

# Day 72/180 Introduction to Recursion

1: Print "Coder Army" 10 times using recursion

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

// Function to print "Coder Army" recursively 10 times
void printCoderArmy(int n) {
    if (n == 0) {
        return; // Base case: stop recursion when n becomes 0
    } else {
        cout << "Coder Army" << endl;
        printCoderArmy(n - 1); // Recursive call with reduced n
    }
}

int main() {
    // Print "Coder Army" 10 times using recursion
    printCoderArmy(10);

    return 0;
}
```

2: Print all odd number from n to 1 using recursion

```

#include <iostream>
using namespace std;

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

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

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

    return 0;
}

```

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

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

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

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

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

    return 0;
}
```