# 1. The Drumbeats of the Festival (Print 1 to n)

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

void printN(int n) {
    if (n == 0) {
        return;
    }
    printN(n - 1);
    cout << n << " ";
}

int main() {
    int n;
    cin >> n;
    printN(n);
    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   PORTS                    ≥ zsh + ∨ ⊡ 🗑 … | ⌂ ⨯

```
● anshikathakur@Anshikas-Laptop myCproject % g++ Q1_03.cpp
● anshikathakur@Anshikas-Laptop myCproject % ./a.out
5
1 2 3 4 5
anshikathakur@Anshikas-Laptop myCproject %
```

## 2. The Echo in the Cave (Print n to 1)

```cpp
G+ Q2_03.cpp > ⊘ printN(int)
1    #include <iostream>
2    using namespace std;
3    void printN(int n){
4        if(n==0){
5            return;
6        }
7        cout << n << " ";
8        printN(n-1);
9
10   }
11
12   int main() {
13       int n;
14       cin >> n;
15       printN(n);
16       return 0;
17   }
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   PORTS                  >_ zsh  + ∨  ☐  🗑  …  | []  ✕

```
● anshikathakur@Anshikas-Laptop myCproject % g++ Q2_03.cpp
● anshikathakur@Anshikas-Laptop myCproject % ./a.out
5
5 4 3 2 1 %
✧ anshikathakur@Anshikas-Laptop myCproject % ▮
```

## 3. The King's Treasury (Sum of First n Numbers)

```cpp
Q3_03.cpp > main()
1    #include <iostream>
2    using namespace std;
3
4    int sumN(int n){
5        if(n==0){
6            return 0;
7        }
8        return n + sumN(n-1);
9    }
10
11   int main() {
12       int n;
13       cin >> n;
14       int result = sumN(n);
15       cout << result << endl;
16       return 0;
17   }
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS                              zsh

anshikathakur@Anshikas-Laptop myCproject % g++ Q3_03.cpp
anshikathakur@Anshikas-Laptop myCproject % ./a.out
5
15
anshikathakur@Anshikas-Laptop myCproject %
```

## 4. The Wizard's Mirror (Reverse String)

```cpp
#include <iostream>
using namespace std;
void reverseS(string s){
    if(s.length() == 0){
        return;
    }
    string ros = s.substr(1);
    reverseS(ros);
    cout << s[0];
}

int main() {
    string s;
    cin >> s;
    reverseS(s);
    return 0;
}
```

```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

anshikathakur@Anshikas-Laptop myCproject % g++ Q4_03.cpp
anshikathakur@Anshikas-Laptop myCproject % ./a.out
hello
olleh
anshikathakur@Anshikas-Laptop myCproject %
```

## 5. The Treasure Boxes (Sum of Array)

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

int sumCoins(vector<int>& arr, int n) {
    if (n == 0) {
        return 0;
    }
    return arr[n - 1] + sumCoins(arr, n - 1);
}

int main() {
    int n;
    cin >> n;

    vector<int> arr(n);
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }

    cout << sumCoins(arr, n) << endl;
    return 0;
}
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS                    zsh

● anshikathakur@Anshikas-Laptop myCproject % g++ Q5_03.cpp
● anshikathakur@Anshikas-Laptop myCproject % ./a.out
 5
 2 5 3 8 6
 24
anshikathakur@Anshikas-Laptop myCproject %
```

# 6. The Traveler's Steps (Climbing Stairs)

```cpp
#include <iostream>
using namespace std;
int countSteps(int n){
    if(n==0) return 1;
    if(n<0) return 0;
    return countSteps(n-1) + countSteps(n-2);
}

int main() {
    int n;
    cin >> n;
    cout << countSteps(n) << endl;
    return 0;
}
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS                    zsh

anshikathakur@Anshikas-Laptop myCproject % g++ Q6_03.cpp
anshikathakur@Anshikas-Laptop myCproject % ./a.out
3
3
anshikathakur@Anshikas-Laptop myCproject %
```

## 7. The Princess's Lock (Factorial)

```cpp
#include <iostream>
using namespace std;
int factorial(int n){
    if(n==0 || n==1) return 1;
    return n * factorial(n-1);
}

int main() {
    int n;
    cin >> n;
    cout << factorial(n) << endl;
    return 0;
}
```

```
anshikathakur@Anshikas-Laptop myCproject % g++ Q7_03.cpp
anshikathakur@Anshikas-Laptop myCproject % ./a.out
4
24
anshikathakur@Anshikas-Laptop myCproject %
```

# 8 . The Rabbit's Family (Fibonacci)

```cpp
#include <iostream>
using namespace std;
int fibonacci(int n){
    if(n==0) return 0;
    if(n==1) return 1;
    return fibonacci(n-1) + fibonacci(n-2);
}

int main() {
    int n;
    cin >> n;
    cout << fibonacci(n) << endl;
    return 0;
}
```

```
anshikathakur@Anshikas-Laptop myCproject % g++ Q8_03.cpp
anshikathakur@Anshikas-Laptop myCproject % ./a.out
6
8
anshikathakur@Anshikas-Laptop myCproject %
```