CS100M Grading Guide: Project 4

The coded items below (e.g., c1e, s2a) indicate what a student's solution should accomplish. Codes that begin with the letter 'c' deals with correctness; codes that begin with 's' deals with style.

**Grader:** If a student's solution does not accomplish task c1a, for example, then write the task code 'c1a' along with any diagnostic remarks you can give. Count the number of correctness and style errors separately. In the table below, the top row lists the possible scores (1 to 5). The next row lists the number of correctness errors corresponding to every score category. The style score is determined similarly. Enter the total score (maximum of 10) in CMS as the project score. If there are bonus questions, enter any bonus points separately in the "Bonus Bucket," separate from the project score.

**Student:** Read the grading guide for every project, even if you get a perfect score! Notice from the table below that we often give one or two "freebies," i.e., mistakes that don't cost you any points. Learn from working on the project, and learn from any mistakes.

**Scores:**

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of correctness errors</td>
<td>Not handed in</td>
<td>&gt;=10</td>
<td>7 - 9</td>
<td>4 - 6</td>
<td>2,3</td>
<td>0,1</td>
</tr>
<tr>
<td>Number of style errors</td>
<td>Not handed in</td>
<td>&gt;=9</td>
<td>6 - 8</td>
<td>4,5</td>
<td>2,3</td>
<td>0,1</td>
</tr>
</tbody>
</table>

**0. General:**
- s0a - meaningful variable names
- s0b - Code lines are properly indented
- s0c - reasonable line lengths, horizontal scrolling should not be required
- s0d - well-commented code

**1. Calculator:**
- c1a – a through e are correct.
- c1b – f through j are correct (including the cast to int in g)
- c1c – k through n are correct (random generation in m and n, and cast in n)
- c1d – the program compiles successfully
- s1a – The answers are labeled and the output includes line jumps.
- s1b - The variable types are appropriate for their purpose.

**2. Coingame:**
- c2a - the probabilities of the coins are correct
- c2b - the conditional statement for keeping count of hh, tt, ht is correct
- c2c - print number of times hh, tt, ht occur
- c2d - all variables are declared and the program compiles successfully
- s2a - no extraneous code
s2b - Output is printed neatly

3. Sequence:
c3a: correct formulae used for the 't' values
c3b: the while loop condition is correct
c3c: updates inside the loop are correct
c3d: prompt the user for 'm'
c3e - all variables are declared and the program compiles successfully
s3a - no extraneous code
s3b: print the converged value of the sequence.

4. Api:
c4a - all parts (a to f) are done
c4b - Part b: 4 abs methods;
   Part d: Double.MIN_VALUE is smallest positive nonzero value of type double, \( 2^{-1074} \).
s4a – The answers are nicely formatted and included in a plain text file with line jumps.