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| Защищено:  Гапанюк Ю.Е.    "\_\_"\_\_\_\_\_\_\_\_\_\_\_\_\_2017 г. |  | Демонстрация:  Гапанюк Ю.Е.    "\_\_"\_\_\_\_\_\_\_\_\_\_\_\_\_2017 г. |

**Отчет по лабораторной работе № 3 по курсу**

**Разработка интернет приложений**

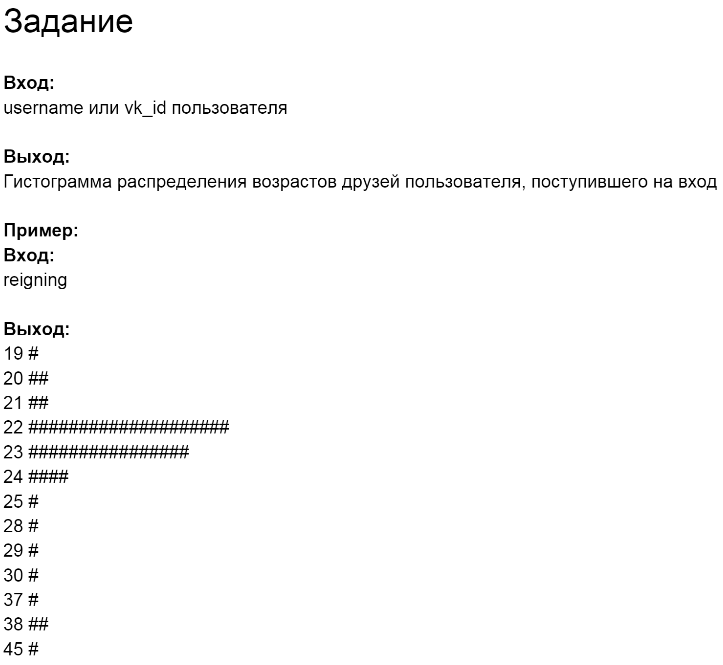
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| ИСПОЛНИТЕЛЬ: |  |
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| Зайцева М.А | "\_\_"\_\_\_\_\_\_\_\_\_\_\_\_\_2017 г. |

Москва, МГТУ - 2017

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**base.py**

**import** requests  
  
  
**class** BaseClient:  
 *# URL vk api* BASE\_URL = **None** *# метод vk api* method = **None** *# GET, POST, ...* http\_method = **None  
  
 def** \_\_init\_\_(self, url, m, h):  
 self.BASE\_URL = url  
 self.method = m  
 self.http\_method = h  
  
 *# 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 = **None** print(**'base'**)  
  
 **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,  
 self.http\_method  
 )

**vk\_clients.py**

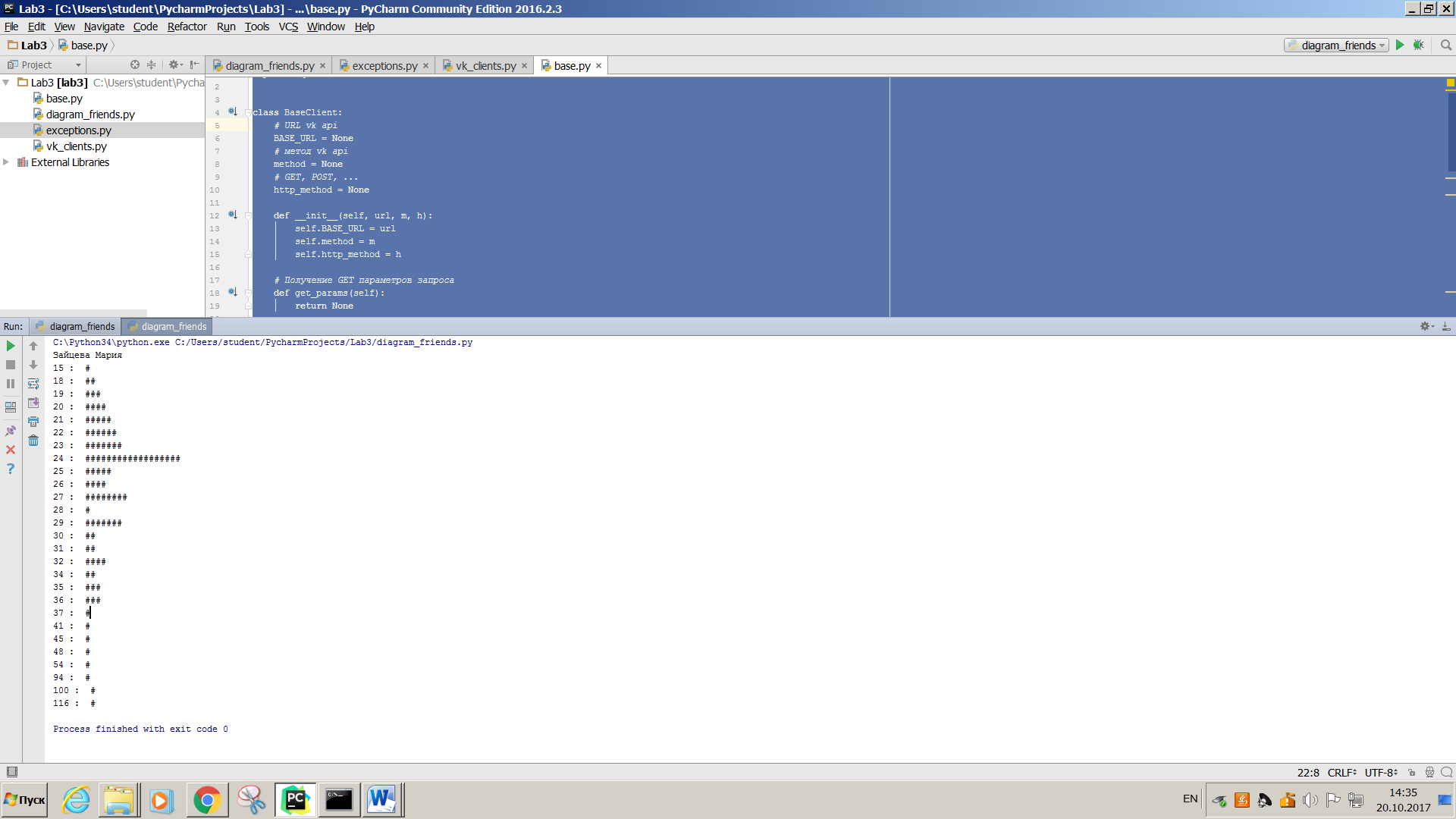
**from** base **import** \*  
**from** exceptions **import** \*  
**from** datetime **import** datetime  
**import** requests  
  
