

Report for Peer Graded Assignment: Assignment 1

Source code:

<https://github.com/wantingchen/FreeRTOS-GCC-ARM926ejs>

Environment for test: Ubuntu 16.04

First I need an environment to run FreeRTOS. To do let we must have:

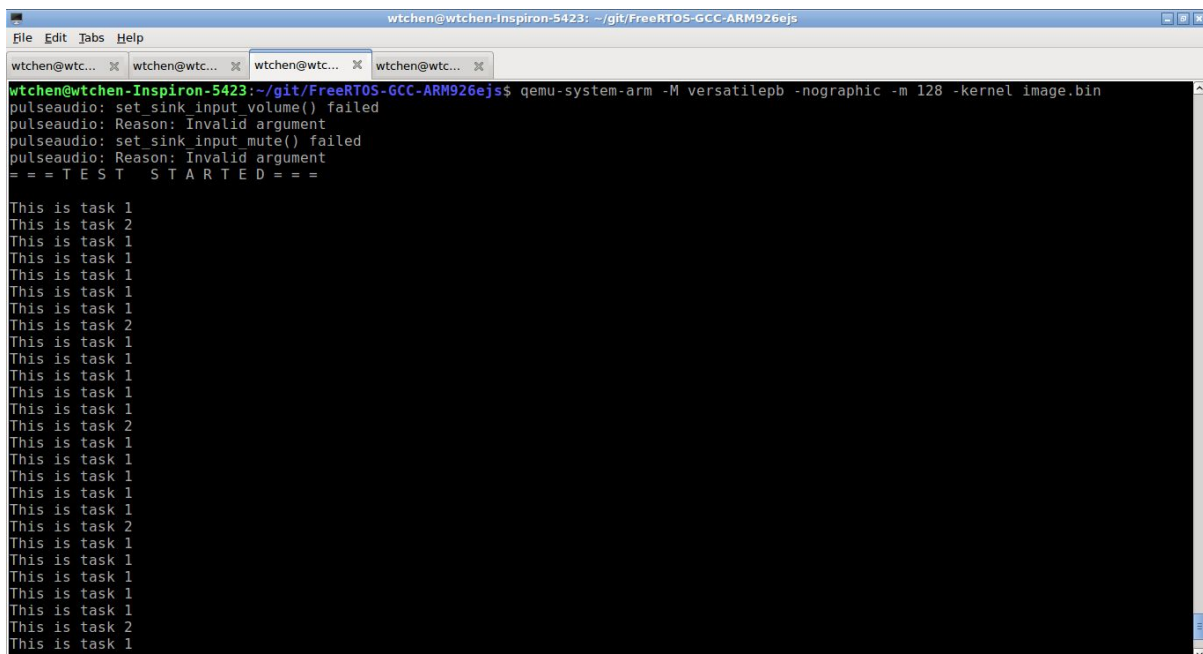
1. A real hardware or machine emulator which FreeRTOS can be install in it.
2. One set of library/driver which allows FreeRTOS to control the hardware.
3. FreeRTOS source code.
4. A main.c which creates the required tasks.

I make a fork from here : <https://github.com/jkovacic/FreeRTOS-GCC-ARM926ejs> , which is the [FreeRTOS](#) (v9.0.0) ported to [ARM Versatile Platform Baseboard](#), based on the ARM926EJ-S CPU. In the other words, this project contains the 2. and 3. of the above requirements, then I could modify the main.c which satisfies the requirements of this assignment. In order to use the syntax of C11, I have added GCC flag -std=gnu11.

(Since v.9.0.0 is the latest version, and I also asked on forum if I can use this version but no response, so I assume the professor agrees.)

I use [QEMU](#), a generic and open source machine emulator and virtualizer, to emulate the ARM926ejs. You can install qemu-system-arm by using apt-get in ubuntu.

Here is the screenshot of the execution:



```
wtchen@wtchen-Inspiron-5423: ~/git/FreeRTOS-GCC-ARM926ejs
File Edit Tabs Help
wtchen@wtc... wtchen@wtc... wtchen@wtc... wtchen@wtc...
wtchen@wtchen-Inspiron-5423:~/git/FreeRTOS-GCC-ARM926ejs$ qemu-system-arm -M versatilepb -nographic -m 128 -kernel image.bin
pulseaudio: set_sink_input_volume() failed
pulseaudio: Reason: Invalid argument
pulseaudio: set_sink_input_mute() failed
pulseaudio: Reason: Invalid argument
== T E S T   S T A R T E D ==

This is task 1
This is task 2
This is task 1
This is task 1
This is task 1
This is task 1
This is task 1
This is task 2
This is task 1
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This is task 1
This is task 1
This is task 1
This is task 2
This is task 1
This is task 1
This is task 1
This is task 1
This is task 2
This is task 1
This is task 1
This is task 1
This is task 2
This is task 1
```

Reference :

- <http://wiki.qemu.org/download/qemu-doc.html#ARM-System-emulator>