

Davina Doran: davdoran@csu.fullerton

Ashu Singh: ashusingh28@csu.fullerton.edu

Robert Susanto: rsusanto0@csu.fullerton.edu

CPSC 479-01

Professor: Doina Bein

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Project 1 Report Document

Full Screen Screenshot (w/ group member names):



Pseudocode:

CPSC 479 (Project #1) Psuedo:

Initialize mpi with rank and size

largest[]

tokenstring[]

rank[]

concatenate[]

Seed random number generator

if (rank != 0)

 MPI_Rcv (largest, 2, mpi_int, (rank-1)% size)

 Generate random positive number between 1 and 100

 Combine token and concatenate string

 Combine concatenate string and rank

 token = concatenate converted to int

 if token even (if token > current largest even)

 largest = token

 else

 if token is odd (if token > current largest odd)

 largest = token

else

 token = random positive number

 Combine token and concurrent string

 Combine concurrent string and rank

 token = concatenate convert to int

 largest even = token

 largest odd = 1

 MPI_Send (largest, 2, mpi_int, (rank+1)% size)

if (rank == 0)

 MPI_Rcv (largest, 2, mpi_int, size-1)

 if token even (if token > current largest even)

 largest = token

 else

 if token is odd (if token > current largest odd)

 largest = token

finalize

return 0

How to Execute:

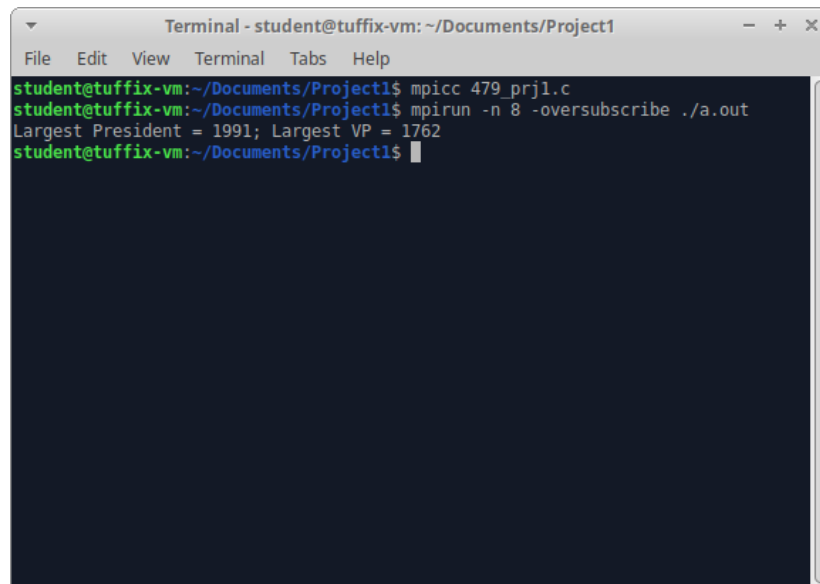
-open terminal in the directory where the file (HW4_dav_doran.c) is saved.

-execute the program using the command <mpicc 479_prj1.c>

-run program (anywhere between 6 and 20 processes) using the command <mpirun -n <number of processes> ./a.out>

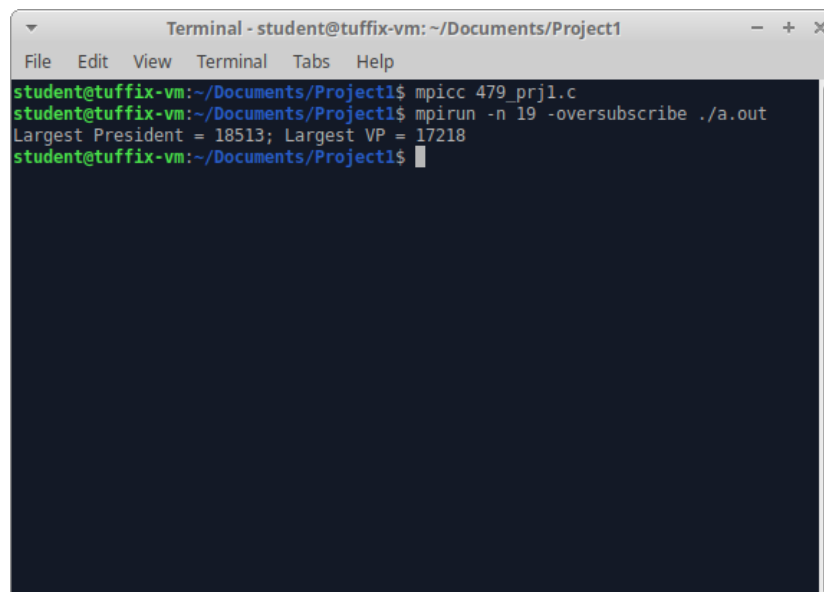
Execution Snapshots:

8 Processes



```
Terminal - student@tuffix-vm: ~/Documents/Project1
File Edit View Terminal Tabs Help
student@tuffix-vm:~/Documents/Project1$ mpicc 479_prj1.c
student@tuffix-vm:~/Documents/Project1$ mpirun -n 8 -oversubscribe ./a.out
Largest President = 1991; Largest VP = 1762
student@tuffix-vm:~/Documents/Project1$
```

15 Processes:



```
Terminal - student@tuffix-vm: ~/Documents/Project1
File Edit View Terminal Tabs Help
student@tuffix-vm:~/Documents/Project1$ mpicc 479_prj1.c
student@tuffix-vm:~/Documents/Project1$ mpirun -n 19 -oversubscribe ./a.out
Largest President = 18513; Largest VP = 17218
student@tuffix-vm:~/Documents/Project1$
```