

Assignment #3

1. Write a FORTRAN program to compute The value of K that follow this formula:

$$K = \sum_{i=1}^{10} 2M - M^2$$

Then print the result s of the even term in the following table

Series No.	K
2	xxx.x
4	xxx.x
6	xxx.x
8	xxx.x
10	xxx.x

(Hint: Review MOD function to evaluate ode or even number.)

2. The cosh function can be represented by the following:

$$\cosh x = 1 + \frac{x^2}{2!} + \frac{x^4}{4!} + \frac{x^6}{6!} \dots + \frac{x^n}{n!} = \sum_{i=0}^n \frac{x^{2i}}{(2i)!}$$

Write a FORTRAN program to evaluate this series for an input value of x and n.

3. The X axis centroid of composite bodies can be determined by these formula:

$$\bar{X} = \frac{\sum_{i=1}^n A_i x_i}{\sum_{i=1}^n A_i} \quad \bar{Y} = \frac{\sum_{i=1}^n A_i y_i}{\sum_{i=1}^n A_i}$$

where n = Number of bodies.

A_i = Area of individual bodies.

\bar{X} = X axis centroid of individual bodies

\bar{Y} = Y axis centroid of individual bodies

Write a FORTRAN program to compute the X axis centroid of a composite bodies.