Студент: Васькин М. И.
Группа: ИУ5-32Б

РК №1 по БКИТ

Вариант запросов: Б
Вариант предметной области: 4

Текст программы

```
#используется для сортировки
from audioop import reverse
from operator import itemgetter
class Comp:
    def __init__(self, id, name, year):
        self.id = id
        self.name = name
        self.year = year
class Disps:
    def __init__(self, id, name, diagonal, con_int):
        self.id = id
        self.name = name
        self.diagonal = diagonal
        self.con_int = con_int
class CompDisps:
    def __init__(self, comp_id, disp_id):
        self.comp_id = comp_id
        self.disp_id = disp_id
computers = [
    Comp(0, "HP", "2019"),
    Comp(1, "Apple", "2022"),
    Comp(2, "Asus", "2013"),
    Comp(3, "Lenovo", "2020"),
    Comp(4, "MSI", "2018"),
    Comp(5, "Acer", "2021"),
    Comp(6, "Microsoft", "2022"),
    Comp(7, "Razer", "2018"),
    Comp(8, "Xiaomi", "2016"),
    ]
display_class = [
    Disps(0, "Samsung", 27,"DP"),
    Disps(1, "Asus", 24,"HDMI"),
    Disps(2, "Acer",21,"HDMI"),
    Disps(3, "Benq", 34,"DP"),
    Disps(4, "MSI", 21,"DP"),
    Disps(5, "AOC", 24,"DVI"),
    Disps(6, "Gigabyte", 13,"DVI"),
    ]
comp_dclass = [
    CompDisps(0,0),
```

```
    CompDisps(0,1),
    CompDisps(0,3),
    CompDisps(1,5),
    CompDisps(2,1),
    CompDisps(2,5),
    CompDisps(2,6),
    CompDisps(3,1),
    CompDisps(3,2),
    CompDisps(4,4),
    CompDisps(5,0),
    CompDisps(5,6),
    CompDisps(6,0),
    CompDisps(6,6),
    CompDisps(7,1),
    CompDisps(8,0),
    CompDisps(8,1),
    ]
def counter(disp_id):
    count = 0
    for i in display_class:
        if i.disp_id == disp_id:
            count+=1
    return count
def main():

    one_to_many = [(i.name, i.diagonal, l.name, l.year, l.id)
                   for l in computers
                   for i in display_class
                   if i.id==l.id]

    B1 = sorted(one_to_many,key = itemgetter(1),reverse=True)

    B2 = []
    for l in computers:
        l_ides = list(filter(lambda i: i[4]==l.id, one_to_many))
        if len(l_ides) > 0 : B2.append((l.name, len(l_ides)))
        newB2 = sorted(B2,key = lambda i: i[1], reverse = True)

    many_to_many_temp = [(i.name, li.disp_id, li.comp_id)
                         for i in display_class
                         for li in comp_dclass
                         if li.disp_id == i.id]
    many_to_many = [(l.name, comp_id, IDE_name)
                         for IDE_name, disp_id, comp_id in many_to_many_temp
                         for l in computers if l.id == comp_id]

    B3 = {}

    for l in computers:
        if l.name[0] == "A":
            lst_IDE = list(filter(lambda i: i[1] == l.id,
            many_to_many))
            l_ides_names = [x for _, _, x in lst_IDE]
```

```
            B3[l.name] = l_ides_names
    print('--------------------------------')
    print('Задание Б1')
    print('--------------------------------')
    for row in B1:
        print(row[:-1])
    print('--------------------------------')
    print('Задание Б2')
    print('--------------------------------')
    for row in newB2:
        print(row)
    print('--------------------------------')
    print('Задание Б3')
    print('--------------------------------')
    print(B3)
main()
```

Результаты выполнения программы

```
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Задание Б1
--------------------------------
('Benq', 34, 'Lenovo', '2020')
('Samsung', 27, 'HP', '2019')
('Asus', 24, 'Apple', '2022')
('AOC', 24, 'Acer', '2021')
('Acer', 21, 'Asus', '2013')
('MSI', 21, 'MSI', '2018')
('Gigabyte', 13, 'Microsoft', '2022')
--------------------------------
Задание Б2
--------------------------------
('HP', 1)
('Apple', 1)
('Asus', 1)
('Lenovo', 1)
('MSI', 1)
('Acer', 1)
('Microsoft', 1)
--------------------------------
Задание Б3
--------------------------------
{'Apple': ['AOC'], 'Asus': ['Asus', 'AOC', 'Gigabyte'], 'Acer': ['Samsung', 'Gigabyte']}
mihail@MacBook-Pro-Mihail Python_BKIT %
```