Лабораторна робота № 4
з дисципліни
«Системний аналіз»

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Шаблон Фасад

Код

```python
"""
Provide a unified interface to a set of interfaces in a subsystem.
Facade defines a higher-level interface that makes the subsystem easier
to use.
"""


class Thing:

    def __init__(self, name, brand, price, number, delivery):
        self.name = name
        self.brand = brand
        self.price = price
        self.number = number
        self.delivery = delivery


class Facade:
    """
    Know which subsystem classes are responsible for a request.
    Delegate client requests to appropriate subsystem objects.
    """

    def __init__(self, thing, change_price, change_number, change_delivery):
        self.thing = thing
        self.change_price = change_price
        self.change_number = change_number
        self.change_delivery = change_delivery
        self._subsystem_1 = Subsystem1(self.thing)
        self._subsystem_2 = Subsystem2(self.thing)

    def operation(self):
        self._subsystem_1.changeprice(self.change_price)
        self._subsystem_2.changenum(self.change_number)
        self._subsystem_2.changedelivery(self.change_delivery)
        print(f"({self._subsystem_1.fullname()}, {self.thing.price},
{self.thing.number}, {self.thing.delivery})")


class Subsystem1:
    """
    Implement subsystem functionality.
    Handle work assigned by the Facade object.
    Have no knowledge of the facade; that is, they keep no references to
    it.
    """
    def __init__(self, thing):
        self.thing = thing
```

```python
    def fullname(self):
        return self.thing.name + " " + self.thing.brand

    def changeprice(self, price):
        self.thing.price = price


class Subsystem2:
    """
    Implement subsystem functionality.
    Handle work assigned by the Facade object.
    Have no knowledge of the facade; that is, they keep no references to
    it.
    """
    def __init__(self, thing):
        self.thing = thing

    def changenum(self, num):
        self.thing.number = num

    def changedelivery(self, delivery):
        self.thing.delivery = delivery


def main():
    tng = Thing('Велосипед', 'Scott', 20000, 2, 'Вантажівка')
    facade = Facade(tng, 60000, 3, 'Літак')
    facade.operation()


if __name__ == "__main__":
    main()
```

Результат роботи

(Велосипед Scott, 60000, 3, Літак)

Висновок

У цій лабораторній роботі я ознайомився з патерном Фасад і навчився його застосовувати.