Practice Examples for Lab: Set 6

- 1

Write a program that prints a conversion table from Centigrade to Fahrenheit, say between 0° C to 100° C. Write using `while` and also using `for`.

- 2

Suppose we are given n points in the plane: $(x_1, y_1), \ldots, (x_n, y_n)$. Suppose the points are the vertices of a polygon, and are given in the counterclockwise direction around the polygon. Write a program using a `while` loop to calculate the perimeter of the polygon. Also do this using a `for` loop.

- 3

Write a program that returns the approximate square root of a non-negative integer. For this exercise define the approximate square root to be the largest integer smaller than the exact square root. Your are expected to not use the built-in `sqrt` or `pow` commands, of course. Your program is expected to do something simple, e.g. check integers in order $1, 2, 3, \ldots$ to see if it qualifies to be an approximate square root.

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- 4

Write a program that prints out the digits of a number starting with the least significant digit, going on to the most significant. Note that the least significant digit of a number `n` is simply `n % 10`.

- 5

Write a program that takes a number `n` and prints out a number `m` which has the same digits as `m`, but in reverse order.

- 6

A natural number is said to be a palindrome if the sequence its digits is the same whether read left to right or right to left. Write a program to determine if a given number is a palindrome.