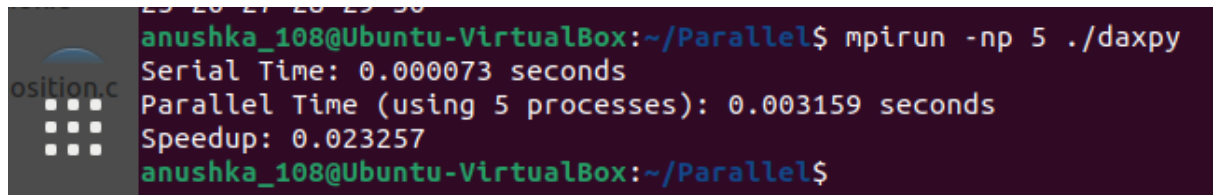


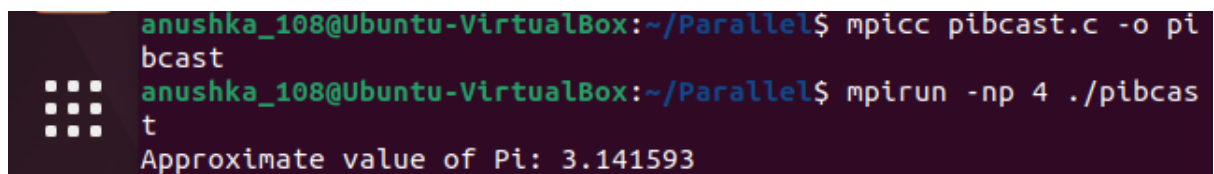
Assignment 3

1. DAXPY Loop

A terminal window showing the execution of a DAXPY loop. The prompt is 'anushka_108@Ubuntu-VirtualBox:~/Parallel\$'. The command is 'mpirun -np 5 ./daxpy'. The output shows 'Serial Time: 0.000073 seconds', 'Parallel Time (using 5 processes): 0.003159 seconds', and 'Speedup: 0.023257'. The prompt returns to 'anushka_108@Ubuntu-VirtualBox:~/Parallel\$'.

