**High Performance Computing Lab**

**Practical No. 6**

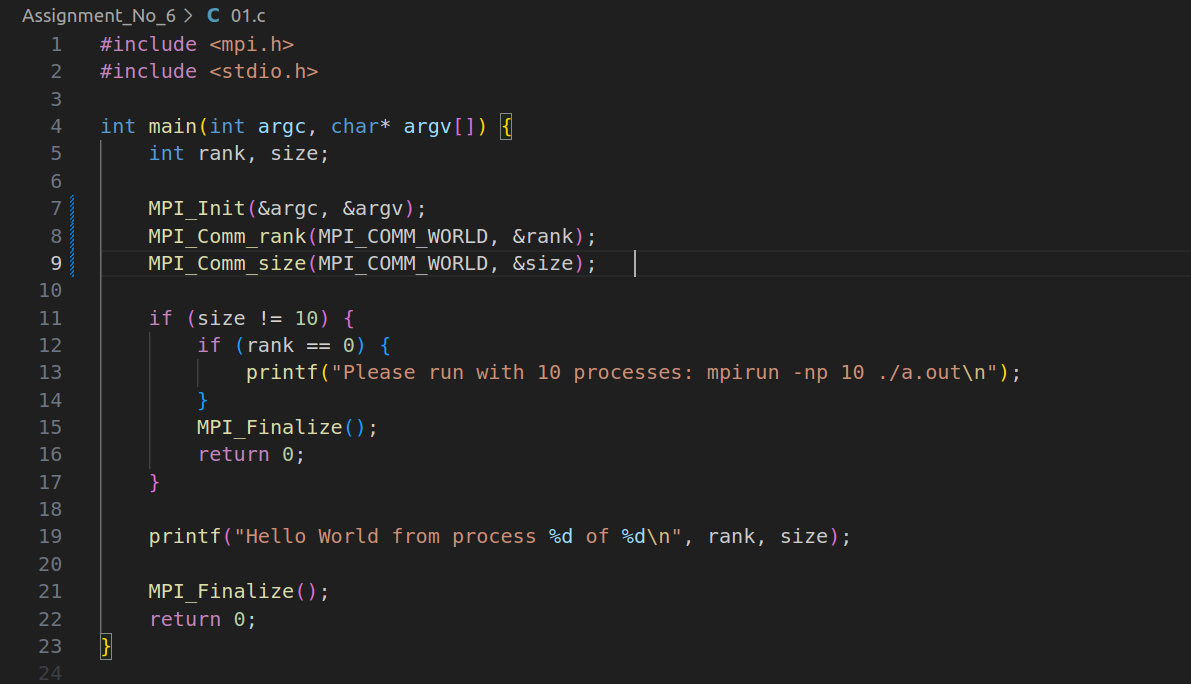
**Title of practical:**

Installation of MPI & Implementation of basic functions of MPI

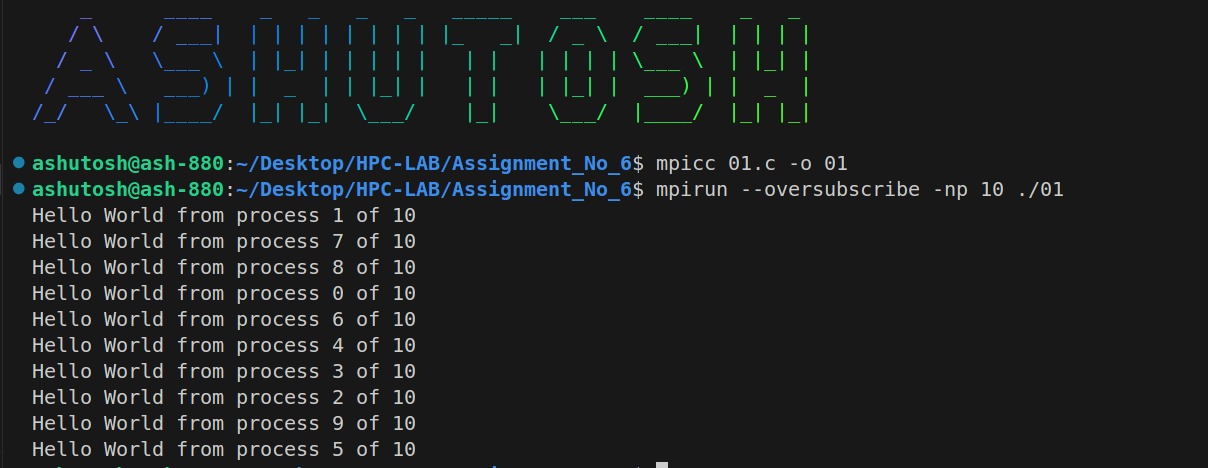
