Python to English examples

`print("hello!")`	Prints a value on screen (in this case, hello!)
`input("")`	Inputs a value into the computer.
`x = input("")`	Inputs a value and stores it into the variable x.
`x = int(input(""))`	Inputs a value into x, whilst also making it into an integer.
`answer = x + y`	Saves the result of x and y added together in a variable named answer.
`print(str(x))`	Prints the variable x, but converts it into a string first.
`print("Hello", "World")`	Prints the two strings concatenated with a space between. This code would output "Hello World".
`age = 12` `print("Age: " + str(age))`	The + joins together two variables when printing. Str has to be used to cast age to be a string. This code will output "Age: 12".
`if name == "Fred":`	Decides whether the variable 'name' ha a value which is equal to 'Fred'.
`else:`	The other option if the conditions for an if statement are not met (eg. name = 'Bob' when it should be Fred)
`elif name == "Tim":`	elif (short for else if) is for when the first if condition is not met, but you want to specify another option.
`# COMMENT`	# is used to make comments in code – any line which starts with a # will be ignored when the program runs. They are used to describe the code to a programmer.
`for i in range(0,10):` `  # WRITE CODE HERE`	Repeats any code indented after this line a set number of times, in this case, 10.
`while x < 10:` `  # WRITE CODE HERE`	Repeats any code indented after this line until a condition is met, in this case x becoming equal to or greater than 10.
`list = ["",""]`	Creates a variable and makes it an array – a list which can store many values.

Selection example code

```
fav_num = int(input("Pick a number between 1 & 10..."))

if(fav_num == 7):
   print("Good guess!")
elif(fav_num < 7):
   print("Too low!")
else:
   print("Too high!")
```

The code above inputs a number. If the number is 7 it will print "Good guess!", if it is less than 7 it will print "Too low!" and for anything else it will print "Too high!".

Iteration

Count-controlled loop — Giving a specific number of times to repeat the instructions

```
for number in range(0,10):
    print (number)
```

Conditioned-controlled loop — When the condition is true, the loop will end

```
number=0
while number != 8:
    number = number + 1
    print ("the number is", number)
```

Python	A high level programming language.
Programming	The process of writing computer programs. Code The instructions that a program uses.
Sequence	Parts of the code that run in order and the path-way of the program reads and runs very line in order.
Selection	Selects a pathways through the code based on whether a condition is true
Iteration	Code is repeated (looped), either while something is true or for a number of times
Algorithm	A set of rules/instructions to be followed by a computer system
Variable	A value that is stored in the program and can change whilst the program is executed. (eg. time, speed)
Arithmetic Operator	Used when calculating data + - / * % (remainder of the calculation) ^ (to the power of)
Comparative Operator	When comparing data, an operator is used to solve the equality such as < less than > greater than != not equal to == equal to
Syntax	The punctuation/way that code has to be written so that the computer can understand it. Each pro-gramming language has its own syntax.
Data Type	This indicates how the data will be stored. The most common data types are integer, string, and float/real.
String	A collection of letters, numbers or characters. (eg, Hello, WR10 1XA)
Integer	A whole number. (eg. 1, 189)
Float/Real	A decimal number, not a whole number. (eg. 3.14, -26.9)
Boolean	1 of 2 values. (eg. True, False, Yes, No)