**Aryaman Mishra**

**19BCE1027**

**LAB 6**

1. **Simple hello world mpi**

#include<stdio.h>

#include <mpi.h>

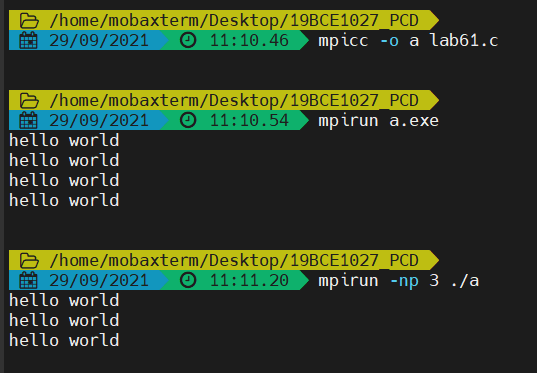
int main()

{

printf("hello world\n");

return 0;

}



1. **Getting started with MPI program**

#include <mpi.h>

#include <stdio.h>

int main(int argc, char\*\* argv) {

// Initialize the MPI environment

MPI\_Init(NULL, NULL);

// Get the number of processes

int world\_size;

MPI\_Comm\_size(MPI\_COMM\_WORLD, &world\_size);

// Get the rank of the process

int world\_rank;

MPI\_Comm\_rank(MPI\_COMM\_WORLD, &world\_rank);

// Get the name of the processor

char processor\_name[MPI\_MAX\_PROCESSOR\_NAME];

int name\_len;

MPI\_Get\_processor\_name(processor\_name, &name\_len);

// Print off a hello world message

printf("Hello world from processor %s, rank %d out of %d processors\n",

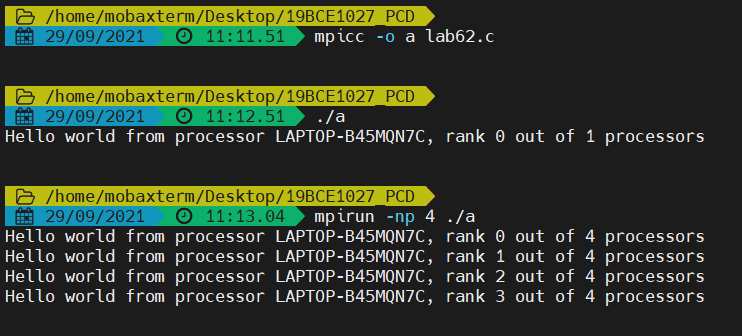
processor\_name, world\_rank, world\_size);

// Finalize the MPI environment.

MPI\_Finalize();

return 0;

}



1. **Write a MPI program that will print your name along with all processes with odd ranks.**

#include <mpi.h>

#include <stdio.h>

int main(int argc, char\*\* argv) {

// Initialize the MPI environment

MPI\_Init(NULL, NULL);

// Get the number of processes

int world\_size;

MPI\_Comm\_size(MPI\_COMM\_WORLD, &world\_size);

// Get the rank of the process

int world\_rank;

MPI\_Comm\_rank(MPI\_COMM\_WORLD, &world\_rank);

// Get the name of the processor

char processor\_name[MPI\_MAX\_PROCESSOR\_NAME];

int name\_len;

MPI\_Get\_processor\_name(processor\_name, &name\_len);

// Print off a hello world message

//printf("Hello world from processor %s, rank %d out of %d processors\n",

//processor\_name, world\_rank, world\_size);

if(world\_rank%2==0)

{

printf("Hello world from processor %s, rank %d out of %d processors\n",processor\_name, world\_rank, world\_size);

}

else

{

printf("Aryaman Mishra 19BCE1027 from processor %s, rank %d out of %d processors\n",processor\_name, world\_rank, world\_size);

}

// Finalize the MPI environment.

MPI\_Finalize();

return 0;

}

