

Python Basics (Continued)

Opening & Closing a File

```
# Open the file "example.txt" for reading
file1 = open("example.txt", "r")
# Close the file
file1.close()

# Open the file "example.txt" for writing, using 'with' to ensure it closes
automatically
with open("example.txt", "w") as file2:
    pass
```

The open() function opens a file in the specified mode ("r" for reading, "w" for writing).

Reading a File

```
with open("example.txt", "r") as file:
    # Read all lines from the file
    lines = file.readlines()
    for line in lines:
        print(line)
```

This opens a file for reading, reads all lines from the file into a list and prints each line.

Writing a File

```
with open("example.txt", "a") as file:
    # Write a new line to the file
    file.write("\nThis is a new line\n")
```

This opens a file for writing in append mode and writes a string to it.

Introduction to Classes

The "class" keyword to define a class

```
class Person:
    # This method initialises the Person class with name and age
    def __init__(self, name, age):
        self.name = name
        self.age = age

    # This method prints a greeting with the person's name and age
    def greet(self):
        print(f"Hello, my name is {self.name} and I am {self.age} years old.")

# Create a Person object named "Alice" who is 30 years old
person = Person("Alice", 30)

# Call the greet method to print the greeting
person.greet()
```

This defines a "Person" class with an __init__ method (constructor) to initialise the object's attributes and a greet method to return a greeting message. An instance of the class is created and its greet method is called.

Additional Resources:

https://indico.cern.ch/event/865287/attachments/1971788/3280306/beginners_python_cheat_sheet_pcc_all.pdf