

## README for lab2

This work was done by Chaolun Wang at 15/09/2016

The folder including the following documents:

search.cpp: which is the revised version of search in which the MPI was used for parallelization.

Makefile: which is the makefile code help to compile the code

README: which is the documentation

report.pdf: which is the report of the lab.

To compile the code:

In linux terminal, type **make** to create search.x file.

To run the code:

After compile the code, in linux terminal, type:

**mpirun -np k ./search.x**

to run the code, where k is the number of process which is set as 1, 2, 4, 8

Test result:

Test case 1:

Number of processes=1

SEARCH:

C++ version

Search the integers from A to B

for a value J such that  $F(J) = C$ .

A = 1

B = 214748364

C = 3081

Found J = 903616

Verify  $F(J) = 3081$

SEARCH:

Normal end of execution. time spent: 14.9446

Test case 2:

Number of processes=2

SEARCH:

C++ version

Search the integers from A to B

for a value J such that  $F(J) = C$ .

A = 1

B = 214748364

C = 3081

Found J = 903616  
Verify  $F(J) = 3081$

SEARCH:

Normal end of execution. time spent: 7.48943

Test case 3:

Number of processes=4

SEARCH:

C++ version

Search the integers from A to B  
for a value J such that  $F(J) = C$ .

A = 1  
B = 214748364  
C = 3081

Found J = 903616  
Verify  $F(J) = 3081$

SEARCH:

Normal end of execution. time spent: 3.76658

Test case 4:

Number of processes=4

SEARCH:

C++ version

Search the integers from A to B  
for a value J such that  $F(J) = C$ .

A = 1  
B = 214748364  
C = 3081

Found J = 903616  
Verify  $F(J) = 3081$

SEARCH:

Normal end of execution. time spent: 2.74732