“Special Methods” for Python Classes

Each of these is called automatically when certain situations occur.
__init__(self, <optional additional args>)

This is called when an object of the class is constructed. If the class name is C we make a new object of the class with

    C( <value for each optional arg> )
This should return a string. It is called automatically whenever the system wants a string representation for an object of the class.
If \( x \) is an object of the class, this is returned by

\[
\text{str}(x)
\]

And it is what is printed by

\[
\text{print}(x)
\]
**add**(self, x)
**sub**(self, x)
**mul**(self, x)
**div**(self, x)

These allow the arithmetic operators + - * / to be used with objects of a class. Each should return a new object. In the expression a op b self is a and x is b.
These allow you to use the comparison operators < <= > >= == and != with objects of the class. Each should return True or False. To sort a list of objects you should have __lt__(self, x) defined for the class.