1) Name the two operations that can be performed on a semaphore.

2) For the first operation you named in Question 1, how does this operation change the value of the semaphore? When would this operation be called by a process using the semaphore?

3) For the second operation you named in Question 1, how does this operation change the value of the semaphore? When would this operation be called by a process using the semaphore?

4) For Project 2, what is the purpose of Sys_RegDeliver? When is this function called?

5) For Project 2, how is it possible to tell if a process is about to start executing in user space?

6) For Unix, name one catchable signal and one non-catchable signal.

7) In Setup_Frame, your program is required to "Push onto the user stack a snapshot of the interrupt state that is currently stored at the top of the kernel stack". Show how to calculate the size of the memory to be copied during this step.

8) Setup_Frame requires your program to push a number of items onto the user stack. How will you access the user stack pointer? Either provide a correct description of where it is and how you will access it or provide the correct code.
References: [1]:

http://users.actcom.co.il/~choo/lupg/tutorials/signals/signals-programming.html

[2]:

http://www.cs.umd.edu/class/spring2013/cmsc412/project2/