**Problem Statement 1:**

Implement a simple hello world program by setting number of processes equal to 10

**Program**



**Screenshot:**

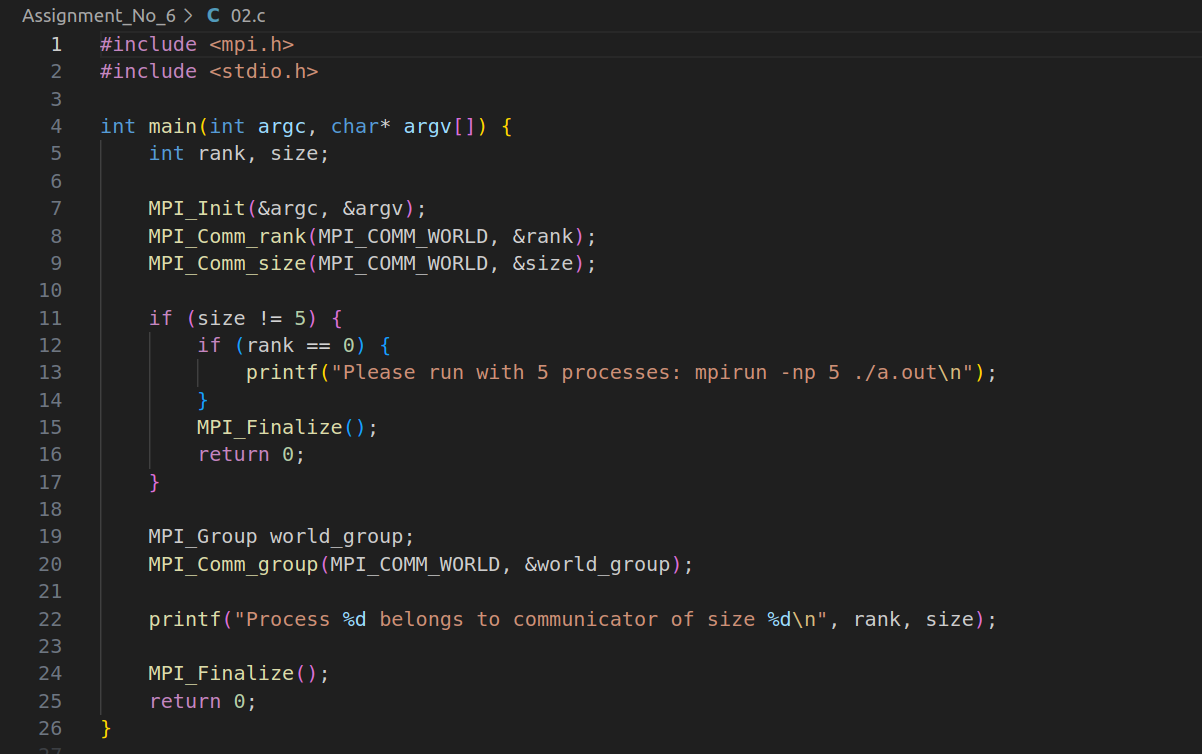
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**Information 1:**

