# Python Practice Questions on Magic Methods, Itertools, Map, Generators, Iterators

## Magic Methods (4 Questions)

1. What is the purpose of \_\_init\_\_() magic method in a Python class?

2. How does \_\_str\_\_() differ from \_\_repr\_\_() in Python classes?

3. Write a simple example of overloading the \_\_add\_\_() magic method.

4. Which magic methods are required to make an object context manager?

## Itertools (4 Questions)

5. What is the use of itertools.product()? Give an example.

6. How does itertools.permutations() differ from itertools.combinations()?

7. Explain the purpose of itertools.chain().

8. Write a code snippet using itertools.cycle().

## Map Function (4 Questions)

9. How does the map() function work in Python? What does it return?

10. Write a code snippet to add two lists element-wise using map().

11. What is the difference between map() and filter() functions?

12. Can map() work with lambda functions? Give an example.

## Generators (4 Questions)

13. What is a generator function in Python? How is it defined?

14. How does yield differ from return in a function?

15. Write a simple generator to yield even numbers up to 10.

16. What happens if you call next() on a generator after it is exhausted?

## Iterators (4 Questions)

17. What is an iterator in Python? How is it different from an iterable?

18. Which two magic methods must be implemented for a class to be an iterator?

19. Write a simple iterator class that returns numbers from 1 to 5.

20. How does the iter() function work on a list?