  
**class** GettingID(BaseClient):  
 v = 5.58  
 user\_id = **None  
  
 def** \_\_init\_\_(self, username):  
 super().\_\_init\_\_(**'https://api.vk.com/method/'**, **'users.get'**, **'GET'**)  
 self.user\_id = username  
  
 **def** get\_params(self):  
 **return** {**'user\_ids'**: self.user\_id, **'v'**: self.v}  
  
 **def** \_get\_data(self, method, http\_method):  
 r = requests.get(self.generate\_url(method), self.get\_params())  
 **return** self.response\_handler(r)  
   
 **def** response\_handler(self, response):  
 res\_dic = response.json()  
 **if not** res\_dic.get(**'error'**) **is None**:  
 err = res\_dic.get(**'error'**)  
 err\_msg = err.get(**'error\_msg'**)  
 **raise** API\_Exception(err\_msg)   
 **else**:   
 **return** res\_dic.get(**'response'**)[0]  
  
  
  
  
**class** GettingFriends(BaseClient):  
 user\_id = **None** fields = **'bdate'** v = 5.68  
   
 **def** \_\_init\_\_(self, user\_id):  
 super().\_\_init\_\_(**'https://api.vk.com/method/'**, **'friends.get'**, **'GET'**)  
 self.user\_id = user\_id  
   
 **def** get\_params(self):  
 **return** {**'user\_id'**: self.user\_id, **'v'**: self.v, **'fields'**: self.fields}  
  
 **def** \_get\_data(self, method, http\_method):  
 r = requests.get(self.generate\_url(method), self.get\_params())   
 **return** self.response\_handler(r)  
   
 **def** response\_handler(self, response):  
 res\_dic = response.json()  
 **if not** res\_dic.get(**'error'**) **is None**:  
 err = res\_dic.get(**'error'**)  
 err\_msg = err.get(**'error\_msg'**)  
 **raise** API\_Exception(err\_msg)   
 **else**:  
 **return** res\_dic.get(**'response'**).get(**'items'**)  
  
  
 **def** execute(self):  
 ages = []  
 today = datetime.now()  
 **for** i **in** super().execute():  
 bdate\_str = i.get(**'bdate'**)  
 **try**:  
 bdate = datetime.strptime(bdate\_str, **'%d.%m.%Y'**)  
 days = (today - bdate).days  
 ages.append(days // 365)  
 **except**:  
 **pass  
 return** ages

**diagram\_friends.py**

**from** vk\_clients **import** \*  
  
get\_user = GettingID(**'id146403916'**)  
user = get\_user.execute()  
user\_id = user.get(**'id'**)  
  
get\_friends = GettingFriends(user\_id)  
friends = get\_friends.execute()  
  
age\_list = [0 **for** i **in** range(120)]  
today = datetime.now()  
  
print(user.get(**'last\_name'**)+**" "**+user.get(**'first\_name'**))  
  
**for** f **in** friends:  
 age\_list[f] += 1  
  
**for** i **in** range(120):  
 **if** age\_list[i]>0:  
 print(i,**': '**,**'#'**\*age\_list[i])

**exceptions.py**

**class** API\_Exception(Exception):  
 **pass**

**Результат**