

Student	Chris Hampton	89
---------	---------------	----

Part 1

	Available	Marks
Q1: Calculate the first 200 Pell numbers and place them in a dataframe <code>pelldata</code> that has three columns. The first column should contain the index n , the second column should contain the Fibonacci number F_n , and the third column should contain the Pell number P_n . Give the three columns appropriate column names for ease of use in later tasks.	20	20
Q2: Calculate this approximation for its first 200 terms and add this as a fourth column in the <code>pelldata</code> dataframe. Give the column a suitable column name.	10	10
Q3: For each value of n calculate the difference between the approximation to $\sqrt{2}$ and the value for $\sqrt{2}$ as calculated using R's <code>sqrt()</code> function. Add this as a column to the <code>pelldata</code> dataframe that shows the difference to five decimal places. Give the column a suitable column name.	10	10
Q4: For each value of n calculate the accuracy of the approximation as the number of decimal places to which the approximation is correct. Add this as a column to the <code>pelldata</code> dataframe and give it a suitable column name.	15	15
Commenting and use of white space	5	3
	TOTAL	58
Comments Remember to check for things like required filenames and always put your name and student number in a comment at the top of the script. Otherwise commenting is excellent. Well-written efficient code. Well done.		

Part 2

	Available	Marks
Explain how your code works for each question (including flow charts) and explain how you tested your code (include examples of the code and data used).	30	27
A reflection on what you found challenging, what you learned, and what you would do differently next time.	10	4
	TOTAL	31
Comments Excellent code documentation, with good coverage of the use of Co-pilot as a research resource. Any time you are asked for a personal reflection on a piece of work you should include it as a separate section with its own header rather than including it within the main documentation.		