Lab 8 – Report

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1. File IO Samples

    1. Done. Successfully executed with buffer size 4
    2. There are 4 different files created for 4 processes. Same number of files are created as the number of processes. The output is as follows:

```
hegde@catron:~/parallelprogramming/lab8$ od -i output.0
0000000           0           1           2           3
0000020
hegde@catron:~/parallelprogramming/lab8$ od -i output.1
0000000         100         101         102         103
0000020
hegde@catron:~/parallelprogramming/lab8$ od -i output.2
0000000         200         201         202         203
0000020
hegde@catron:~/parallelprogramming/lab8$ od -i output.3
0000000         300         301         302         303
0000020
hegde@catron:~/parallelprogramming/lab8$
```

    Changed MPI_COMM_SELF to MPI_COMM_WORLD
    When all the process tries to write the file in the same section, there is an error of bad file descriptor. The first process writes its content to the file and the other processes cannot write as all the process are accessing the same part of the file

```
hegde@catron:~/parallelprogramming/lab8$ mpirun -n 4 file-out output.all
mca_fbtl_posix_pwritev: error in writev:Bad file descriptor
mca_fbtl_posix_pwritev: error in writev:Bad file descriptor
mca_fbtl_posix_pwritev: error in writev:Bad file descriptor
hegde@catron:~/parallelprogramming/lab8$ od -i output.all.0
0000000           0           1           2           3
0000020
hegde@catron:~/parallelprogramming/lab8$
```

    3. Done

2. Array IO Program

    1. Finding the offset logic was a bit tricky for me. The program is running as expected.