“Special Methods” for Python Classes

Each of these is called automatically when certain situations occur.
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

\[ C( \text{<value for each optional arg}> ) \]
__str__ (self)

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

\[ \text{print}(x) \]
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.