Q1. Which two operator overloading methods can you use in your classes to support iteration?

Answer> Classes can support iteration by defining (or inheriting) \_\_getitem\_\_ or \_\_iter\_\_. In all iteration contexts, Python tries to use \_\_iter\_\_ first, which returns an object that supports the iteration protocol with a \_\_next\_\_ method: if no \_\_iter\_\_ is found by inheritance search, Python falls back on the \_\_getitem\_\_ indexing method, which is called repeatedly, with successively higher indexes. If used, the yield statement can create the \_\_next\_\_ method automatically.

Q2. In what contexts do the two operator overloading methods manage printing?

Answer> Classes can support iteration by defining (or inheriting) \_\_getitem\_\_ or \_\_iter\_\_. In all iteration contexts, Python tries to use \_\_iter\_\_ first, which returns an object that supports the iteration protocol with a \_\_next\_\_ method: if no \_\_iter\_\_ is found by inheritance search, Python falls back on the \_\_getitem\_\_ indexing method, which is called repeatedly, with successively higher indexes. If used, the yield statement can create the \_\_next\_\_ method automatically.

Q3. In a class, how do you intercept slice operations?

Answer> Slicing is caught by the \_\_getitem\_\_ indexing method: it is called with a slice object, instead of a simple integer index, and slice objects may be passed on or inspected as needed.

Q4. In a class, how do you capture in-place addition?

Answer> In-place addition tries \_\_iadd\_\_ first, and \_\_add\_\_ with an assignment second. The same pattern holds true for all binary operators. The \_\_radd\_\_ method is also available for right-side addition.

Q5. When is it appropriate to use operator overloading?

Answer> When a class naturally matches, or needs to emulate, a built-in type’s interfaces. For example, collections might imitate sequence or mapping interfaces, and callables might be coded for use with an API that expects a function. You generally shouldn’t implement expression operators if they don’t naturally map to your objects naturally and logically, though—use normally named methods instead.