

Chapter 1 Notes

Chapter shows what we will be doing later. This book doesn't make you write lots of code.

We will read a lot of code examples. We will use what we are learning with some practice exercises.

Computing
with
numbers

Computers were first used for calculations. Naming a number is creating a variable.

Variables are names associated with memory that has a value that can change or vary.

Computing
with
words

Computers can also use words, called strings. Strings are a sequence of characters.

We can make strings by writing words in single, double, and triple quotes. We can do stuff with strings using + and *. + puts two strings together, and * repeats strings.

Computing
with
Turtles

These turtles aren't real, they are virtual. This idea came about in the 1960s, when it was a turtle robot with a pen that coders coded to make drawings.

The code reads a library that holds the code to work with turtles, makes a screen for the turtle and its future drawing, creates a turtle named Alex, then makes Alex move around, drawing as it goes. Each line uses this #, which creates a comment, which is something the computer ignores

code is here
↓
from turtle import *

use the turtle library
space = Screen() # create a turtle space
alex = Turtle() # create a turtle named alex
alex.forward(150) # move forward by 150 units
alex.left(90) # turn by 90 degrees
alex.forward(75) # move forward by 75 units

Computing with images

Pictures on computers are made of bits called pixels, they're laid on a grid from left to right and top to bottom.

X goes up going right and
Y goes up going down.

Each pixel has color, →
some red, green, and blue.
Each of these said colors have a range of 0 to 255

All pictures are used using the numbers for red, green, and blue.

Important Vocab

Code - also known as program; set of instructions that a computer can understand

Comment - explain what's being done in code, will be ignored by computer, meant for people to read, uses #

Dot-Notation - how you ask an object to do something, in Python use the name of the object followed by a dot, followed by what you want it to do, ended with parenthesis with a value.

Library - group of programs that has some functionality

Pixel - one small part of a picture stored in a grid and have both x and y values, has a color which is defined with how much red, green, and blue with values of 0 to 255

Screen - from turtle library, space for turtle to draw on and move in

String - sequence of characters
that can be typed between single,
double, or triple quotes.

Variable - a name associated with
computer memory that can have a
value that can change or vary.