Python

?? ???(Magic Method) : __init__, __del__

1. ?? ??

□□	□□
Magic Method	□□□ □□□ □□ □□□ , □□□ `__□□__` □□ □□□□ □□ □□ (□□□ , □□ , □ □□ □)□ □□□□□ □□□□ □ □□ □□
Dunder Method	"Double Underscore"□ □□□□ , `__`□ □□□ □□ □□□□ □□□ □□

□ : `__init__` → "□□ □□ (dunder init)"

2. ???? ?????

□□□	□□	□□
`__init__(self, ...)`	□□□ (□□ □□ □ □□ □□)	`p = Person("Alice")`
`__del__(self)`	□□□ (□□ □□ □ □□ □□)	`del p`
`__new__(cls, ...)`	□□ □□ □□ (□□□ □□□□ □□)	□□ □□ □

- https://dainwiki.com/books/python/page/init
- https://dainwiki.com/books/python/page/del

??? ??? ?? (__init__ ??)

??? ??? ?? (`__init__` ??)

1. ?????

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- □□□ □□□ □□ □ □□□□□ .

2. ?? ??? ??

```
class MyClass:
    def __init__(self, name):
        self.name = name
```

- `__init__()`□ □□□□□ □□□ □□□ □□ □□□ □□□ .
- □ □□ □□□□□ □□ `self`□□ □□ , □□ □□ □□□□ □□□ □□□□□ .

3. ?? ??

```
class Person:
    def __init__(self, name, age):
        self.name = name
        self.age = age

p = Person("Alice", 25)
print(p.name)  # Alice
print(p.age)   # 25
```

- `p = Person("Alice", 25)`□ □□□□ `__init__()`□ □□□□ `name`□ `age`□ □□□□□□ .

4. ??? ?? ?? ??

```
class Animal:
    pass


a = Animal()
```

- `__init__()`□ □□□ □□□ □□□
- □□□□ □ □□□ □ □□□

5. ??? ? ??

```
class Student:
    def __init__(self, name="Unknown", grade=1):
        self.name = name
        self.grade = grade
```

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6. ??? ?????

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- □□ □□□ □□ `*args`, `**kwargs`□ □□

```
class Book:
    def __init__(self, *args):
        if len(args) == 1:
            self.title = args[0]
        elif len(args) == 2:
            self.title = args[0]
            self.author = args[1]
        else:
            self.title = "Unknown"
```

7. `__new__()`?? ??

□□	□□
`__new__()`	□□□ □□□ □□□□ □□□
`__init__()`	□□□ □□□ □□□□ □□□□ □□□

8. print? ??

```
class Logger:

    def __init__(self):

        print("Logger □□□□□ □□□□□□□.")


l = Logger()  # □□: Logger □□□□□ □□□□□□□.
```

??? ??? ?? (__del__)

1. ?????

- □□□ □□□□□ □□ □□□□ **0**□ □□ □□□□□ □□□ □ □□□□ □□□□ □□□
- □□ □□ (□□ □□ , □□□□ □□ □□ □)□ □□

2. ?? ??

```
class MyClass:
    def __del__(self):
        print("□□□ □□□□□.")
```

- □□□ □□□ □□□ `__del__` □□□ □
- `self`□ □□ □□□□□ □□□

3. ?? ??

```
class FileHandler:
    def __init__(self, filename):
        self.file = open(filename, 'w')
        print("□□ □□")

    def __del__(self):
        self.file.close()
        print("□□ □□")

f = FileHandler("test.txt")
del f  # □□□□□ □□
```

4. ?? ???

- [illegible] [illegible] [illegible] [illegible], [illegible] [illegible] [illegible] [illegible]
- [illegible] [illegible] [illegible] **0**[illegible] [illegible] [illegible],
  - `gc`(garbage collector)[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
  - [illegible] **[illegible] [illegible] (circular reference)**[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

5. ?? ??

```
del [illegible]
```

- [illegible] [illegible] [illegible] [illegible]
- [illegible], [illegible] [illegible] [illegible] [illegible] [illegible] `__del__`[illegible] [illegible] [illegible]

6. ????

[illegible]	[illegible]
[illegible] [illegible] [illegible]	`__del__` [illegible] [illegible] [illegible] [illegible] ([illegible] [illegible])
[illegible] [illegible]	`__del__`[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]	[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] → `AttributeError` [illegible]

7. ?? ?? ??

- **[illegible], [illegible], DB** [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
- [illegible] [illegible] `with` [illegible] [illegible] [illegible] [illegible] (`__enter__`, `__exit__`)[illegible] [illegible]

8. ??: `with` ? ??

```
with open("file.txt", "w") as f:
    f.write("□□□□□")
# □□□□ □□ □□
```