Interview Questions

1. How do you open and write to a file in Python?

You use the built-in open() function with the write mode ('w' or 'a'), then use .write() method:

with open('file.txt', 'w') as f:

   f.write('Hello, World!')

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2. What are common file modes?

- 'r': Read (default)

- 'w': Write (creates or overwrites file)

- 'a': Append (adds to file)

- 'rb', 'wb', 'ab': Read/Write/Append in binary mode

- 'r+': Read and write

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3. What's the use of .strip()?

Removes leading and trailing whitespace (including \n, spaces, tabs) from a string:

s = " hello\n"

print(s.strip()) # Output: 'hello'

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4. How do lists work in Python?

Lists are ordered, mutable (changeable) collections of items:

my_list = [1, 2, 3]

my_list.append(4)

print(my_list) # Output: [1, 2, 3, 4]

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5. What is the difference between append() and insert()?

- append() adds an item to the end of the list.

- insert(index, value) adds an item at a specific position.

lst = [1, 2]

```
lst.append(3)      # [1, 2, 3]

lst.insert(1, 1.5)  # [1, 1.5, 2, 3]
```

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6. How can you remove elements from a list?

- remove(value) – removes first matching value

- pop(index) – removes by index

- del list[index] – deletes item at index

- clear() – removes all items

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7. What are context managers (with statement)?
They handle setup and cleanup actions automatically, commonly used with files:

```
with open('file.txt', 'r') as f:

    data = f.read()

# File is closed automatically after the block
```

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8. How do you loop through a file line by line?

```
with open('file.txt') as f:

    for line in f:

        print(line.strip())
```

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9. What is a data structure?
A data structure is a way of organizing and storing data for efficient access and modification. Examples: lists, tuples, dictionaries, sets.

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10. What happens if the file doesn't exist?

- Opening in 'r' or 'r+' mode → raises FileNotFoundError

- Opening in 'w' or 'a' mode → creates a new file