1. Determine the domain and range of the following Snap! blocks:

   a. ![contains block]
      
      Domain: ________________, ________________
      Range: ______________________________

   b. ![set block]
      
      Domain of foo: _________________________
      Range of foo: _________________________
      Data type of var: ______________________

   c. ![item block]
      
      Domain of foo: ________________, __________
      Range of foo: _________________________

2. Fill in the table below with the domain and range of the following higher-order functions:

<table>
<thead>
<tr>
<th>Higher Order Function</th>
<th>Domain</th>
<th>Range</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>![map block]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>![keep items block]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>![combine block]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Higher Order Functions

1. Fill in the blanks so the keep block returns a list of the positive numbers from MyList. You may assume MyList only contains numbers.

```
keep items from
```

2. Write an expression that returns the sum of the squares of the numbers in YourList. You may assume that YourList only contains numbers.

```

```

3. Describe in words what the following block outputs. You may assume OurList is a list of words.

```
```

4. Write an expression that takes in a list, var, and returns whether there is a word with over 5 letters in the list. You may not use length of or contains thing in your solution.

```
```

5. What is the output of the following block?

```
```
Challenge

1. For the questions below, determine if the two expressions are equivalent for all possible reporters \(F\) and lists \(DATA\).

   a. \(\text{map} \ F \ \over \ \text{DATA}\), \(\text{map} \ F \ \over \ \text{DATA}\)  
      \(\bigcirc \text{yes} \ \bigcirc \text{no}\)

   b. \(\text{map} \ F \ \over \ \text{DATA}\)  , \(\text{map} \ F \ \over \ \text{DATA}\)  
      \(\bigcirc \text{yes} \ \bigcirc \text{no}\)

   c. \(\text{map} \ F \ \over \ \text{DATA}\)  , \(\text{map} \ F \ \over \ \text{DATA}\)  
      \(\bigcirc \text{yes} \ \bigcirc \text{no}\)

   d. \(\text{map} \ F \ \over \ \text{DATA}\)  , \(\text{F} \ \text{DATA}\)  
      \(\bigcirc \text{yes} \ \bigcirc \text{no}\)

2. What is the output of the following block?

3. Which higher order function(s) could we use to solve the following problems? If there are multiple ways to solve the problem, indicate the most concise way to solve it (i.e. if there is a solution that uses 2 higher order functions and another that uses just 1, answer with the solution that uses just 1). You may assume you have access to any helper functions, as long as they don’t use any loops in them.

   a. Given a list of numbers, find the smallest number above 10.
      __________________________________________

   b. Given a list of words, we want to find the word that comes first alphabetically.
      __________________________________________

   c. Given a list of lists, return the first item from each list.
      __________________________________________