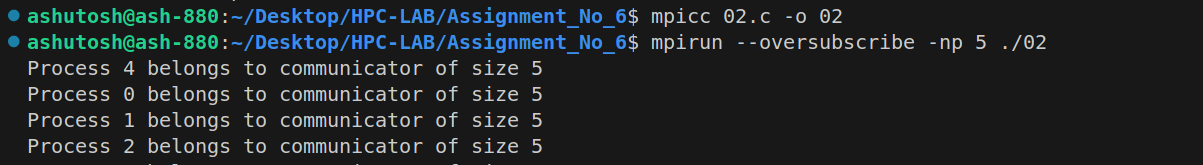
**Problem Statement 2:**

Implement a program to display rank and communicator group of five processes

**Program:**

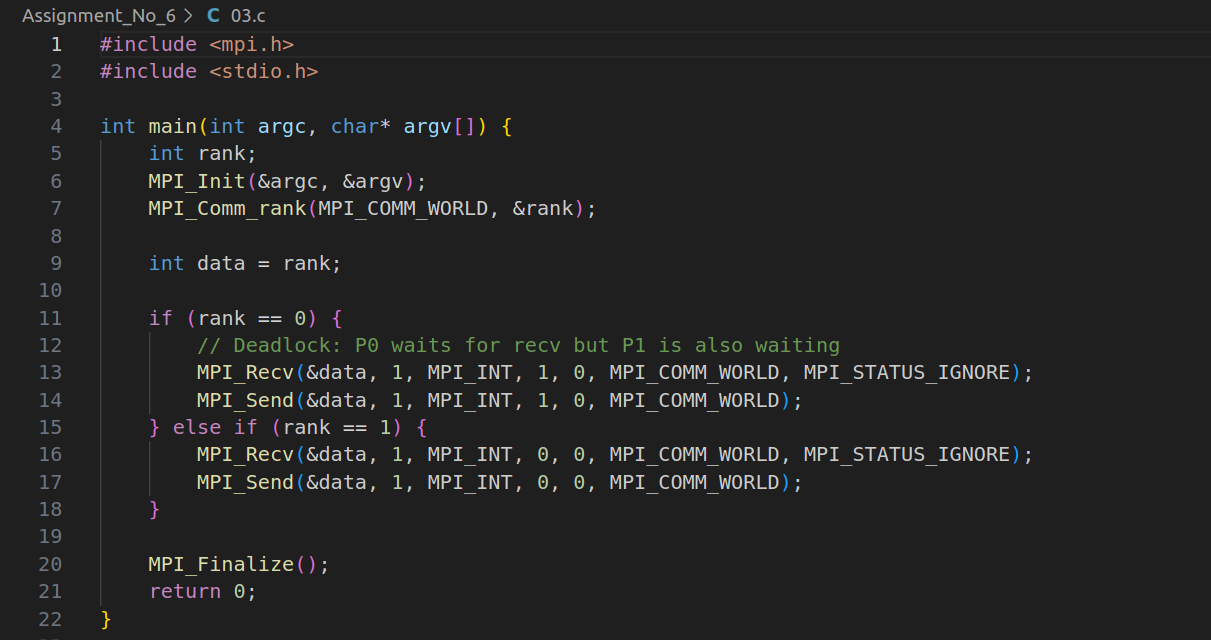
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**Screenshot:**

