Basic Python #5

AI Mentorship

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Python: Modules

Consider a module to be the same as a code library.
A file containing a set of functions you want to include in your application.

Create a Module

Created a module with file extension .py (ex: mymodule.py)

```
def greeting(name):
  print("Hello, " + name)
```

Use a Module

```
import mymodule
mymodule.greeting("Jonathan")
```

Python: Math Modules

Python has a set of built-in math functions, including an extensive math module, that allows you to perform mathematical tasks on numbers.

The `math.pi` constant, returns the value of PI (3.14...):

```
import math
x = math.pi
print(x)
```

The `math.sqrt()` method for example, returns the square root of a number:

```
import math
x = math.sqrt(64)
print(x)
```

Python: Dates Modules

A date in Python is not a data type of its own, but we can import a module named `datetime` to work with dates as date objects.

Display the current date:

```
import datetime
x = datetime.datetime.now()
print(x)
```

Python: File Handling

File handling is an important part of any web application.
Python has several functions for creating, reading, updating, and deleting files.

The key function for working with files in Python is the `open()` function.
The `open()` function takes two parameters; filename, and mode.

There are four different methods (modes) for opening a file:

`"r"` - Read - Default value. Opens a file for reading, error if the file does not exist
`"a"` - Append - Opens a file for appending, creates the file if it does not exist
`"w"` - Write - Opens a file for writing, creates the file if it does not exist
`"x"` - Create - Creates the specified file, returns an error if the file exists

Python: File Handling - Write & Append

To write to a file, you must add a parameter to the `open()` function:

`"a"` - Append - will append to the end of the file
`"w"` - Write - will overwrite any existing content

Append to File

```
f = open("file.txt", "a")
f.write("Added text")
f.close()
```

Write to File

```
f = open("file.txt", "w")
f.write("Hello!")
f.close()
```

Python: File Handling - Read

A `read()` method for reading the content of the file:

Read a File

```
f = open("file.txt", "r")
print(f.read())
```

Read Only Parts of the File

```
f = open("file.txt", "r")
print(f.read(5))
```

Read Line

```
f = open("file.txt", "r")
print(f.readLine())
```

Python: File Handling - Delete

To delete a file, you must import the OS module, and run its `os.remove()` function:

Remove the file "file.txt":

```
import os
os.remove("demofile.txt")
```