

**Лабораторная работа №3 по дисциплине
“Разработка интернет приложений”**

ИСПОЛНИТЕЛЬ:

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Base_client.py

```
import requests

class BaseClient:
    # URL vk api
    BASE_URL = 'https://api.vk.com/method/'
    # метод vk api
    method = None
    # GET, POST, ...
    http_method = None

    # Получение GET параметров запроса
    def get_params(self):
        return None

    # Получение данных POST запроса
    def get_json(self):
        return None

    # Получение HTTP заголовков
    def get_headers(self):
        return None

    # Склейка url
    def generate_url(self, method):
        return '{0}{1}'.format(self.BASE_URL, method)

    # Отправка запроса к VK API
    def _get_data(self, method, http_method):
        response = requests.get(self.BASE_URL + self.method + '.' + self.http_method, params=self.get_params()) #format
        return self.response_handler(response)

    # Обработка ответа от VK API
    def response_handler(self, response):
        return response

    # Запуск клиента
    def execute(self):
        return self._get_data(
            self.method,
            http_method=self.http_method
        )
```

Client.py

```
from base_client import BaseClient

class User(BaseClient):
    class UserNotFound(Exception):
        @staticmethod
        def not_found():
            print('User not found')

    method = 'users'
    http_method = 'get'

    def __init__(self, username):
        self.username = username

    def get_params(self):
        return {'user_ids': self.username}

    def response_handler(self, response):
        found = response.json().get('response')
        if found:
            return found[0]['uid']
        else:
            raise self.UserNotFound
```

Friends.py

```
import datetime
from base_client import BaseClient

class GetAges(BaseClient):
    class FriendsNotFound(Exception):
        @staticmethod
        def not_found():
            print('Friends not found')

    # метод vk api
    method = "friends"
    # GET, POST, ...
    http_method = "get"

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

    def get_params(self):
        return {
            "user_id": self.id,
            "fields": "bdate"
        }

    def response_handler(self, response):
        friends = response.json().get('response')
        if not friends:
            raise self.FriendsNotFound

        ages = []
        today = datetime.datetime.today()

        for friend in friends:
            date = friend.get('bdate')
            if not date or len(date) < 8:
                age = 0
                ages.append(age)
                continue
            else:
                dt = datetime.datetime.strptime(date, '%d.%m.%Y')
                age = today.year - dt.year
                if today.month < dt.month:
                    age -= 1
                elif today.month == dt.month and today.day < dt.day:
                    age -= 1

                ages.append(age)

        return ages
```

Main.py

```
def main():

    debug = input("debug?(1/0): ")
    if debug != "1" and debug != "0":
        print("Error! ")
        return

    username = input("Enter id: ")

    try:
        id = User(username).execute()
    except User.UserNotFound as e:
        e.not_found()
        return

    try:
        friends_ages = GetAges(id).execute()
    except GetAges.FriendsNotFound as e:
        e.not_found()
        return

    if debug==1:
        print("ID: ", id)
    if debug==1:
        print("Ages: ", friends_ages, "\n", "\n")

    gist = {}
    for x in friends_ages:
        gist[x] = 0

    if debug==1:
        print("gist: ", gist, "\n")

    for x in friends_ages:
        gist[x] += 1

    gist = sorted(gist.items())

    print(gist)
    for x, y in gist:
        print(x, "█" * y)

    return

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

Вывод:

Enter id: *Deniz_che*

[(0, 228), (13, 1), (17, 2), (18, 9), (19, 25), (20, 44), (21, 16), (22, 5), (23, 3), (24, 3), (26, 3), (27, 1), (30, 1), (34, 1), (69, 1), (97, 1), (116, 4)]

