Перебор элементов словаря

In [1]:

```
staff_dict = {
    'Robert': {'salary': 800, 'bonus': 200},
    'Jane': {'salary': 200, 'bonus': 300},
    'Liza': {'salary': 1300, 'bonus': 200},
    'Richard': {'salary': 500, 'bonus': 1200}
}
```

In [13]:

```
for el in staff_dict:
    print(el)
```

```
Robert
Jane
Liza
Richard
```

In [3]:

```
for el in staff_dict.keys():
    print(el)
```

```
Robert
Jane
Liza
Richard
```

In [11]:

```
for el in staff_dict.values():
#     print(k, v)
#     print(k)
#     print(v)
    print(el)
```

```
{'salary': 800, 'bonus': 200}
{'salary': 200, 'bonus': 300}
{'salary': 1300, 'bonus': 200}
{'salary': 500, 'bonus': 1200}
```

In [5]:

```
for el in staff_dict.items():
    print(el)
```

```
('Robert', {'salary': 800, 'bonus': 200})
('Jane', {'salary': 200, 'bonus': 300})
('Liza', {'salary': 1300, 'bonus': 200})
('Richard', {'salary': 500, 'bonus': 1200})
```

In [6]:

```
for k, v in staff_dict.items():
    print(k)
    print(v)
```

```
Robert
{'salary': 800, 'bonus': 200}
Jane
{'salary': 200, 'bonus': 300}
Liza
{'salary': 1300, 'bonus': 200}
Richard
{'salary': 500, 'bonus': 1200}
```

Какое-то задание из какого-то ДЗ

In [14]:

```
queries = [
    'смотреть сериалы онлайн',
    'новости спорта',
    'афиша кино',
    'курс доллара',
    'сериалы этим летом',
    'курс по питону',
    'сериалы про спорт',
]
```

In [15]:

```
res = {}
```

In [22]:

```
for query in queries:
    print(query)
    q_len = len(query.split())
#     print(q_len)
    if q_len not in res:
        res[q_len] = 1
    else:
        ...

res
```

```
смотреть сериалы онлайн
новости спорта
афиша кино
курс доллара
сериалы этим летом
курс по питону
сериалы про спорт
```

Out[22]:

```
{3: 5, 2: 4}
```

Задача про ROI

In [28]:

```
results = {
    'vk': {'revenue': 103, 'cost': 98},
    'yandex': {'revenue': 179, 'cost': 153},
    'facebook': {'revenue': 103, 'cost': 110},
    'adwords': {'revenue': 35, 'cost': 34},
    'twitter': {'revenue': 11, 'cost': 24},
}
```

In [29]:

```
for info in results.values():
#     print(info)
    info['dream_revenue'] = info['revenue'] * 1000000

results
```

Out[29]:

```
{'vk': {'revenue': 103, 'cost': 98, 'dream_revenue': 103000000},
 'yandex': {'revenue': 179, 'cost': 153, 'dream_revenue': 179000000},
 'facebook': {'revenue': 103, 'cost': 110, 'dream_revenue': 103000000},
 'adwords': {'revenue': 35, 'cost': 34, 'dream_revenue': 35000000},
 'twitter': {'revenue': 11, 'cost': 24, 'dream_revenue': 11000000}}
```

Задача с вложенными словарями из списка

In [32]:

```
a = ['2018-01-01', 'yandex', 'cpc', 100]
#  {'2018-01-01': {'yandex': {'cpc': 100}}}
```

In [33]:

```
some_var = a[-1]
```

In [37]:

```
for el in a[-2::-1]:
    some_var = {el: some_var}

some_var
```

Out[37]:

```
{'2018-01-01': {'yandex': {'cpc': {'2018-01-01': {'yandex': {'cpc': 10
0}}}}}}
```

Напишите функцию, которая определяет является ли слово палиндромом

In [39]:

```
def pal(string):
    s1 = string[len(string)//2+1:]
    s2 = string[:len(string)//2+1]
    if s1 == s2:
        print("палендром")
pal('радар')
```

In [48]:

```
def palindrom(word):
    word = word.lower()
    word_reverse = word[::-1]
    return word == word_reverse

palindrom('Радар')
```

Out[48]:

```
True
```

In [44]:

```
slovo = input()
if slovo == slovo[::-1]:
    print("true")
else:
    print("false")
```

```
Радар
false
```

In [51]:

```
def is_palindrom(word):
    return word.lower() == word[::-1].lower()

is_palindrom('радар')
```

Out[51]:

```
True
```

Args. Напишите функцию, которая будет находить среднюю цену на квартиры по всем данным

In [60]:

```
dict_1 = {'flat_1': 10500, 'flat_2': 11000}
dict_2 = {'flat_3': 15000}
dict_3 = {'flat_4': 6500, 'flat_5': 7000, 'flat_6': 6000}
```

In [63]:

```
def mean_flat_price(*districts):
    prices = 0
    count = 0
    for flats in districts:
        prices += sum(flats.values())
        count += len(flats.values())
    return prices / count

mean_flat_price(dict_1, dict_3, dict_2)
```

