Lab 3

We have covered most integer instructions in MIPS, including simple loads/stores, arithmetic, if-else, and looping. Follow the steps below to practice these ideas.

You may work with a partner, if you wish.

1. Create an array of 10 integers (in the data section) with the following values in order:

   11, 59, 2, 97, -4, -66, -45, 22, 19, -34

2. Calculate and display the sum of the first three values (no loop needed). (*arrays, addressing, load*)

   _____ Show me your result.

3. Write a loop that will display **every other** integer in the list, one per line. (*for loop, addressing, load*)

   _____ Show me your result.

4. Modify the program again (or write a new one) so that **all** of the negative values are displayed before **all** of the positive values. Note that you do not have to sort the list. In fact, I don't *want* them in sorted order. (*if-else, looping*)

   _____ Show me your result.

5. Modify the previous program so that instead of displaying all of the negative before the positive values, negative values are displayed in a column on the left side of the screen and positive values in a column on the right side. For example, the output for the array above is shown below. *Hint: Write the program in C++ or Python first. While this program is not long, coming up with the solution may be non-trivial.*

   ```
   -4    11
   -66   59
   -45   2
   -34   97
         22
         19
   ```

   _____ Show me your result.