GS543 Tutorial 5 Fortran Arrays Exercises

Single dimension Array

1) Write down a Fortran program to choose maximum, minimum and mean values from one dimensional array?
2) Write down a Fortran program to sorting one dimensional array? Hint: sorting refers to arranging data in ascending or descending order
3) Write a Fortran program to find the mean and standard deviation of n Number?

   Hint: mean= $\frac{\sum_{i=1}^{n} a_i}{n}$ where a_i be the n numbers

   Standard deviation= $\sqrt{\left(\frac{\sum_{i=1}^{n} a_i^2}{n} - (mean)^2\right)}$

4) **Numerical differentiation:** Consider the following function F(x) defined at the following point

x	0.1	0.2	0.3	0.4	0.5	0.6
F(x)	1.7	1.92	1.94	1.97	2.214	2.32

Multi-dimension Array

5)Write a Fortran Programs-

- To display the transpose of the given matrix?
- To find row sums of M X N matrix?
- To find the sum of the diagonal entries of square matrix?
- To subtract matrix A from another matrix B of the same order?
- To find the sum of the diagonal entries of square matrix?
- To find the number of positive number of M X N matrix?