Report of assignment 6

1. Matrix Multiplication

1.1-1.3

Procedure:

I created Main.f90, then subroutine Matrix_multip.f90. Next, compile subroutine before compiling them together:

gfortran Main.f90 Matrix_multip.o –o Main.x

./Main.x

Result:

MN.dat (this is based on write(*,*) without format f9.2):

Note: After I add format f9.2, it becomes like what it looks in folder now.

Since assignment doesn't acquire that MN.dat should look like Matrix, I didn't adjust it.
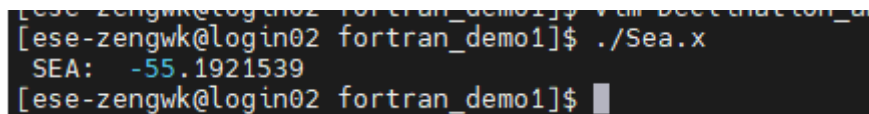
2. Solar Elevation Angle

2.1-2.4

Procedure:

    I created module Declination_angle.f90 and Solar_hour_angle.f90 based on better formula. Then, I wrote a program Solar_elevation_angle.f90.

  Subroutines were complied before making them a library. After forming library (libsea.a), program was complied based library.

    gfortran –c Declination_angle.f90

    gfortran –c Solar_hour_angle.f90

    ar rcvf libsea.a Declination_angle.o Solar_hour_angle.o

    gfortran Solar_elevation_angle.f90 -o Sea.x -L. -lsea

Result:

It is different with result in website:

Solar Elevation Angle - Calculating Altitude of Sun - SolarSena

Because, website doesn't use the better formulas.