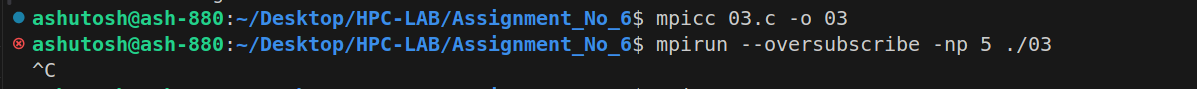


**Q3: Implement a MPI program to give an example of Deadlock.**

**Program:**

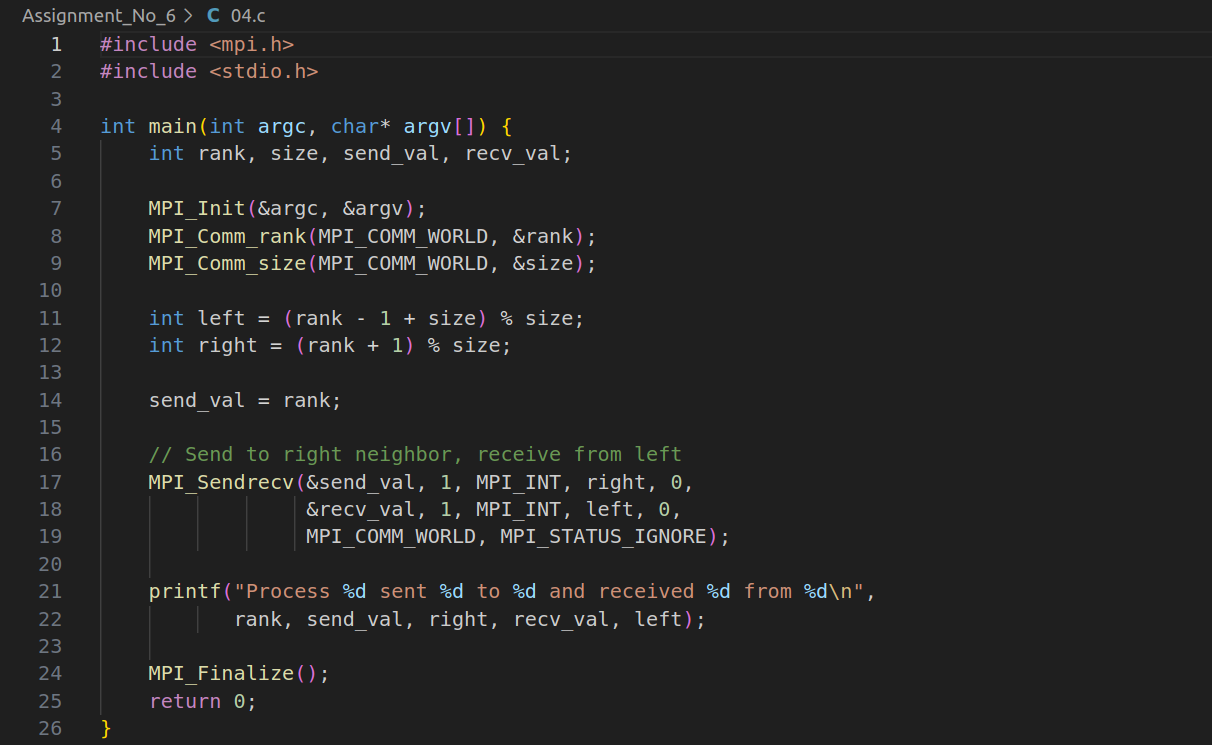


**Screenshot:**

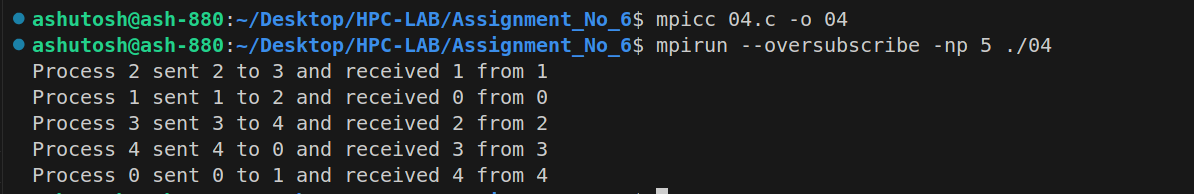
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**Q4. Implement blocking MPI send & receive to demonstrate Nearest neighbor exchange of data in a ring topology.**

