

EML3035

Programming Concepts for Mechanical Engineers

Homework: Sum a series

Follow the same format as given at

http://www.eng.usf.edu/~kaw/class/EML3035/homework/sample_homework.htm

where you need to look under

Sample HW for assignments **HW#5 and beyond**

What to Submit

The sequence of items attached needs to be as follows

1. Affidavit Sheet
http://www.eng.usf.edu/~kaw/class/EML3035/Independent_affidavit_sheet.pdf
2. Pseudo-code for the function (**Skip this part for this HW**)
3. Flow Chart (**Skip this part for this HW**)
4. mfile for the function
5. Published mfile to test the function

Background

The function $f(x)$ is calculated by using the following infinite series,

$$f(x) = \frac{x^2}{37} + \frac{x^3}{3!} + \frac{x^4}{4!} + \frac{x^5}{5!} + \dots$$

Specifications

- a. Write a MATLAB function `my_fun` using for-end loops for calculating $f(x)$. Use n terms to calculate $f(x)$ at a given value of x .
`function fn=my_fun(x,n)`
- b. Test the function in a separate mfile for four different cases of input variables:
 - i) $x=0.25, n=4$
 - ii) $x=0.25, n=61$
 - iii) $x=3.0, n=1$
 - iv) $x=3.0, n=2$.