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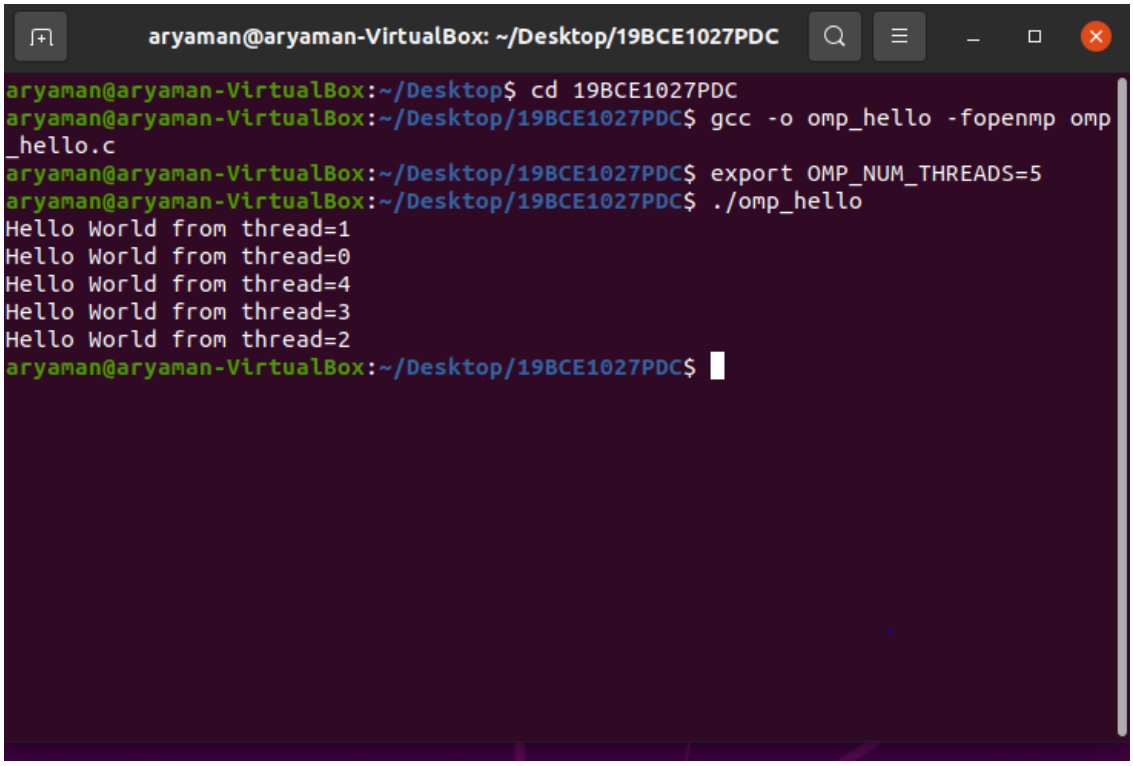
19BCE1027

LAB EXERCISE 1

Q.1.Write a Program to implement a “Hello World” Program using OpenMP.

```
#include<omp.h>

#include <stdio.h>

#include <stdlib.h>

int main()

{

#pragma omp parallel

{

printf("Hello World from thread=%d\n",omp_get_thread_num());

}

}
```



Q.2.Write a Program to implement a “Hello World” with thread id and allow master thread to print the total number of threads.

```
#include<omp.h>

#include <stdio.h>

#include <stdlib.h>

int main()

{

int nthreads,tid;

/*Fork a team of threads woth each thread having a private tid variable*/

#pragma omp parallel private(tid)

{
```

/*Obtain and print thread id*/

tid=omp_get_thread_num();

printf("Hello World from thread=%d\n",tid);

/*Only master thread does this*/

if(tid==0)

{

nthreads=omp_get_num_threads();

printf("Number of threads=%d\n",nthreads);

