Pyung Lee

Homework 6

HW6\_textsolutions

Q4) Central first was used because the error propagation is O(h2).

Q6) For this problem, I used trapezoidal rule, 1/3, and 3/8 in that order. Out of the three methods I tried to maximize the use of 3/8 because it holds the less error. But because of the intervals I could only use 3/8th once. I used trapezoidal rule first because the first interval was from 0-4. Then I used 1/3th because the next three points had a step size of 2. Then I used 3/8th because the next four step sizes were 4.

Q7) Out of simpsons 1/3, trapezoidal, quad the method that took the least number of calls was simpsons 1/3. This used a total of 19 function calls as opposed to the others which were 225 and 29.