Exercise 4: Boto3 Basics

Time: 15 minutes

Objective

Use Python's `boto3` library to interact with S3 programmatically.

Setup

```
pip install boto3
```

> boto3 uses the same credentials as AWS CLI: - macOS/Linux: `~/.aws/`
> `credentials` - Windows: `C:\Users\YOUR_USERNAME\.aws\credentials`

Part 1: List buckets and objects

```python
import boto3

client = boto3.client("s3")

# List all buckets
response = client.list_buckets()
for bucket in response["Buckets"]:
    print(bucket["Name"])

# List objects inside a bucket
response = client.list_objects_v2(Bucket="YOUR-BUCKET-NAME")
for obj in response.get("Contents", []):
    print(obj["Key"])
```

Part 2: On your own

Complete these tasks using boto3:

1. List all buckets in your AWS account
2. List all objects inside one of your buckets
3. Upload a file to the bucket inside the `raw/` path

Hints

- Check the boto3 S3 documentation: https://boto3.amazonaws.com/v1/documentation/api/latest/reference/services/s3.html
- The library uses capitalized parameter names like `Filename`, `Bucket`, `Key`
- Look for `upload_file()` in the documentation

Solution

```python
import boto3

client = boto3.client("s3")

response = client.upload_file(
    Filename="local_folder/myfile.txt",
    Bucket="my_bucket",
    Key="raw/myfile.txt",
)
```

Verification

Go to the AWS Console and check that the file appears in your bucket under `raw/`.