BLG102E

Introduction to Scientific and Engineering Computation

Week 6

Task: Calculate the Combination

You are expected to implement a program that calculates the number of combinations of the given total number of objects and the number of selected objects from the set. The formula of the combination can be seen in Equation 1.

Equation 1. *The combination formula.*

$$ {}_nC_r = \frac{n!}{r!(n-r)!} $$

Which:
nCr = number of combinations
n = total number of objects in the set
r = number of choosing objects in the set

The developed program must:

- Get the inputs of n and r from the user.
- Calculate the number of combinations, nCr.
- Print the result out to the console.

Make sure to consider the simplicity and the performance of your program while implementing the functions. (E.g., repeated calculations can be converted to a single function.)

Your program must be tested on the ITU SSH client by using the given Calico file, and make sure that it passes all of the specified cases. The test file is now available on Ninova under the Class Files section.

Note!

- You are not allowed to share your solutions with the other students.
- If you receive any error from Calico testing, please refer to the Calico_Documents_BLG102E file under the Class Files section.
- The expected console outputs should be **identical** with the given test file.

Good luck,

Time: 30 mins.