Practice Exercise: Create a Python Package for Meme Generation

Objective

In this exercise, you will create a Python package named `meme` that generates random memes by combining captions and images.

Learning Goals

- Understand how to organize code into modules and packages.
- Practice writing Python functions in separate modules.
- Use relative imports within a package.
- Learn to import from a package in a separate script.
- Build a small interactive application.
- Package Structure

Instructions

You will create a package called ‘meme’ with the following modules:

- “captions.py”: Contains functions to provide random captions.
- “images.py”: Contains functions to provide random image URLs.
- “generator.py”: Combines captions and images to generate memes.

Tasks

1. Create the “captions.py” Module

- Create a Python module “captions.py” inside the “meme” folder.
- Write a function “get_random_caption()” that returns a random meme caption from a list of captions.
- Use Python's built-in “random” module to choose a random caption.

2. Create the “images.py” Module

- Create a Python module “images.py” inside the “meme” folder.
- Write a function “get_random_image_url()” that returns a random image URL (you can use URLs from open image sites or placeholders).
- Use the “random” module to select a random image URL from a list.

3. Create the “generator.py” Module

- Create a Python module “generator.py” inside the “meme” folder.
- Import the two functions from “captions” and “images” modules using imports
- Write a function “generate_meme()” that:

    - Calls “get_random_caption()” and “get_random_image_url()”
    - Returns a string that combines the caption and image URL in a friendly format

4. Create a Script to Use the Package

- Outside the “meme” folder, create a Python script “main.py”.
- Import “generate_meme” function from “meme.generator” module.
- Call the function and print the meme to the console, with a friendly message.