02c_python_files

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1 Python for Actuaries Part 2

1.1 Agenda

In this notebook, we will cover: - File operations - Opening files - Reading files - Writing files

2 File Operations in Python

In Python, we can easily work with files, whether for reading data or writing information. Working with files involves three steps:

1. **Opening** the file: We can open a file using the `open()` function to read or write.
2. **Reading or Writing**: Once the file is opened, we can perform the desired operations.
3. **Closing** the file: After the operations are completed, the file is closed to free up resources.

2.0.1 Basic File Operations:

- **Reading a file**: We can read the contents of a file using `read()` or `readline()`.
- **Writing to a file**: We can write text to a file using `write()`.
- **Handling file paths**: Absolute and relative paths can be used to save or open files in different locations.

2.1 Code Examples:

2.1.1 1. Reading a File

In this example, the contents of a text file are read in their entirety.

```python
# Opening a file in read mode ('r')
with open('example.txt', 'r') as file:
    content = file.read()  # Read the entire content
    print(content)
```

2.1.2 2. Writing to a File

To write text to a file, we open the file in write mode 'w'.

```python
[ ]: # Opening a file in write mode ('w')
pass
```

2.1.3   3. Reading a File Line by Line

Sometimes it is more efficient to read the file line by line.

```
[ ]: # opening a file in read mode ('r')
     pass
```

2.1.4   4. Handling File Paths

We can also write and read files in locations other than the current folder:

```
[ ]: # writing to a file in folder
     pass
```

```
[ ]: # reading from a file in folder
     pass
```