### SIENA COLLEGE

**22nd Annual**

### High School Programming Contest

##### April 3, 2009

###### **Problem #1: The Fifth Power**

Background Information: According to the Binomial Theorem:

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The coefficients of the monomial terms in the expansion of (*x* + *y*)5 are the same as the values on a corresponding row in *Yang Hui’s Triangle*. Yang Hui’s Triangle can be computed by the following method.

1. Start with a row with a single 1
2. On successive rows, add the numbers directly above and to the left/right together to get the new value. If a number above in either direction doesn’t exist, substitute a zero for that missing number.

###### Programming Problem:

Input: Two positive integers X ≤ 10 and Y≤ 10.

Output: The sum of X and Y raised to the 5th power.

###### Example 1: Input: 1 2

###### Output: 243

###### Example 2: Input: 10 8

###### Output: 1889568

Example 3: Input: 4 7

Output: 161051

