Practice Examples for Lab: Set 8

- 1

The k-norm of a vector (x, y, z) is defined as $\sqrt[k]{x^k + y^k + z^k}$. Note that the 2-norm is in fact the Euclidean length. Indeed, the most commonly used norm happens to be the 2 norm. Write a function to calculate the norm such that it can take k as well as the vector components as arguments. You should also allow the call to omit k, in which case the 2 norm should be returned.

- 2

Write a function to find the cube root of a number using Newton's method. Accept the number of iterations as an argument.

- 3

Modify the function `polygon` so that it returns the perimeter of the polygon drawn (in addition to drawing the polygon).

- 4

Write the function `read_marks_into` and the main program for mark averaging using pointers.

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- 5

A key rule in assignment statements is that the type of the value being assigned must match the type of the variable to which the assignment is made. Consider the following code:

```
int *x,*y, z=3      ;


y = &x;
z = y;
y = *x;
```

Each of the assignments is incorrect. Can you guess why? If not, write the code in a program, compile it, and the compiler will tell you!