PC - LAB 07

IT 23398184

Task 1

```
lab07 — vidaththeekshana@Vidaths-MacBook-Air — ~/Desktop/lab07 — -zsh — 80×24

Last login: Sat Oct  4 11:43:42 on ttys006
→  lab07 nano ex1a_anysource_anytag.c
→  lab07 mpicc ex1a_anysource_anytag.c -O2 -o ex1a
mpirun -np 8 ./ex1a

Exercise 1(a): Sum 1..10000000 = 50000005000000
→  lab07
```

Task 2

```
lab07 nano ex1b_bsend.c
lab07 mpicc ex1b_bsend.c -O2 -o ex1b
mpirun -np 8 ./ex1b

Exercise 1(b): Sum 1..10000000 = 50000005000000
→  lab07
```

```
→  lab07 mpirun -np 4 ./ex2 numbers.csv

Exercise 2 total = 5016.4304230650
→  lab07
```

Task 3

```
lab07 nano ex3_scatter_sum.c
lab07 mpicc ex3_scatter_sum.c -O2 -o ex3
mpirun -np 4 ./ex3 numbers.csv

Exercise 3 (Scatterv -> point2point back) total = 5016.4304230650
→  lab07
```

Task 4

```
lab07 nano ex4_scatter_gather_sum.c
lab07 mpicc ex4_scatter_gather_sum.c -O2 -o ex4
mpirun -np 4 ./ex4 numbers.csv

Exercise 4 (Scatterv + Gather) total = 5016.4304230650
→  lab07
```

Task 5

```
→    lab07 nano ex5_scatter_reduce_sum.c
→    lab07 mpicc ex5_scatter_reduce_sum.c -O2 -o ex5
mpirun -np 4 ./ex5 numbers.csv

Exercise 5 (Scatterv + Reduce) total = 5016.4304230650
→    lab07
```

Task 6

```
→    lab07 nano ex6_scatter_allreduce_sum.c
→    lab07 mpicc ex6_scatter_allreduce_sum.c -O2 -o ex6
mpirun -np 4 ./ex6 numbers.csv

Exercise 6 (Allreduce) rank 0 sees total = 5016.4304230650
Exercise 6 (Allreduce) rank 1 sees total = 5016.4304230650
Exercise 6 (Allreduce) rank 3 sees total = 5016.4304230650
Exercise 6 (Allreduce) rank 2 sees total = 5016.4304230650
→    lab07
```

Task 7

```
→    lab07 nano ex7_pingpong_append.c
→    lab07 mpicc ex7_pingpong_append.c -O2 -o ex7
mpirun -np 2 ./ex7

Exercise 7 (rank1): Final length=100, last=187
Exercise 7: Final length=100, last=187
→    lab07
```

Task 8

```
→    lab07 nano ex8_ring_twice_append.c
→    lab07 mpicc ex8_ring_twice_append.c -O2 -o ex8
mpirun -np 5 ./ex8

Exercise 8: final length=5
Sequence: 0 1 2 3 4
```