Exercise – Introduction to Programming

Exercises:

1. The class will split into pairs. In each group, one person will be the 'programmer', and the other will be the 'interpreter':
   a. The programmer will draw a basic shape made up of only straight lines. Do not show the drawing to the interpreter. This could be a letter, house, triangle, star, rectangle etc.
   b. The programmer's job is to write a list of instructions for the interpreter to follow that describe how to re-create the image. However, the only instructions the programmer is allowed to use are:
      i. Pen Up
      ii. Pen Down
      iii. Move North (length in cm)
      iv. Move South (length in cm)
      v. Move East (length in cm)
      vi. Move West (length in cm)
      vii. Move North-East (length in cm)
      viii. Move North-West (length in cm)
      ix. Move South-East (length in cm)
      x. Move South-West (length in cm)
      xi. Finish
   c. The programmer should not be able to see the image as the interpreter draws until the interpreter reaches the "Finish" instruction. At this point, the programmer and interpreter can compare the images. What the programmer intended, what the interpreter created.
   d. Once complete, swap roles and repeat the exercise.