



Polymorphism with Coffee Beans Activity

Objective:

- Understand the concept of polymorphism in object-oriented programming.
- Implement polymorphism using a base class and derived classes representing different types of coffee beans.

Instructions:

Base Class - `CoffeeBean`:

- Create a base class `CoffeeBean` with the following attributes:
 - `name` (string): The name of the coffee bean.
 - `origin` (string): The country of origin for the coffee bean.
- Implement a method `describe()` in the base class that returns a string with information about the coffee bean.

Derived Class - `ArabicaCoffee`:

- Create a derived class `ArabicaCoffee` that inherits from the `CoffeeBean` class.
- Add an attribute `acidity` (string) to represent the acidity level of the Arabica coffee.
- Override the `describe()` method to include information about the acidity level.

Derived Class - `RobustaCoffee`:

- Create a derived class `RobustaCoffee` that inherits from the `CoffeeBean` class.
- Add an attribute `strength` (string) to represent the strength of the Robusta coffee.
- Override the `describe()` method to include information about the strength.

Polymorphism Demonstration:

- Create instances of different coffee beans, including at least one instance of `ArabicaCoffee` and one instance of `RobustaCoffee`.
- Create a list called `coffee_beans` and add these instances to the list.
- Implement a function called `print_coffee_info(beans)` that takes a list of coffee beans as a parameter and prints information about each bean using polymorphism.

Enhancements (Optional):

- Add more attributes or methods to the classes for further customization.
- Create additional derived classes representing different types of coffee beans.
- Modify the `print_coffee_info()` function to include more details or formatting.

Testing:

- Test your implementation by creating various instances of coffee beans and calling the `print_coffee_info()` function with different lists of coffee beans.

Submission:



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- Share your Python code or a Google Colab notebook containing the implementation.
 - Provide a brief explanation of how polymorphism is demonstrated in your code.

Tips:

- Review the provided example to understand the structure of the base and derived classes.
- Experiment with adding more types of coffee beans and customizing their attributes and methods.
- Feel free to ask questions if you encounter any difficulties.