CmpSci 201
Lab 6

In this lab you'll generate code for doing allocation. Remember the semantics of `SWI #h00F0000F`: it will tack 1K of new memory onto the end of your current heap and return the starting address of that 1K page in R0.

Recall the pseudo-code in lecture:

```
alloc(int n)
{
  while(freespace < n)
  {
    getAnotherPage();
    freespace += 1024;
  }

  int start = heap;

  heap += n;

  freespace -= n;

  return start;
}
```

Implement this function in assembly. Test it by allocating strings of arbitrary lengths (for instance, 2000 characters). Try storing to the strings (using strb) and make sure the values are being stored correctly by retrieving them (using ldrb). It is not necessary to examine the entire string. But be sure to check the beginning, some of the middle, and the end. Trust me, you don't want your allocation function to make mistakes.

Submitting your answers:

To submit your answers, email the code to trekp@cs.umass.edu with the subject line set to: "CS201 Lab 6, <your name>", where <your name> is replaced with your actual name. Attach your code as a file named prob1.s .