Entrance Quiz

0) Programming language(s) you know: ______________________________________

1) Write the method `sumSquares` which takes two integers as inputs. The first integer is guaranteed to be less than the second integer. `sumSquares` does not print anything. It returns the sum of the squares of the integers between the two inputs (inclusive).

Here are sample usages:

```java
print sumSquares(1,5)     // prints 55 (1 + 4 + 9 + 16 + 25)
print sumSquares(-2,2)    // prints 10 (4 + 1 + 0 + 1 + 4)
```

2) Write the method `sumList` which takes an array of real numbers as its input. `sumList should not print anything`, but it should return the sum of the elements in the list. You can assume that there’s a method called “Length,” or a function that takes a one-dimensional array as input and returns the number of elements in the array.

Usage:

```java
array<float> theList = new array<float>()
theList.add(1.5);
theList.add(2.0);
theList.add(3.2);
theList.add(4.8);
print sumList(theList) // prints 11.5 (1.5 + 2.0 + 3.2 + 4.8)
```
3) Write the method `initArray` which takes any two-dimensional array of integers as its input. `initArray` returns nothing; the result of the call to `initArray` is that all of the elements are set to the products of their indices except when the row and column indices are equal, which should be 0. You can assume that the “Length” function is still available to use.

Usage:

```java
int[][] array2D = new int[3][6];
initArray(array2D); // initializer
print array2D[2][4] // prints 8 (2*4)
print array2D[3][5] // prints 15 (3*5)
print array2D[3][3] // prints 0 (as above)
```

4) Below is the truth table for the boolean operator XOR, which takes as input two boolean (True or False) values. Write a function `xor(A, B)` that returns the XOR of its two inputs.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>xor(A, B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
</tr>
<tr>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
</tr>
<tr>
<td>FALSE</td>
<td>TRUE</td>
<td>TRUE</td>
</tr>
<tr>
<td>FALSE</td>
<td>FALSE</td>
<td>FALSE</td>
</tr>
</tbody>
</table>