Module 13 — More on lists and strings: Activities

(1) Create a list of the first 100 triangular numbers. The triangular numbers are 1, 1+2, 1+2+3, 1+2+3+4, 1+2+3+4+5, … . You should use a for loop where you explicitly calculate the addend.

(2) Create a list of the first 100 pentagonal numbers. The pentagonal numbers are 1, 1+4, 1+4+7, 1+4+7+10, …

(3) Implement twice a function that tests whether a string is a palindrome, such as “able was i ere i saw elba”. One implementation should use the test for equality for strings, the other one should use comparison of individual characters. For the first one, you can generate the reverse string as a slice.

(4) Implement a function \( \text{minus}(\text{listA}, \text{listB}) \) which returns a list of all elements in listA that are not in listB.

(5) Implement a function that takes a string and replaces all consonants with a consonant+‘y’+consonant combination. For example, “string” becomes “systytryrinyngyg”.