Question05.cpp

```cpp
1   // DSA LAB 7
2   // <---Q5--->
3
4   // Write a recursive method that for a positive integer n prints odd numbers
5
6   // a. between 1 and n
7   // b. between n and 1
8
9
10  #include <iostream>
11  using namespace std;
12  void printOddNumbersUpToN(int n) {
13      if (n >= 1) {
14          printOddNumbersUpToN(n - 1);
15          if (n % 2 != 0) {
16              cout << n << " ";
17          }
18      }
19  }
20  void printOddNumbersDownTo1(int n) {
21      if (n >= 1) {
22          if (n % 2 != 0) {
23              cout << n << " ";
24          }
25          printOddNumbersDownTo1(n - 1);
26      }
27  }
28  int main() {
29      int n;
30      do {
31          cout << "Enter a positive integer (n): ";
32          cin >> n;
33      } while (n <= 0);
34      cout << "a. Odd numbers between 1 and " << n << ": ";
35      printOddNumbersUpToN(n);
36      cout << "\nb. Odd numbers between " << n << " and 1: ";
37      printOddNumbersDownTo1(n);
38      cout << endl;
39      return 0;
40  }
41
```