CMPE-250 Assembly and Embedded Programming

Laboratory Exercise 9

Serial I/O driver

By submitting this report, I attest that its contents are wholly my individual writing about this exercise and that they reflect the submitted code. I further acknowledge that permitted collaboration for this exercise consists only of discussions of concepts with course staff and fellow students. Other than code provided by the instructor for this exercise, all code was developed by me.

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After the program was written and compiled, the executable was loaded into a KL-05 board to be tested.

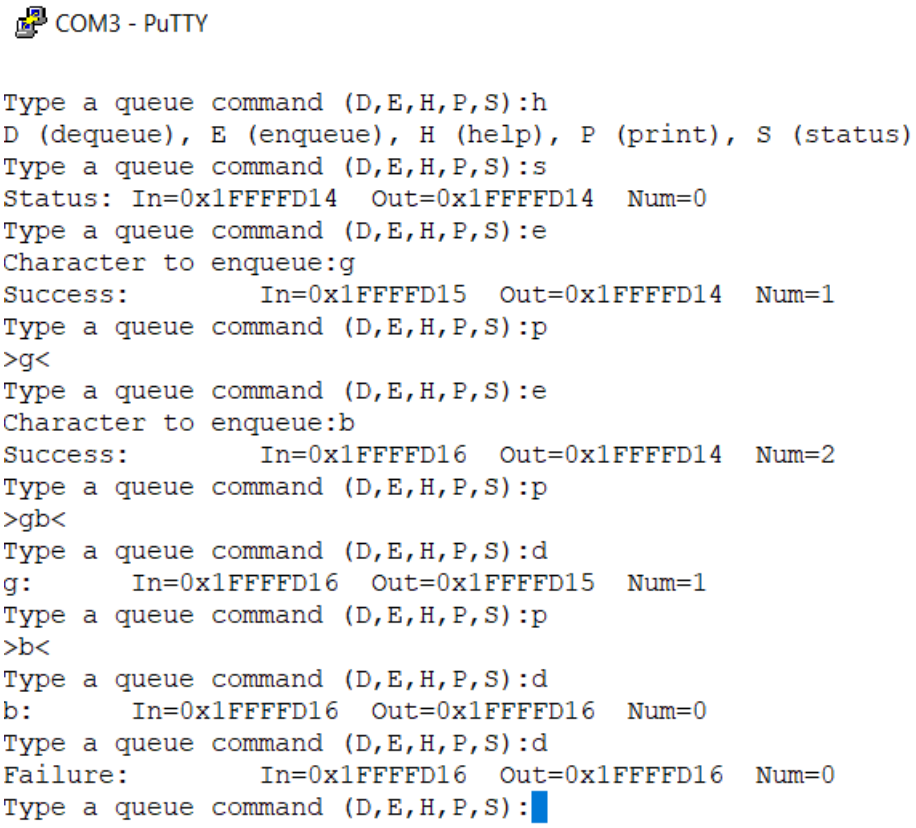

Figure 1: Terminal screen capture using interrupt for IO

Figure 1 shows the output of the terminal after each prompt command was used in various steps. The output is the same as from laboratory exercise 7. This is expected as the change being made in this exercise is the way the IO works not the way the main program works. Because the output is seen in both exercises, the

Memory-map addresses

Table 1: Code section offsets and endings.

Subroutine	Start Address	Ending Address
Executable code	0x00000410	0x000008e3
UART_ISR	0x0000075f	0x0000079c
Constants	0x000001c4	0x000002bb
Program Queue	0x1ffffd00	0x1ffffd11
RxQueue	0x1ffffd18	0x1ffffd29
TxQueue	0x1ffffd2c	0x1ffffd3d