In this worksheet, you will write MATLAB code to calculate various items. You and your partner will work on a single paper, and pencil is suggested. No computers are allowed.

As soon as you are finished, you should hand in your sheet. If one of the classroom helpers says it is correct, you may leave early, or work on your laboratory. If there is a mistake, you and your partner will need to go back and work on the problems some more. You may ask for help from other pairs. The classroom helpers will walk around and give hints, but not tell you the answers. When the class ends, you must hand in this paper.

The questions refer to the array `diabetics`, which is a $10 \times 4$ array containing the number of diagnosed diabetics in the ten most populous counties in Texas broken down by age: 0-17, 18-44, 45-65 and over 65. Assume that the `diabetics` array is sorted by population so that the information for the most populous county appears first.

1. Draw and label a diagram of the `diabetics` array.

2. Define a variable containing the overall total number of diagnosed diabetics.

3. Define a variable for the overall percentage of diabetics that were children.

4. Define a variable for the overall total of diabetics in the 3\textsuperscript{rd} most populous county.
5. Consider the following list of values \([-1, -1, 2, 4]\). Calculate the following (actual numbers, not code). Show your work in the table for c, d, and e/f.

   a) Average:

   b) Median:

   c) Average Absolute deviation from the mean (AAD):

   d) Median Absolute deviation from the median (MAD):

   e) Variance:

   f) Standard deviation:

<table>
<thead>
<tr>
<th>Deviation (error)</th>
<th>Absolute dev</th>
<th>Squared error</th>
<th>Dev from med</th>
<th>Abs dev from med</th>
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<tbody>
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<td>( x )</td>
<td>( x - \text{avg of } x )</td>
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<td>x - \text{avg of } x</td>
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<td><strong>Totals</strong></td>
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