

Exercise 10 - Factoring Helper

Write a program that lets the user enter b and c for a quadratic expression of the form $x^2 + bx + c$, where b and c are integers, and outputs the factored form of the trinomial if it can be factored, or the statement, “This trinomial cannot be factored” if it can’t.

The purpose is to help Grade 10 students check their math homework.

Your program should be able to handle:

- Trinomials with $a = 1$. For example, $x^2 + 20x + 36 = (x + 18)(x + 2)$

What you will hand in

1. A Python file named *FactoringToolbox.py* that contains your package of functions. This file should not produce any output. That is, it should only contain functions, with no function calls, input statements or print statements.
2. A Python file named *Testing.py* that imports your FactoringToolbox package and uses it to factor simple trinomials with input statements.

Sample Output:

Factoring simple trinomials of the form, $x^2 + b*x + c$

Please enter b: 5

Please enter c: 6

$(x^2+(5)*x+(6)) = (x+(2))*(x+(3))$

>>> ===== RESTART

=====

>>>

Factoring simple trinomials of the form, $x^2 + b*x + c$

Please enter b: 1

Please enter c: -6

$(x^2+(1)*x+(-6)) = (x+(-2))*(x+(3))$

>>> ===== RESTART

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>>>

Factoring simple trinomials of the form, $x^2 + b*x + c$

Please enter b: 2

Please enter c: 3

$(x^2+(2)*x+(3)) =$ This trinomial cannot be factored.

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