1. **Pascal triangle**

**Code:**

#include <stdio.h>

// Function to calculate the factorial of a number

int factorial(int n) {

if (n == 0 || n == 1)

return 1;

else

return n \* factorial(n - 1);

}

// Function to calculate the binomial coefficient C(n, k)

int binomialCoeff(int n, int k) {

return factorial(n) / (factorial(k) \* factorial(n - k));

}

// Function to print Pascal's triangle

void printPascalTriangle(int numRows) {

for (int i = 0; i < numRows; i++) {

// Print spaces to align the triangle

for (int j = 0; j < numRows - i - 1; j++) {

printf(" ");

}

// Print values for the current row

for (int j = 0; j <= i; j++) {

printf("%d ", binomialCoeff(i, j));

}

printf("\n");

}

}

int main() {

int numRows;

// Input the number of rows for Pascal's triangle from the user

printf("Enter the number of rows for Pascal's triangle: ");

scanf("%d", &numRows);

// Print Pascal's triangle

printPascalTriangle(numRows);

return 0;

}

**Output:**

Enter the number of rows for Pascal's triangle: 5

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

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Process exited after 2.275 seconds with return value 0

Press any key to continue . . .

