Shri Vile Parle Kelavani Mandal's

INSTITUTE OF TECHNOLOGY

DHULE (M.S.)

DEPARMENT OF COMPUTER ENGINEERING

Subject: Competitive Programming Lab (BTCOL606)

Remark

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Class : T.Y Comp **Batch : T2** **Division: T**

Signature

Expt. No. :12 **Date :**

Title : Problem 12: Write a Program to implement Combinatorics Pascal's Triangle of Death

Code:

```
// MOHAMMAD_ANAS_31_TY_COMP

#include <iostream>
#include <vector>
using namespace std;
int main() {
    const unsigned long long LIMIT = 1e60; // 10^60
    vector<unsigned long long> row = {1}; // Initialize first row
    int line_count = 0;
    while (line_count < 7) {
        // Print current row
        for (size_t i = 0; i < row.size(); ++i) {
            cout << row[i];
            if (i < row.size() - 1) cout << " ";
        }
```

```
cout << endl;
line_count++;
// Generate next row
vector<unsigned long long> next_row = {1}; // Start with 1
bool exceed_limit = false;
// Calculate middle elements
for (size_t i = 1; i < row.size(); ++i) {
    unsigned long long next_val = row[i-1] + row[i];
    if (next_val >= LIMIT) {
        exceed_limit = true;
    }
    next_row.push_back(next_val);
}
next_row.push_back(1); // End with 1
// Check if limit exceeded
if (exceed_limit) {
    // Print the row that caused exceed
    for (size_t i = 0; i < next_row.size(); ++i) {
        cout << next_row[i];
        if (i < next_row.size() - 1) cout << " ";
    }
    cout << endl;
    break;
}
// Update row for next iteration
```

```
        row = next_row;
    }
    return 0;
}
```

Output: