

## Homework: Sum a series

Follow format of HW as given at

[http://www.eng.usf.edu/~kaw/class/programming/homework/sample\\_homework.htm](http://www.eng.usf.edu/~kaw/class/programming/homework/sample_homework.htm)  
for Sample HW for assignments after Test#1

Affidavit Sheet

Pseudo-code

Flow Chart ([skip the flow chart for this assignment](#))

Mfile for the function

Published Mfile to test the function

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

$$f(x) = \frac{x^2}{17} + \frac{x^3}{3} + \frac{x^4}{3} + \frac{x^5}{3} + \dots$$

Complete the following:

- a. Write a pseudo code for a MATLAB function that finds the value of  $f(x)$ , given the number of terms to use,  $n$  and the value,  $x$ .
- b. 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)
```
- c. 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)  $x=3.0, n=2$ .