



Python Programming Knowledge Organiser



? What are we learning about programming in Python?

Python is a type of programming text-based language and allows you to program short commands quickly. It is a powerful language used by many famous services, such as Google (to program Youtube), Netflix, Facebook, Instagram and NASA. Python code is written in syntax, which is a rule on a line. Each new line stops the previous rule and starts a new one.



National Curriculum Content

Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, presenting data and information. Use a textual programming language to solve a variety of computational problems.

Key knowledge

- Know how to use a Python editor to print text and use special functions (new line and speech marks).
- Know how to use Python to program sums and answers (calculator)
- Know how to program a loop to repeat text.
- Know how to program inputs to create an interactive program (typing answers to questions).
- Find errors in a program (debugging)
- Use the send message function to create a chat program.



Quick tips

- Type Python text carefully, any tiny mistake will stop the program working.
- When writing text, some punctuation such as " and \ is part of the Python code so you need to put a \ before it (" is \" and \ is \\).
- You can program a calculator in Python but you need to use different characters for the operations (/ is divide and * is times).



Important Vocabulary

Syntax	This is the set of rules that decides how the Python code will be written. Each rule is written on a line and a new line starts a new rule. Rules could be text, inputs or messages.
Print	Print is used in python to add program text, such as type your name or ask a question.
Range	Range is used to tell the program which numbers you would like to use. For example, putting (1,11) is all the numbers between 1 and 11.

Programming in Python



```

1 hero.moveDown()
2 hero.moveLeft()
3 hero.moveRight()
4 hero.moveUp()
5 hero.moveUp(2)
6
7 # Grab all the gems
8
9
10 n = int(input("Input a number: "))
11 for i in range(1,11):
12     print(n, 'x', i, '=', n*i)
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

```