QUESTION – 1

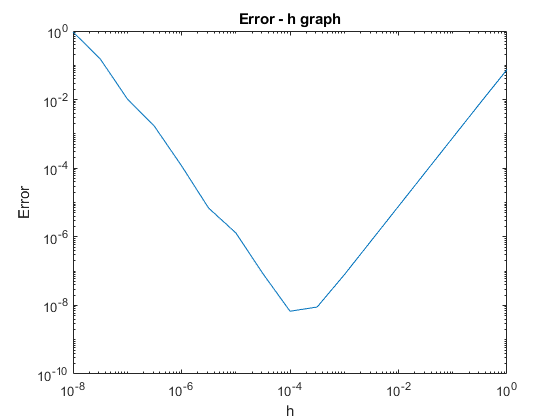
I think the is the best choice, since it also results better for other data points which means it is much closer to giving the real at point x =12 than the others.

QUESTION – 3



As it can be seen from the last term, order of the formula is .

QUESTION – 4



As h decreases, error decreases until the point at after that error starts to increase because of the roundoff error.

Optimal h is which is the lowest point on the graph which has lowest error.