WRITEUP: Assignment 2 A piece of PI

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October 2021

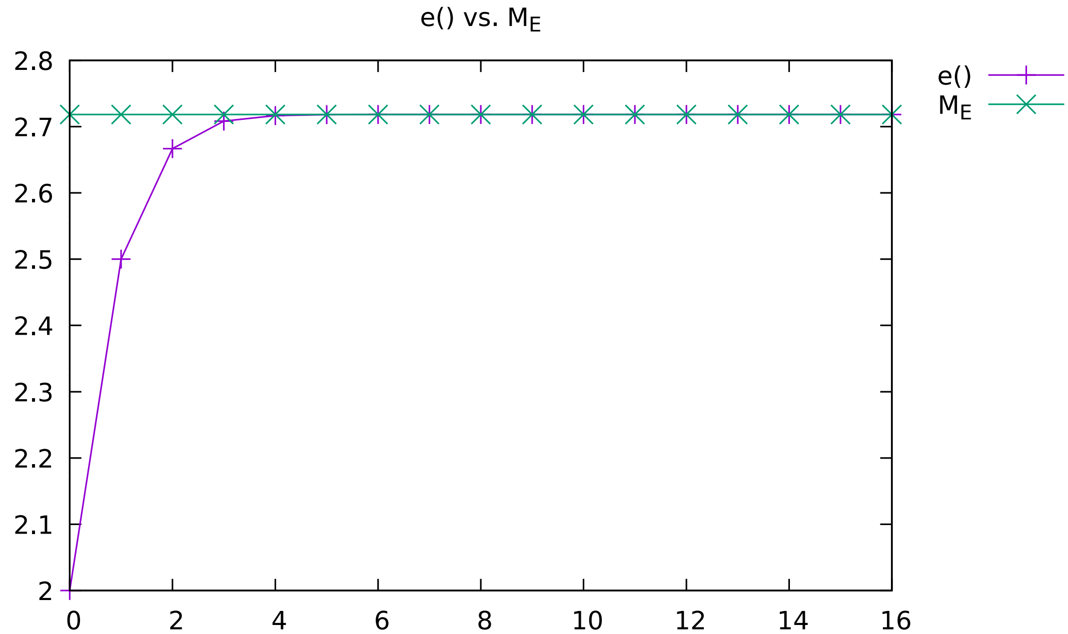

Figure 1: Taylor Series
Approximating e with Taylor series seems very close to the actual e and accurate.
The differences between the math.h and my program seems little to no difference

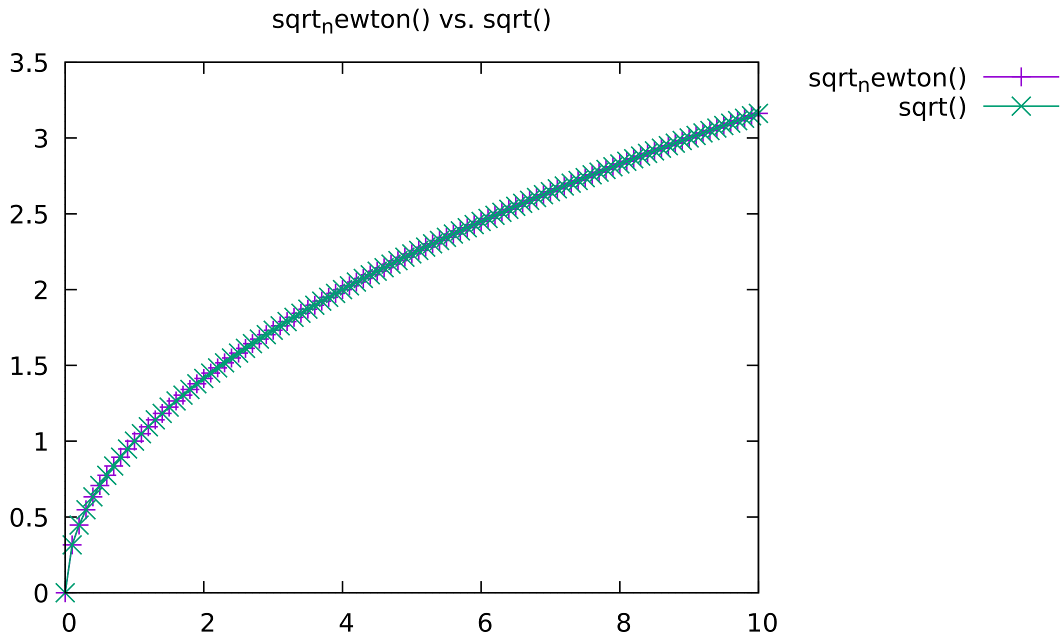

Figure 2: Newton's Square Root
Approximating square root with newton's square root method is exactly the same as the math.h square root function.From the differences between the math.h and my program is 0.0

