

# ИУ5-31Б Корецкий К.В.

## Отчет по РК1

Вариант 6Е

Текст программы:

```
from operator import itemgetter

class House:
    """Дом"""
    def __init__(self, id, number, price, name, street_id):
        self.id = id
        self.number = number
        self.price = price
        self.name = name
        self.street_id = street_id

class Street:
    """Улица"""
    def __init__(self, id, name):
        self.id = id
        self.name = name

class HouseStreet:
    def __init__(self, street_id, house_id):
        self.street_id = street_id
        self.house_id = house_id

streets = [
    Street(1, 'Бауманская'),
    Street(2, 'Ладожская'),
    Street(3, 'Бригадирный переулок'),
    Street(4, 'Лефортовский переулок'),
    Street(5, 'Рубцовская набережная'),
]

houses = [
    House(1, 1, 2500000000, 'ГЗ', 1),
    House(2, 5, 4355000000, 'УЛК', 2),
    House(3, 10, 4500000000, 'ГБОУ Карбышева', 3),
    House(4, 12, 1500000000, 'Дом', 4),
    House(5, 4, 4920000000, 'Дом', 5),
    House(6, 1, 1200000000, 'Магазин', 5),
    House(7, 3, 2400000000, 'Поликлиника МГТУ', 1)
]

houses_streets = [
    HouseStreet(1,1),
```

```
HouseStreet(2,2),
HouseStreet(3,3),
HouseStreet(4,4),
HouseStreet(5,5),
HouseStreet(5,6),
HouseStreet(1,7)
]
```

```
def main():
```

```
    one_to_many = [(h.name, s.name, h.number, h.price)
```

```
                    for s in streets
```

```
                    for h in houses
```

```
                    if h.street_id==s.id]
```

```
    many_to_many_temp = [(s.name, hs.street_id, hs.house_id)
```

```
                        for s in streets
```

```
                        for hs in houses_streets
```

```
                        if s.id == hs.street_id]
```

```
    many_to_many = [(h.id, name, street_id)
```

```
                    for name, street_id, house_id in many_to_many_temp
```

```
                    for h in houses if h.id==house_id]
```

```
    print('Задание E1')
```

```
    res_61 = filter(lambda a: 'переулок' in a[1] ,one_to_many)
```

```
    print(list(res_61))
```

```
    print('Задание E2')
```

```
    res62 = []
```

```
    for i in streets:
```

```
        s_houses = [ _ for _ in filter(lambda a: a[1]==i.name ,one_to_many )]
```

```
        if len(s_houses) > 0:
```

```
            average_price = sum([ _[3] for _ in s_houses])/len(s_houses)
```

```
            res62.append((i.name, round(average_price, 2)))
```

```
    print(res62)
```

```
    print('Задание E3')
```

```
    res63 = []
```

```
    for i in streets:
```

```
        s_houses = [ _ for _ in filter(lambda a: a[2]==i.id and houses[a[0]-1].name[0] == 'Г', many_to_many)]
```

```
        for _ in s_houses:
```

```
            if houses[_[0]-1].name not in res63:
```

```
                res63.append((houses[_[0]-1].name, _[1]))
```

```
    print(res63)
```

```
if __name__ == '__main__':
```

```
    main()
```

Результаты:

Задание Е1
[('ГБОУ Карбышева', 'Бригадирный переулок', 10, 450000000), ('Дом', 'Лефортовский переулок', 12, 150000000)]
Задание Е2
[('Бауманская', 1370000000.0), ('Ладожская', 4355000000.0), ('Бригадирный переулок', 450000000.0), ('Лефортовский переулок', 150000000.0), ('Рубцовская набережная', 306000000.0)]
Задание Е3
[('ГЗ', 'Бауманская'), ('ГБОУ Карбышева', 'Бригадирный переулок')]