

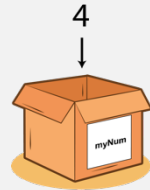
Computing Knowledge Organiser: Python Programming

Explore a range of programming techniques using the Python programming language

Giving values to variables

Use a single equals sign

```
lives = 3  
playerName = "Chris"
```



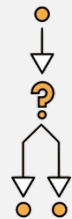
Change the value of a variable

```
score = score + 5  
lives = lives - 1
```

If - Else block

Used to choose a path through a program based on a condition of some kind

```
if temperature < 100:  
    # do this code  
else:  
    # do this code instead
```



For loop

Repeats a block of code a set number of times

```
for dieThrow in range(0, 6):  
    # repeat code 6 times
```



Display something on the screen

Uses the print command

```
print("Hello world!")  
print(playerName)  
print("Your score is", score)
```



Getting a value from a user

Uses the input command

```
playerName = input("Enter name: ")  
  
Numbers need to be converted:  
age = int(input("Enter age: "))
```

Using a comment

A comment is code that is meant for humans. The computer ignores it. Use a hashtag

```
# this is a comment
```

While loop

Repeats a block of code until a condition is met

```
while lives > 0:  
    # repeat code in the loop
```



Key Terminology:

1. **Algorithm:** a set of instructions to complete a task
2. **Program:** computer code written to complete a task
3. **Sequence:** putting program code in the right order
4. **Selection:** choosing a path through a program, usually by using an IF - ELSE statement
5. **Repetition:** repeating a block of code in a program
6. **Iteration:** another word for repetition
7. **Variable:** a named value that is stored in computer memory and can be used in a program
8. **Boolean:** a variable that can either be True or False but nothing else
9. **Integer:** a whole number
10. **String:** a letter, word or phrase stored in a variable

Online Python

Code online

<https://tinyurl.com/mu8j6cbt>

Code Today

Code online (good for Turtles)

<https://tinyurl.com/mvu8hvjn>

W3 Schools

Python tutorial

<https://tinyurl.com/5n8z2rb8>

BBC Bitesize

KS3 programming tutorials

<https://tinyurl.com/27258v5d>