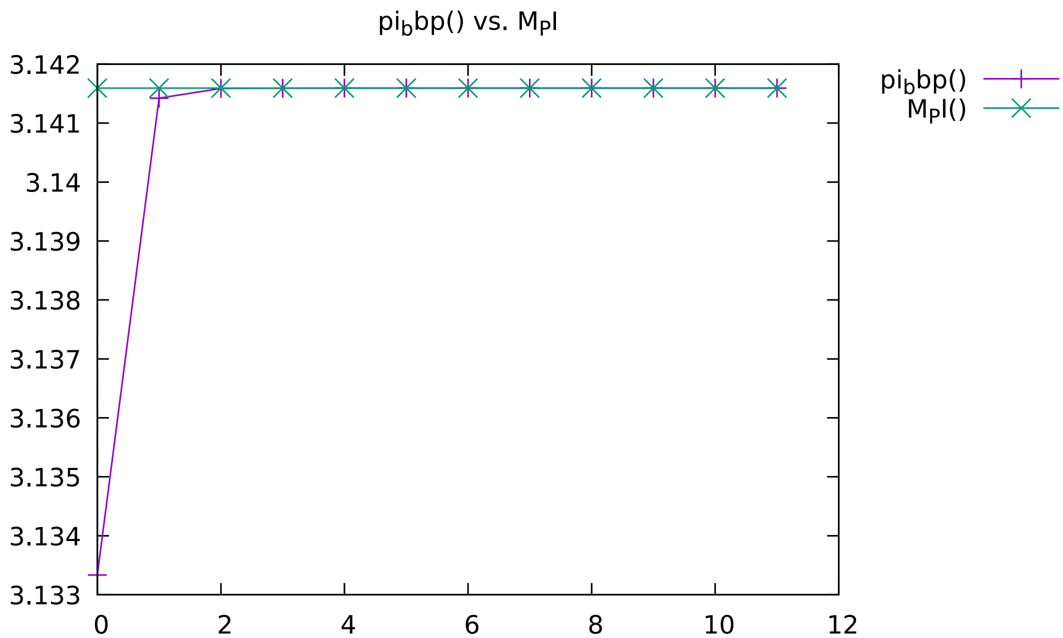

Figure 3: Bailey-Borwein-Plouffe formula
Approximating pi with the plouffe formula seems exact with the math.h. In fact, the difference between mine and math.h is 0.

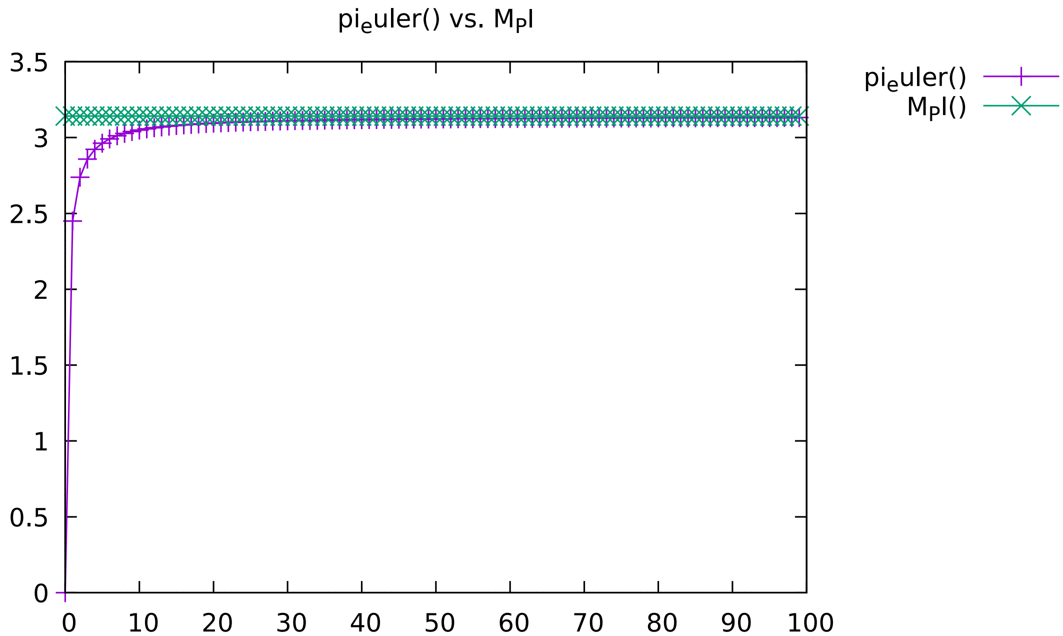

Figure 4: Euler

Euler was the most difficult to plot with, because it's terms were almost 1000000. However, after a certain term, it converges and becomes closer to math.h, MPI. It was also the most off comapred to the other functions by having a larger difference.(I am plotting up to 100 terms because my laptop could not handle plotting a longer term. In the end, my laptop crashed and lagged making it difficult to complete plotting.)

