**Assignment 01:**

Taylor Polynomials and Series:

<https://math.libretexts.org/Under_Construction/Purgatory/Book%3A_Active_Calculus_(Boelkins_et_al.)/08%3A_Sequences_and_Series/8.05%3A_Taylor_Polynomials_and_Taylor_Series>

### **Overview of Taylor/Maclaurin Series**

<https://openstax.org/books/calculus-volume-2/pages/6-3-taylor-and-maclaurin-series>

# [**Maclaurin Series of ln(1+x)**](https://www.emathzone.com/tutorials/calculus/maclaurin-series-of-ln1x.html)

<https://www.emathzone.com/tutorials/calculus/maclaurin-series-of-ln1x.html>

# **Taylor Series, Pade Approximants, and Neural Networks**

<https://medium.com/@2020machinelearning/taylor-series-pade-approximants-and-neural-networks-db77d228f8d8>

MATLAB functions:

<https://www.mathworks.com/help/symbolic/sym.taylor.html>

<https://www.mathworks.com/help/symbolic/sym.taylor.html#busoxy0-1>

Videos:

<https://www.youtube.com/watch?v=a2MCBISjujA>

<https://www.google.com/search?q=why+pade+approximates+better+than+taylor+series+expnasion+of+equation&sca_esv=566617571&ei=0O0JZYvRKPzW5NoPlZmQoAI&ved=0ahUKEwiL-ZSIrLeBAxV8K1kFHZUMBCQQ4dUDCBA&uact=5&oq=why+pade+approximates+better+than+taylor+series+expnasion+of+equation&gs_lp=Egxnd3Mtd2l6LXNlcnAiRXdoeSBwYWRlIGFwcHJveGltYXRlcyBiZXR0ZXIgdGhhbiB0YXlsb3Igc2VyaWVzIGV4cG5hc2lvbiBvZiBlcXVhdGlvbkj65QFQ0QlYn90BcAV4AZABAJgBiwOgAZZLqgEJMjUuNDIuNC4yuAEDyAEA-&sclient=gws-wiz-serp#fpstate=ive&vld=cid:25a60d99,vid:szMaPkJEMrw,st:0>

Pade approximant in MATLAB:

<https://www.mathworks.com/help/symbolic/pade.html>

<https://www.mathworks.com/matlabcentral/fileexchange/31800-pade-approximant>

We can follow the following to solve question c

<https://www.colorado.edu/amath/sites/default/files/attached-files/pade_2.pdf>