1. Compare and contrast the float and Decimal classes' benefits and drawbacks.

**Ans:** Python does have another way of dealing with decimal numbers, which is the decimal module. Unlike floats, the Decimal objects defined in the decimal module are not prone to this loss of precision, because they do not rely on binary fractions. Float stores an approximate value and decimal stores an exact value. In summary, exact values like money should use decimal, and approximate values like scientific measurements should use float. When multiplying a non-integer and dividing by that same number, decimals lose precision while floats do not.

2. Why is it preferable to start a Decimal object with a string rather than a floating-point value?

**Ans:** When using floating point literals, always include at least one decimal place (even if the decimal is 0). This helps the compiler understand that the number is a floating-point number and not an integer. Note that by default, floating point literals default to type double.

3. In an arithmetic phrase, how simple is it to combine Decimal objects with integers?

**Ans:** Use int () and float () to convert a string with decimals to an integer

1. a\_string = "1.33"
2. float\_str = float(a\_string)
3. int\_str = int(float\_str)
4. print(int\_str)

4. Can Decimal objects and floating-point values be combined easily?

**Ans:** Decimal objects cannot generally be combined with floats or instances of fractions. However, it is possible to use Python's comparison operators to compare a Decimal instance x with another number y. This avoids confusing results when doing equality comparisons between numbers of different types.

5. How do the Fraction class and the integer type (int) relate to each other? Containment or inheritance?

**Ans:** A fraction where both top and bottom numbers are integers. Example: 1/2 and 3/4 are both Common Fractions. But 1.2/4 is NOT a Common Fraction. (Note: sometimes "Common Fraction" is used to mean "not a Decimal Fraction", but Decimal Fractions also have integers at top and bottom, so are also Common Fractions.). Fractions represent a ratio between two numbers, so they show finite value. For example, 13 or we can say 1 out of 3 parts. Decimals can also represent infinite values along with finite values. For example, if we convert the above fraction to decimal, we get 0.33333333 and it goes on up to infinity.