Project 1: Dream House Construction Cost Estimator

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Introduction

The purpose of my project is to help users to estimate the total construction cost of their dream house. The program will start by asking the user for general attributes of the house (eg. square footage, location, etc.), then moving on to asking for attributes for specific rooms (eg. sink type in bathrooms). The program will ask the user to enter their desired features from a list of choices. For example, when the program asks the user for their flooring preference, the user will get to decide whether they would like hardwood, vinyl, or carpet. When given the list of choices, the properties of each choice (price, durability, color, etc.) will also be displayed to the user to help them make a more informed decision.

When the user is finished picking all of their preferences, the program will total up how much the user's dream house costs. The user will then have an option to go back to create another dream house with different features and compare it to their first dream house.

At any point in the program, the user will be able to ask what attributes they have already chosen and how much their total cost is so far.

There will be classes for the following:

- One class containing information about a house from a high-level overview (eg. number of floors, square footage, etc.)
- One class for attributing properties to specific house features
- A couple classes to store information about certain rooms
- One class to describe the dream house
- One class to describe the alternate dream house, and how it compares to the initial dream house

Classes, Methods, and Functions

Class #1: Base House - This class stores information about the average cost of a base house (aka before user-added features).

- Initialize (number of floors, number of bathrooms, square footage, price)
- Function #1 (self)
    o Returns number of floors.
- Function #2 (self)
    o Returns number of bathrooms.
- Function #3 (self)
    o Returns square footage.
- Function #4 (self)
    o Returns price.

Class #2: Features – This class stores information about each option a user can choose.

- Initialize (feature, durability, water resistance, cost per unit, total cost)
- Function #1: (self)
    - Returns feature.
- Function #3: (self)
    - Returns durability.
- Function #4 (self)
    - Returns water resistance abilities.
- Function #5 (self)
    - Returns cost per unit.
- Function #6 (self)
    - Returns unit type (ft, sqft, count, etc).
- Function #5 (self, number of units)
    - Returns total cost.

Class #3: Bathroom – This class stores information about the bathroom.

- Initialize (counter type, tub/shower, single/double sinks, floor type)
- Function #1: (self)
    - Returns counter type.
- Function #2 (self)
    - Returns tub/shower type.
- Function #3 (self)
    - Returns sink type.
- Function #4 (self)
    - Returns floor type.
- Function #5 (self)
    - Returns total cost per bathroom.
- Function #6 (self, number of bathrooms.
    - Returns total cost of all bathrooms.

Class #4: Kitchen – This class stores information about the kitchen.

- Initialize (counter type, fridge type, single/double sinks, floor type)
- Function #1: (self)
    - Returns counter type.
- Function #2 (self)
    - Returns fridge type.
- Function #3 (self)
    - Returns sink type.
- Function #4 (self)
    - Returns floor type.
- Function #3 (self)
    - Returns total cost.

Class #5: Dream House – This class stores information about the dream house.

- Initialize (cost of floors, cost of windows, cost of exterior finish, cost of roofing, cost of bathroom, cost of kitchen, location)
- Function #1 - #6:

- o Returns cost of each category as listed in initialize marked up by location multiplier.
- Function #7:
    - o Returns sum of all costs.

Class #6: Comparing – This class stores information about the difference in price between two houses.

- Initialize (dream house 1, dream house 2)
- Function #1:
    - o Returns difference in floors, windows, exterior finishes costs.
- Function #2:
    - o Returns difference in kitchen costs.
- Function #3:
    - o Returns differences in bathroom costs.
- Function #4:
    - o Returns difference in total cost.