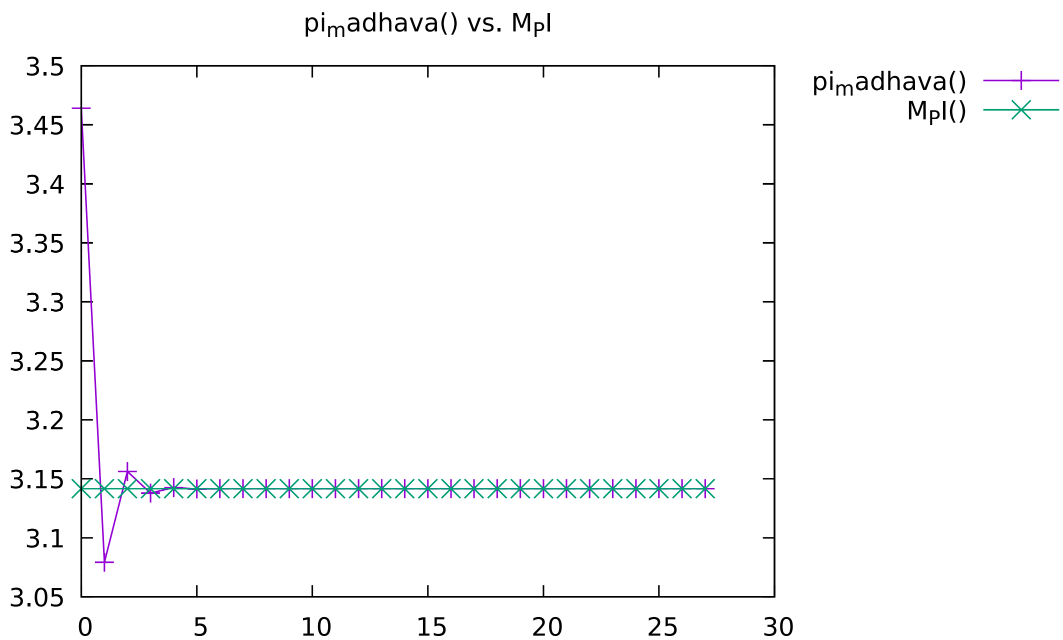

Figure 5: Madhava's Formula
Madhava's formula was the most interesting, because it started off much larger than what math.h had for pi. Then it quickly came down and tries to align with math.h's MPI. Finding the difference between math.h and my madhava's approximation for pi has a small difference with 0.000000000000007.

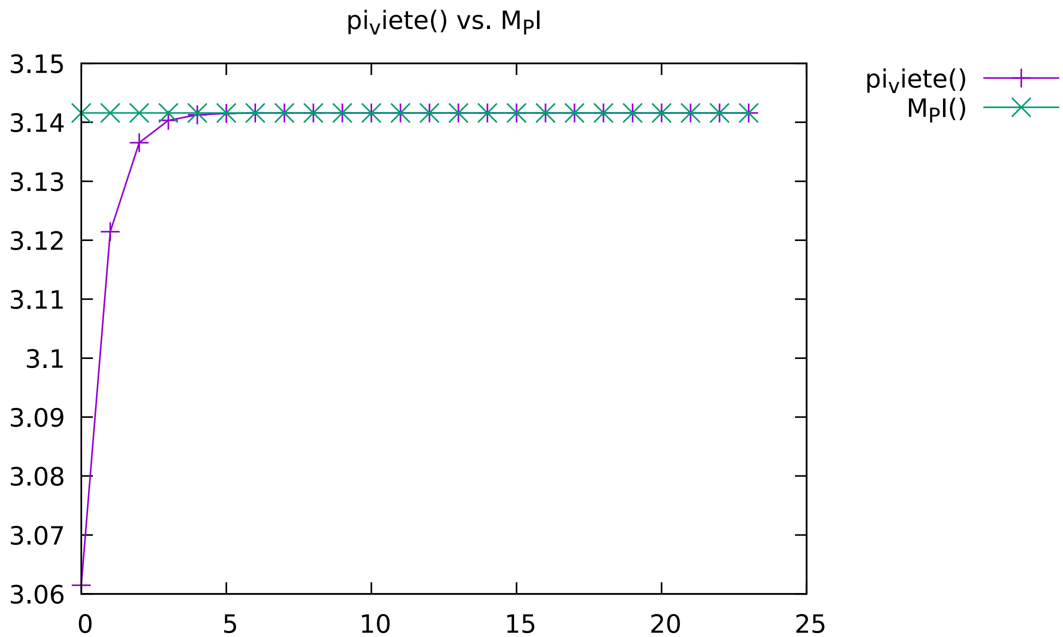

Figure 6: Viete's series
Viete's series was very close to the math.h MPI. It quickly converges into MPI. Although it was very close the difference between viete's pi apporximation and math.h MPI was 0.000000000000004. Which is very close, but still had a small difference between them.