

Task 01 Code

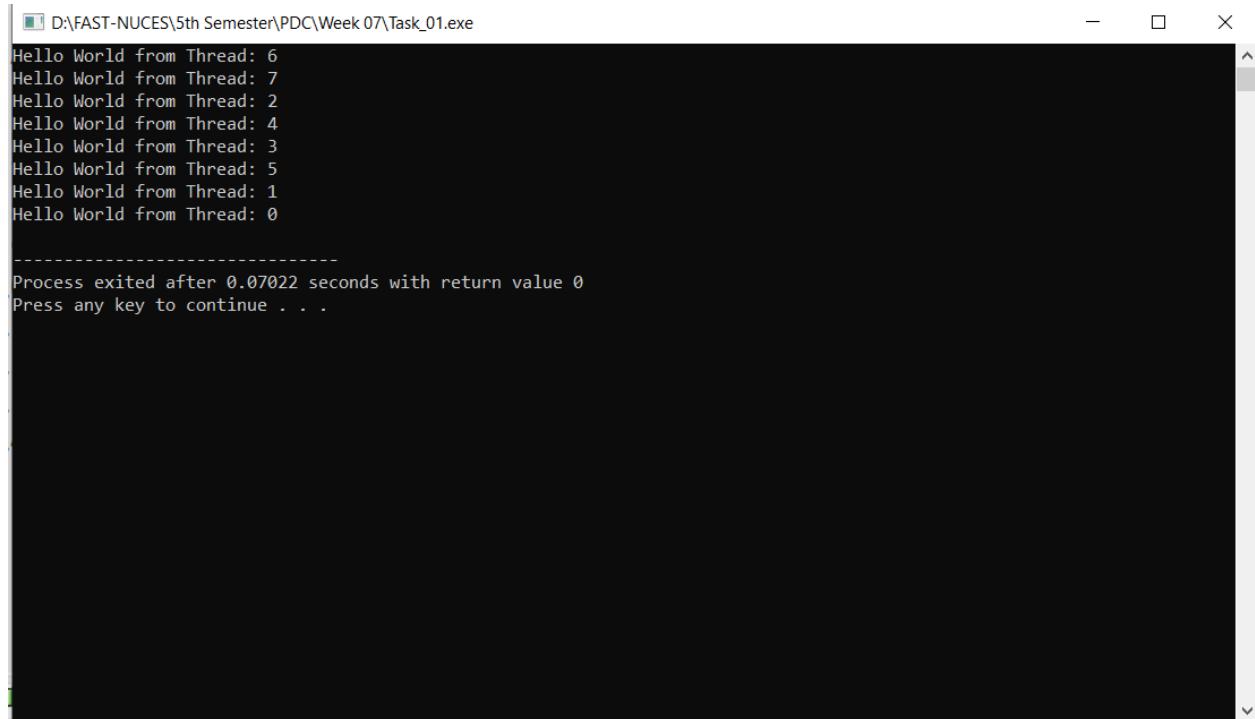
```
#include <iostream>
#include <omp.h>

using namespace std;
int main() {

    #pragma omp parallel num_threads(8)
    {
        cout << "Hello World from Thread: " << omp_get_thread_num() << endl;
    }

    return 0;
}
```

Output



```
D:\FAST-NUCES\5th Semester\PDC\Week 07\Task_01.exe
Hello World from Thread: 6
Hello World from Thread: 7
Hello World from Thread: 2
Hello World from Thread: 4
Hello World from Thread: 3
Hello World from Thread: 5
Hello World from Thread: 1
Hello World from Thread: 0

-----
Process exited after 0.07022 seconds with return value 0
Press any key to continue . . .
```

Task 02 Code

```
#include <iostream>
#include <omp.h>
using namespace std;
int main() {
    int arr[20] = {1, 2, 3, 4, 5,
                  1, 2, 3, 4, 5,
                  1, 2, 3, 4, 5,
                  1, 2, 3, 4, 5};

    int sum = 0;
    int local_sum[4];

    #pragma omp parallel num_threads(4) reduction(+:sum)


    {
        sum += arr[5*omp_get_thread_num()];
        sum += arr[5*omp_get_thread_num() + 1];
        sum += arr[5*omp_get_thread_num() + 2];
        sum += arr[5*omp_get_thread_num() + 3];
        sum += arr[5*omp_get_thread_num() + 4];
        local_sum[omp_get_thread_num()] = sum;
    }

    cout << "Local Thread results: " << endl;
    for(int i = 0; i < 4; i++) {
        cout << "By Thread " << i+1 << ": " << local_sum[i] << endl;
    }

    cout << "Total sum: " << sum;

    return 0;
}
```

Output



```
D:\FAST-NUCES\5th Semester\PDC\Week 07\Task_02.exe
Local Thread results:
By Thread 1: 15
By Thread 2: 15
By Thread 3: 15
By Thread 4: 15
Total sum: 60
-----
Process exited after 0.07901 seconds with return value 0
Press any key to continue . . .
```