Day 73/180 Solving Recursion From 4 Method

1: Print all odd numbers from 1 to n using recursion.

```cpp
#include <iostream>
using namespace std;

// Function to print all odd numbers from 1 to n recursively
void printOddNumbers(int n) {
    if (n <= 0) {
        return; // Base case: stop recursion when n becomes non-positive
    } else {
        printOddNumbers(n - 1); // Recursive call with reduced n
        if (n % 2 != 0) {
            cout << n << " "; // Print the odd number
        }
    }
}

int main() {
    int n;
    cout << "Enter a positive integer: ";
    cin >> n;

    if (n > 0) {
        // Print all odd numbers from 1 to n using recursion
        printOddNumbers(n);
    } else {
        cout << "Please enter a positive integer." << endl;
    }

    return 0;
}
```

2: Print all numbers from 10 to n using recursion, where n will be greater than 10.

```cpp
#include <iostream>
using namespace std;

// Function to print all numbers from 10 to n recursively
void printNumbers(int start, int n) {
    if (start > n) {
        return; // Base case: stop recursion when start becomes greater than n
    } else {
        cout << start << " "; // Print the current number
        printNumbers(start + 1, n); // Recursive call with incremented start
    }
}

int main() {
    int n;
    cout << "Enter an integer greater than 10: ";
    cin >> n;

    if (n > 10) {
        // Print all numbers from 10 to n using recursion
        printNumbers(10, n);
    } else {
        cout << "Please enter an integer greater than 10." << endl;
    }

    return 0;
}
```

3: Write a Table program using recursion. Take input number n, and print its table.

```cpp
#include <iostream>

using namespace std;

// Function to print the table of a number recursively
void printTable(int n, int multiplier) {
    if (multiplier > 10) {
        return; // Base case: stop recursion when multiplier becomes greater than 10
    } else {
        cout << n << " * " << multiplier << " = " << n * multiplier << endl;
        printTable(n, multiplier + 1); // Recursive call with incremented multiplier
    }
}

int main() {
    int n;
    cout << "Enter a number to print its table: ";
    cin >> n;

    // Print the table of the entered number using recursion
    printTable(n, 1);

    return 0;
}
```