Computer Programming Paradigm Lab
Lab Experiment No. 8

Name: Shashwat Tripathi   Roll. No.: 60
Batch: C   Div: D10A

Aim: Implement multi-threading in C++.

Problem Statement & Output:
Write a program to display Even and Odd numbers alternatively, using threads.

```cpp
#include <iostream>

#include <thread>

#include <mutex>

#include <condition_variable>

using namespace std;

mutex mu;

condition_variable cond;

int count = 1;

void PrintOdd()

{

    for (; count < 10;)

    {

        unique_lock<mutex> locker(mu);

        cond.wait(locker, []()

                { return (count % 2 == 1); });

        cout << "From Odd : " << count << endl;

        count++;

        locker.unlock();

        cond.notify_all();

    }

}

void PrintEven()

{

    for (; count < 10;)

    {

        unique_lock<mutex> locker(mu);

        cond.wait(locker, []()

                { return (count % 2 == 0); });
```

```cpp
        cout << "From Even: " << count << endl;

        count++;

        locker.unlock();

        cond.notify_all();

    }

}

int main()

{

    cout << "D10A_60_Shashwat Tripathi" << endl

        << endl;

    thread t1(PrintOdd);

    thread t2(PrintEven);

    t1.join();

    t2.join();

    return 0;

}
```

```
D10A_60_Shashwat Tripathi

From Odd : 1
From Even: 2
From Odd : 3
From Even: 4
From Odd : 5
From Even: 6
From Odd : 7
From Even: 8
From Odd : 9
From Even: 10

Process returned 0 (0x0)    execution time : 0.168 s
Press any key to continue.
```