

Chapter 7: bugs, clarifications, and tips

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Document versions

- 10/18/2021: initial version
- 11/3/2021: added:
 - **Bug** in the book and code (Nucleo_F767ZI_Init.c), page 158

Chapter 7: The FreeRTOS Scheduler (pg 153)

- **Tip**, page 155
 - SEGGER_SYSVIEW_PrintfHost() has a number of bugs, and it is not documented adequately.
 - The study-guide's web-page on [SystemView](#) has a section on SEGGER_SYSVIEW_PrintfHost(). It describes those bugs and provides some of the omitted documentation.
 - There are no bugs in SEGGER_SYSVIEW_PrintfHost(), for the call to it here on page 155.
- **Tip**, page 155
 - Code shown: vTaskDelay(1500/ portTICK_PERIOD_MS);
 - The IDE can be used to track-down the value of portTICK_PERIOD_MS. Right-click on the variable and select "Open Declaration".
 - So, portTICK_PERIOD_MS is 1 ms:

```
#define portTICK_PERIOD_MS ( ( TickType_t ) 1000 / configTICK_RATE_HZ )
#define configTICK_RATE_HZ ( (TickType_t)1000)
```

 - And, vTaskDelay(1500/ portTICK_PERIOD_MS) will delay for 1.5 seconds
- **Tip**, page 158
 - The book states, "The x prefix of xTaskCreation signifies that it returns something."
 - This prefix-use is from the FreeRTOS naming conventions, which are defined here:
 - <https://www.freertos.org/FreeRTOS-Coding-Standard-and-Style-Guide.html#NamingConventions>
- **Bug** in the book and code (Nucleo_F767ZI_Init.c), page 158
 - Problem:
 - There is a bug in the function call:

```
SEGGER_SYSVIEW_PrintfHost("Assertion Failed:file %s \ ...)
```

 - That SystemView function does not support the format-placeholder "%s".
 - When "%s" is used, the function will compile and run. However, no string will be displayed for it in the SystemView app, e.g., in the Terminal window.
 - Also, the function-call's line-continuation is incorrect, as it inadvertently inserts extra blanks into the output-string.
 - Solution:
 - One solution is to use snprintf() to create the output-string. Then, use SEGGER_SYSVIEW_PrintfHost() to display that output-string on the SystemView app.
 - This solution is implemented here:
 - https://github.com/jimyull/embedded-systems-projects-01/blob/main/book--Hands-On-RTOS/chapter-7--Nucleo_F767ZI_Init--fixed.c
 - Additional info:
 - SEGGER_SYSVIEW_PrintfHost() has a number of bugs, and it is not documented adequately.
 - The present study-guide has a web-page on [SystemView](#), and it includes a section on SEGGER_SYSVIEW_PrintfHost(). That section describes those bugs, and it provides some of the omitted documentation.
- **Clarification**, page 159
 - xTaskCreateStatic() has not yet been described. A description is on page 165.
- **Bug** in the book's code (Chapter_7.jdebug), page 163
 - This file has the same bugs that were described for Chapters5_6.jdebug, in the web-page for Chapters 4-6.
- **Clarification**, page 163
 - When opening the project in Ozone, there is a red-colored warning-message:


```
Warning (98): The symbol location decoder encountered an unsupported operand: 0xFA.
```

 - It appears the warning can be ignored, as the system seems to work OK anyway.
 - I couldn't find a posted solution on the Internet, for this warning.
 - The warning message is documented in the Ozone *User Guide*:
 - The rightmost table-entry is just an example fix.

98	The symbol location decoder encountered an unsupported operand	Unsupported debug symbol format or extension	Change the debug information output format (e.g. from DWARF-5 to DWARF-4)
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