E85: Digital Design and Computer Engineering
Problem Set 7

1) *Pointers

   In the following code, suppose the g array is stored in memory starting at
   address `0x00001000`. What is the value of sp?

   ```
   typedef struct grades {
         char name[64];
         unsigned long id;
         float scores[11];
   } grades;

   grades g[60]; // grades for class

   float *sp = &g[7].scores[3];
   ```

2) Datasheets
   Write a snippet of C code to turn on the clock in the RCC to the USART1
   Universal Synchronous/Asynchronous Receiver/Transmitter on a
   STM32F042K6.

3) Impact on Society: Pick a sector such as consumer appliances, automotive,
   aviation, toys, military, etc. Write a thoughtful and evidence-based
   paragraph about how the availability of inexpensive microcontrollers has
   transformed the design of products in your sector.

How long did you spend on this problem set? This will not count toward your grade
but will help calibrate the workload.