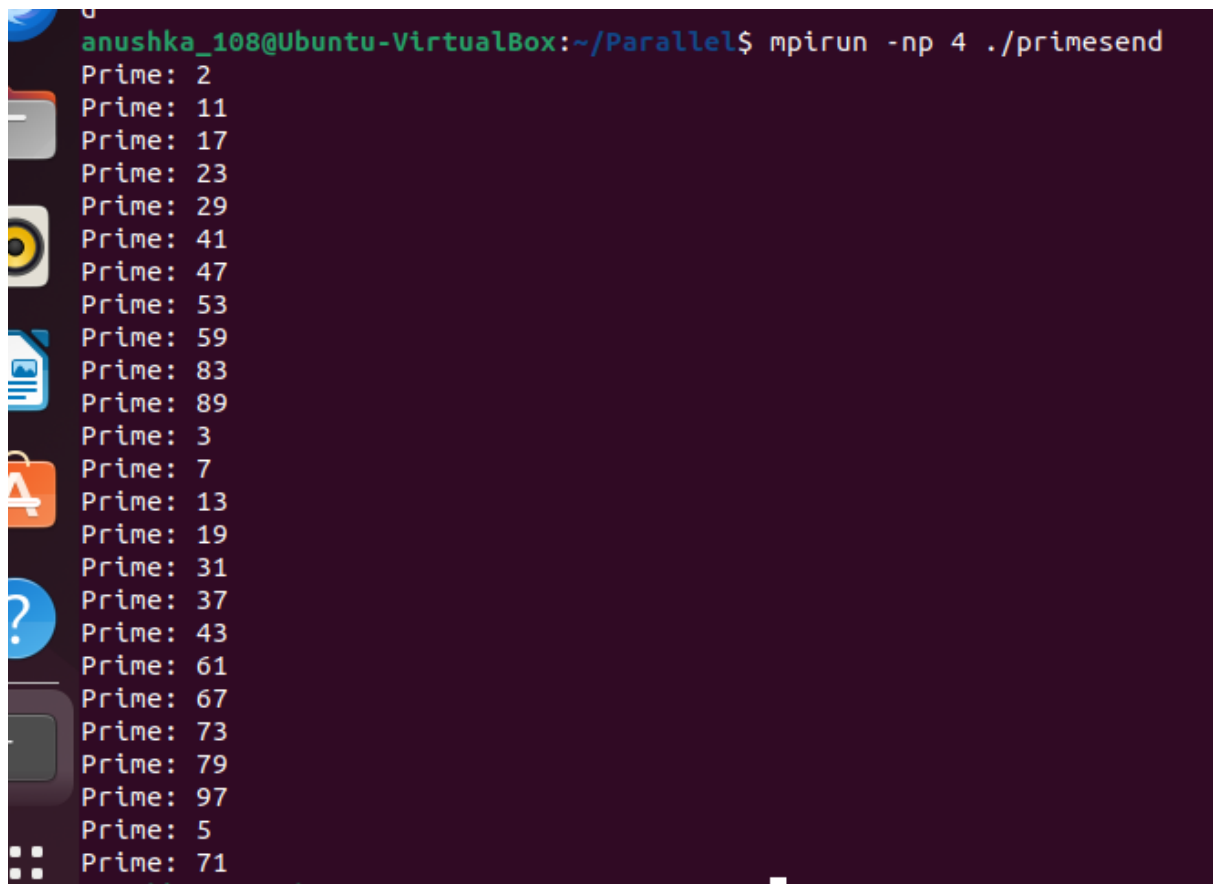
```
anushka_108@Ubuntu-VirtualBox:~/Parallel$ mpirun -np 5 ./daxpy
Serial Time: 0.000073 seconds
Parallel Time (using 5 processes): 0.003159 seconds
Speedup: 0.023257
anushka_108@Ubuntu-VirtualBox:~/Parallel$
```

2. Calculation of π - MPI Bcast and MPI Reduce

A terminal window showing the compilation and execution of a program to calculate Pi. The prompt is 'anushka_108@Ubuntu-VirtualBox:~/Parallel\$'. The command is 'mpicc pibcast.c -o pibcast'. The prompt returns to 'anushka_108@Ubuntu-VirtualBox:~/Parallel\$'. The next command is 'mpirun -np 4 ./pibcast'. The output shows 'Approximate value of Pi: 3.141593'.

```
anushka_108@Ubuntu-VirtualBox:~/Parallel$ mpicc pibcast.c -o pibcast
anushka_108@Ubuntu-VirtualBox:~/Parallel$ mpirun -np 4 ./pibcast
Approximate value of Pi: 3.141593
```

3. Use MPI_Send to send a number to test.

A terminal window showing the execution of a program that sends prime numbers. The prompt is 'anushka_108@Ubuntu-VirtualBox:~/Parallel\$'. The command is 'mpirun -np 4 ./primesend'. The output shows a list of prime numbers: 2, 11, 17, 23, 29, 41, 47, 53, 59, 83, 89, 3, 7, 13, 19, 31, 37, 43, 61, 67, 73, 79, 97, 5, and 71.

```
anushka_108@Ubuntu-VirtualBox:~/Parallel$ mpirun -np 4 ./primesend
Prime: 2
Prime: 11
Prime: 17
Prime: 23
Prime: 29
Prime: 41
Prime: 47
Prime: 53
Prime: 59
Prime: 83
Prime: 89
Prime: 3
Prime: 7
Prime: 13
Prime: 19
Prime: 31
Prime: 37
Prime: 43
Prime: 61
Prime: 67
Prime: 73
Prime: 79
Prime: 97
Prime: 5
Prime: 71
```