Lab 6 Report

Name: Deepa Subray Hegde
PSU ID: 954680127

1. Array operations

   Done. All the Fortran operations are in the same file – shuffle1.f90
   Done. All the Fortran operations are in the same file – shuffle2.f90

Observation – it was tricky get adapted to the syntax of Fortran and chapel. However, there is a runtime error which I observed while running shuffle operation in chapel.

```
hegde@catron:~/parallelprogramming/lab6$ vi mm2.chpl
hegde@catron:~/parallelprogramming/lab6$ ./shuffle2 -nl 1
a:
1 2 3 4 5 6 7 8
odd:
1 3 5 7
even:
2 4 6 8
front:
1 2 3 4
back:
5 6 7 8
shuffle2.chpl:30: error: halt reached - assigning between arrays of different shapes in dimension 0: 8 vs. 0
hegde@catron:~/parallelprogramming/lab6$
```

Fortran has no issue and gave the correct result.

2. Chapel

1) Sequential done
2) for the parallel version I faced an issue while using “reduce”. Also the multiplication operation has to happen after the matrices have been initialized.

```
hegde@catron:~/parallelprogramming/lab6$ chpl -g -o mm2 mm2.chpl
mm2.chpl:34: error: cannot iterate over values of type int(64)
hegde@catron:~/parallelprogramming/lab6$
```

   Bank

   Functions to replace the srand and random functions was a tricky part.

Overall, I felt this lab difficult when compared to the other labs and also consumed a lot of time as this is the first time I was using Fortran and chapel and am not familiar with the syntaxes and the documentation of the 2 languages.

I have attached their respective code in the zip file