EIE3105 Quiz 3 (Serial Port Programming) (60 minutes)

Instructions:
1. You should open a new project for each question. The project name should be Quiz< version no.><question no.>, e.g., Quiz3AQ1.
2. At the beginning of each header file or program file, you have to add a comment to show your student name and identity number, e.g., // Chan Tai Man, 01234567D.
3. This quiz carries four marks.

Question 1 (1 mark)

Write a C program to complete the following task: Open Tera Term and connect it to your microcontroller. Set the baud rate at 9600, 8-bit data, no parity bit and 1 stop bit. When the user types in a character, your program should send it to Tera Term with the character 'A' at front and the character 'a' at back. For example, when the user types in the character 'X', your program should send the string "AXa" to Tera Term. Note that you must use a serial port interrupt in serial port communication programming.

Question 2 (3 marks)

Write a C program to complete the following task: Open Tera Term and connect it to your microcontroller. Set the baud rate at 9600, 8-bit data, no parity bit and 1 stop bit.

At the beginning, the character 'A' sends to the serial port repeatedly in every second. When the user types the character 's', your program should send the character 'S' to Tera Term and stop sending the character 'A' to the serial port. When the user types the character 'r', your program should send the character 'R' to Term Tera and the character 'A' sends to the serial port repeatedly in every second again. Note that you must use interrupts in both timer programming and serial port communication programming.

Note that:
1. Exclude the overhead due to the instructions in a loop in timer programming.
2. Using simple loops without timers or using built-in functions to count the delay is not acceptable.

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