

Input and Output

For each program below, use meaningful prompts and informative output.

1. Ask the user to enter their first and last names, then display their full name on a single line.
2. Have the user enter a letter and a positive integer, then display a string of characters consisting of that letter repeated that number of times. If the user enters “A” and 5, your program should display the string “AAAAA”.
3. Read two integers from the user and determine their sum and their product.
4. Read three integers from the user and determine the maximum and minimum values.
5. Read the cost of a meal from the user, and generate a bill that shows the cost, the amount of tax (13% HST), and the final price of the meal.
6. Modify your program from Q3 to add a “suggested tip” that is 20% of the final price.
7. Read four integer values representing the x - and y -coordinates of two points, then find the slope of the line passing through the two points using the formula $m = \frac{y_2 - y_1}{x_2 - x_1}$. For example, the slope of the line through (4, -2) and (6, 1) is $\frac{1 - (-2)}{6 - 4} = \frac{3}{2}$, or 1.5.
8. The number of possible ways to select r items from a collection of n distinct items is given by the expression $\frac{n!}{r!(n-r)!}$. For example, if you have 6 different coins in your pocket and you randomly draw out 2 of them, then there are $\frac{6!}{2!(6-2)!} = 15$ different possibilities. Read two positive integer values, n and r , and calculate the number of ways to select the items.