**Program**



**Screenshot:**

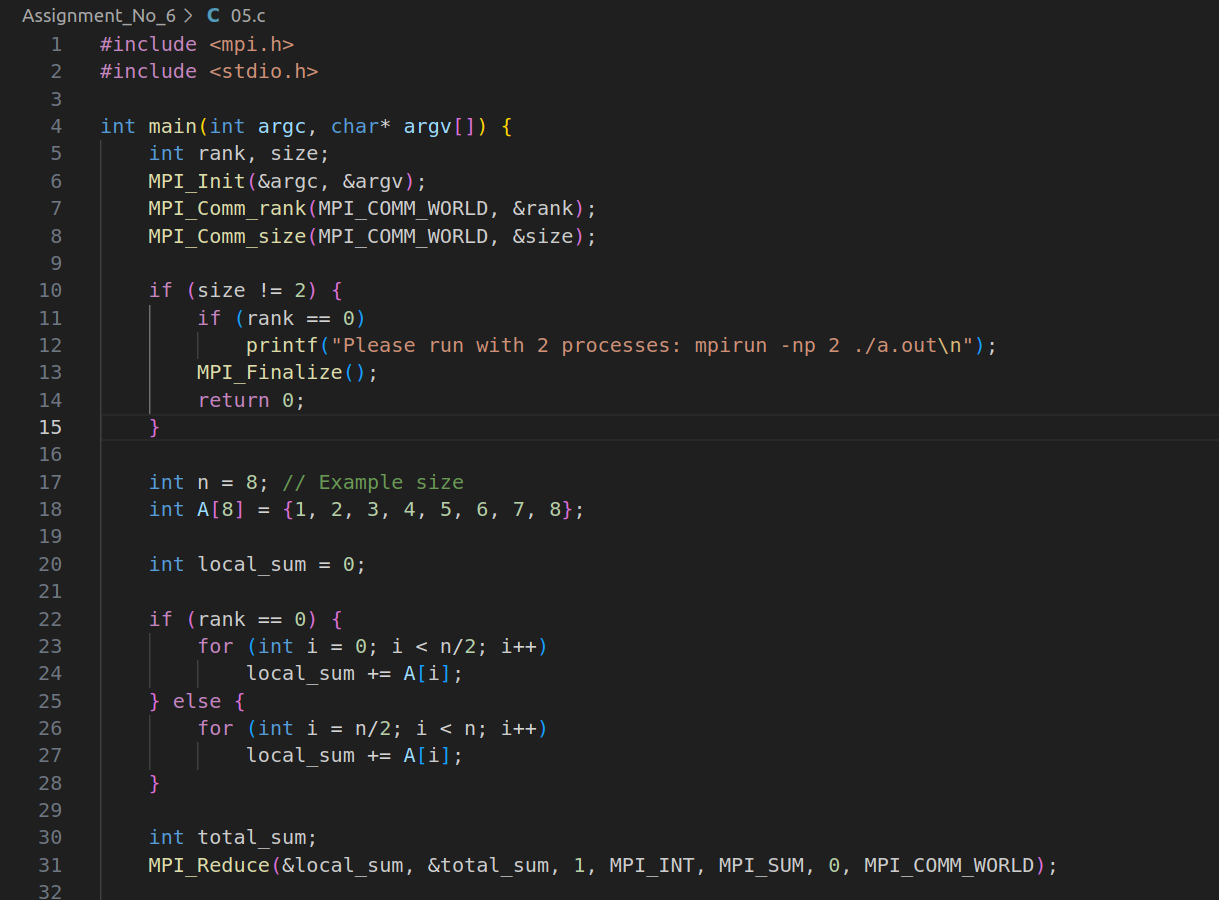
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**Q5. Write a MPI program to find the sum of all the elements of an array A of size**

**n. Elements of an array can be divided into two equals groups. The first [n/2]**

**elements are added by the first process, P0, and last [n/2] elements the by second process, P1. The two sums then are added to get the final result.**

**Program**



**Screenshot:**

