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Факультет «Информатика и управление»

Кафедра ИУ5. Курс «Базовые компоненты интернет технологий»

Отчет по рубежному контролю №1

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Подпись и дата: 21.10.2021

Проверил:

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Подпись и дата:

г. Москва, 2021 г.

Текст программы:

```
from operator import itemgetter

class Mus:

    def __init__(self, id, name, long, orch_id):
        self.id = id
        self.name = name
        self.long = long
        self.orch_id = orch_id

class Orch:

    def __init__(self, id, instr):
        self.id = id
        self.instr = instr

class MusOrch:

    def __init__(self, orch_id, mus_id):
        self.mus_id = mus_id
        self.orch_id = orch_id

orch = [
    Orch(1, 'Piano'),
    Orch(2, 'Flute'),
    Orch(3, 'Violin'),

    Orch(11, 'Piano other'),
    Orch(22, 'Flute other'),
    Orch(33, 'Violin other'),

]

mus = [
    Mus(1, 'Moonlight Sonata', 60, 1),
    Mus(2, 'Swan Lack', 10, 2),
    Mus(3, 'Turkish March ', 3, 3),

]

mus_orch = [
    MusOrch(1, 1),
    MusOrch(2, 2),
    MusOrch(3, 3),
    MusOrch(1, 2),
    MusOrch(2, 3),

    MusOrch(11, 1),
    MusOrch(22, 2),
    MusOrch(33, 3),
    MusOrch(11, 3),

]

def main():

    one_to_many = [(m.name, m.long, o.instr)
                    for o in orch
                    for m in mus
                    if m.orch_id == o.id]
```

```

many_to_many_temp = [(o.instr, mo.orch_id, mo.mus_id)
                      for o in orch
                      for mo in mus_orch
                      if o.id == mo.orch_id]

many_to_many = [(m.name, m.long, dep_name)
                 for dep_name, dep_id, emp_id in many_to_many_temp
                 for m in mus if m.id == emp_id]

print('A1')
res_11 = sorted(one_to_many, key=itemgetter(2))
print(res_11)

print('\nA2')
res_12_unsorted = []

for o in orch:

    o_mus = list(filter(lambda i: i[2] == o.instr, one_to_many))

    if len(o_mus) > 0:

        o_long = [long for _, long, _ in o_mus]

        o_long_sum = sum(o_long)
        res_12_unsorted.append((o.instr, o_long_sum))

res_12 = sorted(res_12_unsorted, key=itemgetter(1), reverse=True)
print(res_12)

print('\nA3')
res_13 = {}

for o in orch:
    if 'Flute' in o.instr:
        o_mus = list(filter(lambda i: i[2] == o.instr, many_to_many))

        o_mus_instr = [x for x, _, _ in o_mus]

        res_13[o.instr] = o_mus_instr

print(res_13)

if __name__ == '__main__':
    main()

```

Экранные формы с примерами выполнения работ

/Users/lizariseva/PycharmProjects/RK_var18/venv/bin/python /Users/lizariseva/PycharmProjects/RK_var18/main.py

A1

```
[('Swan Lack', 10, 'Flute'), ('Moonlight Sonata', 60, 'Piano'), ('Turkish March ', 3, 'Violin')]
```

A2

```
[('Piano', 60), ('Flute', 10), ('Violin', 3)]
```

A3

```
{'Flute': ['Swan Lack', 'Turkish March '], 'Flute other': ['Swan Lack']}
```

Process finished with exit code 0

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