

Student	Farley Staines	87
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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	7
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	4
	TOTAL	56
Comments Remember to put your name and student number in a comment at the top of the script. Otherwise commenting is excellent. Good compact code. Elegant solution to Q3, but remember to remove unnecessary code rather than just comment it out.		

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	23
A reflection on what you found challenging, what you learned, and what you would do differently next time.	10	8
	TOTAL	31
Comments Good clear flow diagrams. A well-detailed piece of technical documentation. Your use of ChatGPT was a good idea and you've documented it well. An excellent piece of work. Well done.		