
=====
source/unit_test.c:81: passed:IsNotNull(p)
=====
Testcase passed.
=====

Pattern Write to Memory
=====
source/unit_test.c:87: passed:IsEqual(status,0)
=====
Testcase passed.
=====

Pattern Verification after writing a new pattern
=====
source/unit_test.c:93: passed:IsNull(p)
=====
Testcase passed.
=====

Inverting Memory
=====
source/unit_test.c:99: passed:IsEqual(status,0)
=====
Testcase passed.
=====

Pattern Verification after inverting a block of memory
=====

Connected - Encoding: Default (ISO-8859-1)
NXP MK1257128xxx4 (PES_Project_3)
```

```
workspace - PES_Project_3/makefile - MCUXpresso IDE
File Edit Navigate Search Project ConfigTools Run Analysis FreeRTOS Window Help
Quick Access
Console Installed SDKs Problems Terminal Image Info Debugger Console
COM12
Testcase passed.
=====

Pattern Verification after inverting a block of memory
=====
source/unit_test.c:105: failed:IsNotNull(p)
source/unit_test.c:106: failed:EndTestcase()
=====

Inverting Memory back again into original form
=====
source/unit_test.c:111: passed:IsEqual(status,0)
=====
Testcase passed.
=====

Pattern Verification after 2nd inversion of the same block of memory
=====
source/unit_test.c:117: passed:IsNull(p)
=====
Testcase passed.
=====

Testcases: failed: 3
           passed: 8
Checks:   failed: 3
           passed: 8
=====
System shutdown!
█

Connected - Encoding: Default (ISO-8859-1)
NXP MK1257128xxx4 (PES_Project_3)
```

Outputs from the command prompt on Windows 10 – Computer Version (PC)

```
Command Prompt - PES_Project_3.exe
Microsoft Windows [Version 10.0.18362.418]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Gitanjali Suresh>cd Desktop

C:\Users\Gitanjali Suresh\Desktop>PES_Project_3.exe

Logger Enabled
Memory allocation successful!
Pattern write successful!
The memory values are: 0x5 0x3 0x0 0xB 0xC 0x1D 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16 0xD
Pattern Verified!
Data write successful!
Data write successful!
The memory values are: 0xFF 0xEE 0x0 0xB 0xC 0x1D 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16 0xD
Mismatch at 0x6A4548
Mismatch at 0x6A4549
Pattern verification failed!
Pattern write successful!
The memory values are: 0x5 0x3 0x0 0xB 0xC 0x1D 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16 0xD
Pattern Verified!
Memory has been inverted successfully!
The memory values are: 0xFA 0xFC 0xFF 0xF4 0xC 0x1D 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16 0xD
Mismatch at 0x6A4548
Mismatch at 0x6A4549
Mismatch at 0x6A454A
Mismatch at 0x6A454B
Pattern verification failed!
Memory has been inverted successfully!
The memory values are: 0x5 0x3 0x0 0xB 0xC 0x1D 0x8 0x17 0x1E 0x19 0x2 0xE 0x1 0x1C 0x16 0xD
Pattern Verified!
Allocated memory has been freed.
Logger Disabled
Initializaion of hardware finished.

=====
Pattern Write to Memory
=====
source/unit_test.c:57: passed:IsEqual(status,0)
=====
Testcase passed.
```

```
Select Command Prompt - PES_Project_3.exe

=====
Testcase passed.
=====

=====
Pattern Verification after writing a new pattern
=====
source/unit_test.c:63: failed:IsNotNull(p)
=====
source/unit_test.c:64: failed:EndTestcase()
=====

=====
First Data (0xFF) Write to Memory
=====
source/unit_test.c:69: passed:IsEqual(status,0)
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Testcase passed.
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=====
Second Data (0xEE) Write to Memory
=====
source/unit_test.c:75: failed:IsEqual(status,1)
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source/unit_test.c:76: failed:EndTestcase()
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=====
Pattern Verification after changing the data in memory
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source/unit_test.c:81: passed:IsNotNull(p)
=====
Testcase passed.
=====

=====
Pattern Write to Memory
=====
source/unit_test.c:87: passed:IsEqual(status,0)
=====
```

```
Select Command Prompt - PES_Project_3.exe
=====
Testcase passed.
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Pattern Verification after writing a new pattern
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source/unit_test.c:93: passed:IsNull(p)
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Inverting Memory
=====
source/unit_test.c:99: passed:IsEqual(status,0)
=====
Testcase passed.
=====

Pattern Verification after inverting a block of memory
=====
source/unit_test.c:105: failed:IsNull(p)
=====
source/unit_test.c:106: failed:EndTestcase()
=====

Inverting Memory back again into original form
=====
source/unit_test.c:111: passed:IsEqual(status,0)
=====
Testcase passed.
=====

Pattern Verification after 2nd inversion of the same block of memory
=====
source/unit_test.c:117: passed:IsNull(p)
=====
```

```
Select Command Prompt - PES_Project_3.exe
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Testcase passed.
=====

Pattern Verification after inverting a block of memory
=====
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Pattern Verification after 2nd inversion of the same block of memory
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source/unit_test.c:117: passed:IsNull(p)
=====
Testcase passed.
=====

*****
Testcases: failed: 3
          passed: 8
Checks:   failed: 3
          passed: 8
*****

System Shutdown!!
```