Out[63]:

```
9333.333333333334
```

In [ ]:

```
def av_price(*args):
    total_sum = 0
    total_num = 0
    for district in args:
        total_sum += sum(district.values())
        total_num += len(district.values())
    return total_sum / total_num
```

In [73]:

```
# def searcher(*args):
#     a = []
#     for neighbour in args:
#         for house in neighbour.values():
#             a.append(neighbour[house])
#         return sum(a)

# searcher(dict_1, dict_2, dict_3)
```

In [64]:

```
students_list = [
    {"name": "Василий", "surname": "Теркин", "gender": "м", "program_exp": True, "grad
e": [8, 8, 9, 10, 9], "exam": 8},
    {"name": "Мария", "surname": "Павлова", "gender": "ж", "program_exp": True, "grade"
: [7, 8, 9, 7, 9], "exam": 9},
    {"name": "Ирина", "surname": "Андреева", "gender": "ж", "program_exp": False, "grad
e": [10, 9, 8, 10, 10], "exam": 7},
    {"name": "Татьяна", "surname": "Сидорова", "gender": "ж", "program_exp": False, "gr
ade": [7, 8, 8, 9, 8],"exam": 10},
    {"name": "Иван", "surname": "Васильев", "gender": "м", "program_exp": True, "grade"
: [9, 8, 9, 6, 9], "exam": 5},
    {"name": "Роман", "surname": "Золотарев", "gender": "м", "program_exp": False, "gra
de": [8, 9, 9, 6, 9], "exam": 6}
]
```

In [71]:

```
# функция считает среднюю оценку за экзамен по группе студентов
def get_avg_ex_grade(students):
    sum_ex = 0
    for student in students:
#         print(student)
        sum_ex += student['exam']
    return round(sum_ex / len(students), 2)

get_avg_ex_grade(students_list)
```

In [84]:

```
def get_avg_hw_grade(students, gender=None, exp=None):
    sum_hw = 0
    counter = 0
    for student in students:
        if (student['gender'] == gender and student['program_exp'] == exp) or \
            (student['gender'] == gender and exp is None) or \
            (student['program_exp'] == exp and gender is None) or \
            (exp is None and gender is None):
                sum_hw += sum(student['grade']) / len(student['grade'])
                counter += 1
    return round(sum_hw / counter, 2)

print(get_avg_hw_grade(students_list))
print(get_avg_hw_grade(students_list, 'м'))
print(get_avg_hw_grade(students_list, 'ж'))
```

```
8.43
8.4
8.47
```

In [85]:

```
print(get_avg_hw_grade(students_list))
print(get_avg_hw_grade(students_list, exp=False))
print(get_avg_hw_grade(students_list, exp=True))
```

```
8.43
8.53
8.33
```

In [90]:

```
print(get_avg_hw_grade(students_list, 'м', exp=False))
print(get_avg_hw_grade(students_list, 'м', exp=True))
```

```
8.2
8.5
```

In [93]:

```
def main(students):
    while True:
        user_input = input('Введите команду')
        if user_input == '1':
            print(get_avg_ex_grade(students))
        elif user_input == '2':
            print(get_avg_hw_grade(students))
        elif user_input == '3':
            print(get_avg_hw_grade(students, exp=False))
        elif user_input == 'q':
            print('До свидания!')
            break
```

In [94]:

```
main(students_list)
```

```
Введите команду1
7.5
Введите команду2
8.43
Введите команду3
8.53
Введите командуq
До свидания!
```

In [96]:

```
students_list = [
    {"name": "Василий", "surname": "Теркин", "gender": "м", "program_exp": True, "grad
e": [8, 8, 9, 10, 9], "exam": 8},
    {"name": "Мария", "surname": "Павлова", "gender": "ж", "program_exp": True, "grade"
: [7, 8, 9, 7, 9], "exam": 9},
    {"name": "Ирина", "surname": "Андреева", "gender": "ж", "program_exp": False, "grad
e": [10, 9, 8, 10, 10], "exam": 7},
    {"name": "Татьяна", "surname": "Сидорова", "gender": "ж", "program_exp": False, "gr
ade": [7, 8, 8, 9, 8],"exam": 10},
    {"name": "Иван", "surname": "Васильев", "gender": "м", "program_exp": True, "grade"
: [9, 8, 9, 6, 9], "exam": 5},
    {"name": "Роман", "surname": "Золотарев", "gender": "м", "program_exp": False, "gra
de": [8, 9, 9, 6, 9], "exam": 6}
]
```

In [97]:

```
for student in students_list:
    print(f'ФИО: {student["name"]} {student["surname"]}, его оценка за экзамен: {studen
t["exam"]}')
```

```
ФИО: Василий Теркин, его оценка за экзамен: 8
ФИО: Мария Павлова, его оценка за экзамен: 9
ФИО: Ирина Андреева, его оценка за экзамен: 7
ФИО: Татьяна Сидорова, его оценка за экзамен: 10
ФИО: Иван Васильев, его оценка за экзамен: 5
ФИО: Роман Золотарев, его оценка за экзамен: 6
```

In [ ]:

```
```