}

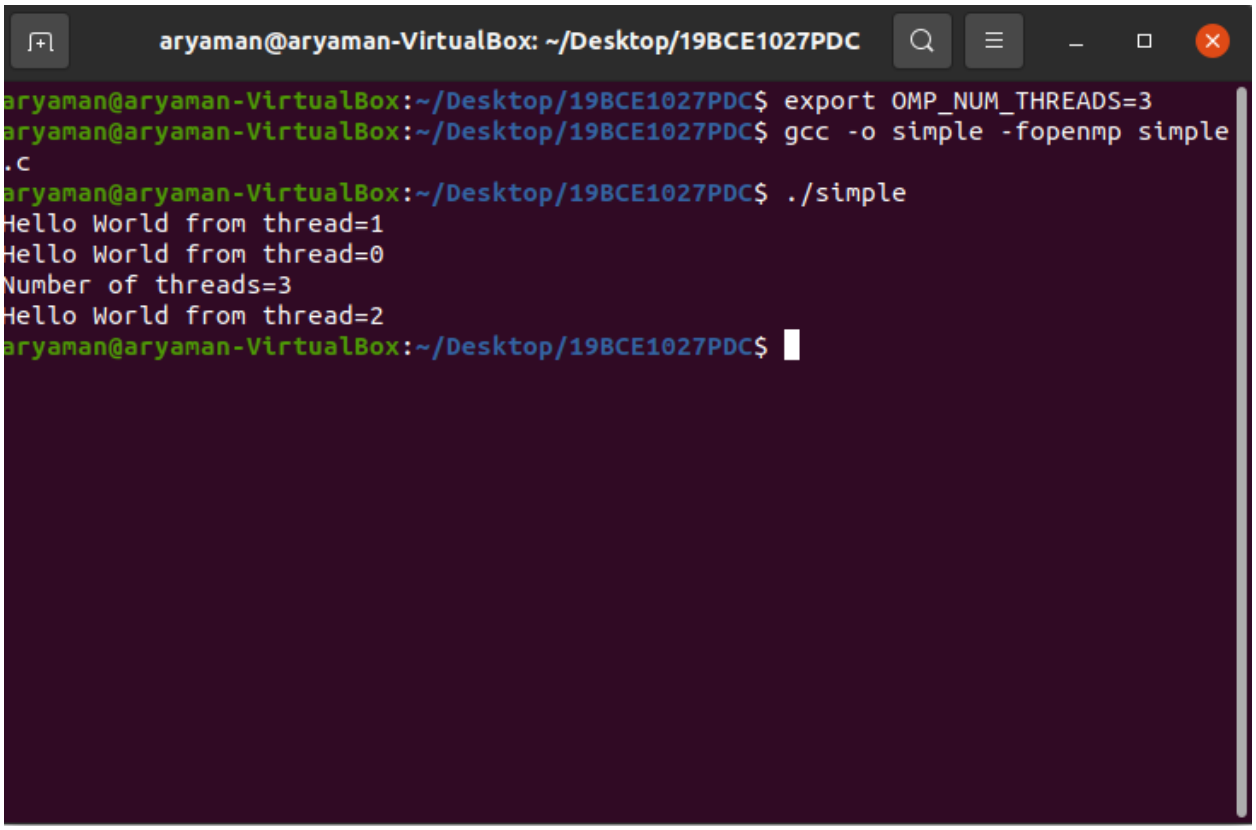
}

/*All threads join master thread and terminate*/

}

omp_hello.c | simple.c

```c
#include<omp.h>
#include <stdio.h>
#include <stdlib.h>
int main()
{
int nthreads,tid;
/*Fork a team of threads woth each thread having a private tid variable*/
#pragma omp parallel private(tid)
{
/*Obtain and print thread id*/
tid=omp_get_thread_num();
printf("Hello World from thread=%d\n",tid);
/*Only master thread does this*/
if(tid==0)
{
nthreads=omp_get_num_threads();
printf("Number of threads=%d\n",nthreads);
}
}
/*All threads join master thread and terminate*/
}
```



Q.3.Write a Program to print name and registration number.

```
#include<omp.h>

#include <stdio.h>

#include <stdlib.h>

int main()

{

int nthreads,tid;

/*Fork a team of threads woth each thread having a private tid variable*/
```

```
#pragma omp parallel private(tid)

{

/*Obtain and print thread id*/

tid=omp_get_thread_num();

printf("Aryaman Mishra\n");

/*Only master thread does this*/

if(tid==0)

{

nthreads=omp_get_num_threads();

printf("19BCE1027\n");

}

}

/*All threads join master thread and terminate*/

}
```

Open

omp_hello.c

```
#include<omp.h>
#include <stdio.h>
#include <stdlib.h>
int main()
{
int nthreads,tid;
/*Fork a team of threads woth each thread having a private tid variable*/
#pragma omp parallel private(tid)
{
/*Obtain and print thread id*/
tid=omp_get_thread_num();
printf("Aryaman Mishra\n");
/*Only master thread does this*/
if(tid==0)
{
nthreads=omp_get_num_threads();
printf("19BCE1027\n");
}
}
/*All threads join master thread and terminate*/
}
```

```
aryaman@aryaman-VirtualBox:~/Desktop/19BCE1027PDC$ export OMP_NUM_THREADS=10
aryaman@aryaman-VirtualBox:~/Desktop/19BCE1027PDC$ gcc -o simple2 -fopenmp simple2.c
aryaman@aryaman-VirtualBox:~/Desktop/19BCE1027PDC$ ./simple2
Aryaman Mishra
Aryaman Mishra
19BCE1027
Aryaman Mishra
Aryaman Mishra
Aryaman Mishra
Aryaman Mishra
Aryaman Mishra
Aryaman Mishra
Aryaman Mishra
Aryaman Mishra
aryaman@aryaman-VirtualBox:~/Desktop/19BCE1027PDC$
```

RESULT:ALL 3 PROGRAMS HAVE BEEN SUCCESFULLY EXECUTED.