Санкт-Петербургский национально исследовательский университет

информационных технологий, механики и оптики

Факультет программной инженерии и компьютерной техники



**Исследование языков разметки документов**

Лабораторная работа №3

Вариант №1

Выполнил: Балтабаев Дамир Темиржанович

Группа: P3112

Преподаватель: Малышева Татьяна Алексеевна

г. Санкт-Петербург

2020

**Задание**

Исходный формат: YAML

Результирующий формат: JSON

День недели: Понедельник

**Выполнение**

**Исходный файл на языке YAML:**

Monday:

Timetable:

Pair №1:

Time: "08:20-09:50"

Week: "odd week"

Aud: "431B AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "PROGRAMMING (LAB)"

Teacher: "Pertsev Timofey Sergeevich"

Class format: "Full-time - distance"

Pair №2:

Time: "10:00-11:30"

Week: "odd week"

Aud: "431B AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "PROGRAMMING (LAB)"

Teacher: "Pertsev Timofey Sergeevich"

Class format: "Full-time - distance"

Pair №1:

Time: "11:40-13:10"

Week: "even week"

Aud: "101 AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "FOUNDATIONS OF PROFESSIONAL ACTIVITY (LAB)"

Teacher: "Nikolaev Vladimir Vyacheslavovich"

Class format: "Full-time - distance"

Pair №3:

Time: "11:40-13:10"

Week: "odd week"

Aud: "305 AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "INFORMATICS (LAB)"

Teacher: "Malysheva Tatyana Alekseevna"

Class format: "Full-time - distance"

Pair №2:

Time: "13:30-15:00"

Week: "even week"

Aud: "101 AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "FOUNDATIONS OF PROFESSIONAL ACTIVITY (LAB)"

Teacher: "Gavrilov Anton Valerievich"

Class format: "Full-time - distance"

Pair №4:

Time: "13:30-15:00"

Week: "odd week"

Aud: "305 AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "INFORMATICS (LAB)"

Teacher: "Malysheva Tatyana Alekseevna"

Class format: "Full-time - distance"

Pair №3:

Time: "15:20-16:50"

Week: "even week"

Aud: "369A AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "DISCRETE MATHEMATICS (PRAK)"

Teacher: "Polyakov Vladimir Ivanovich"

Class format: "Full-time - distance"

Pair №4:

Time: "17:00-18:30"

Week: "even week"

Aud: "369A AUD."

Building: "Kronverksky pr., 49, letter A"

Subject: "DISCRETE MATHEMATICS (PRAK)"

Teacher: "Polyakov Vladimir Ivanovich"

Class format: "Full-time - distance"

**Программа:**

inputfile = open('input.yml', 'r')  
outputfile = open('output.json', 'w')  
a = list()  
b = list()  
c = list()  
d = list()  
a = inputfile.read().split('\n')  
b.append('{')  
for i in range(0, len(a)):  
 if (a[i].find(":") == len(a[i])-1):  
 o1 = a[i].replace(a[i].lstrip(), '"' + a[i].lstrip())  
 o1 = ' ' + o1[:o1.find(':')] + '"' + o1[o1.find(':'):] + " {"  
 else:  
 o1 = a[i].replace(a[i].lstrip(), '"' + a[i].lstrip())  
 o1 = ' ' + o1[:o1.find(':')] + '"' + o1[o1.find(':'):]  
 b.append(o1)  
c.append('{')  
for i in range(0, len(b)-1):  
 if (len(b[i]) - len(b[i].lstrip())) <= (len(b[i + 1]) - len(b[i + 1].lstrip())):  
 c.append(b[i + 1])  
 else:  
 c.append((len(b[i + 1]) - len(b[i + 1].lstrip())) \* ' ' + '},')  
 c.append(b[i + 1])  
c.append(' }')  
for i in range(0, len(c)-1):  
 if (c[i].find(",") != len(c[i]) - 1) and (c[i].find("{") != len(c[i]) - 1) and (c[i + 1].count('}') == 0):  
 o1 = c[i] + ','  
 else:  
 o1=c[i]  
 d.append(o1)  
d.append(' }')  
d.append(' }')  
d.append(' }')  
d.append('}')  
for i in range(0,len(d)):  
 outputfile.write(d[i]+'\n')

**Результат:**

{

"Monday": {

"Timetable": {

"Pair №1": {

"Time": "08:20-09:50",

"Week": "odd week",

"Aud": "431B AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "PROGRAMMING (LAB)",

"Teacher": "Pertsev Timofey Sergeevich",

"Class format": "Full-time - distance"

},

"Pair №2": {

"Time": "10:00-11:30",

"Week": "odd week",

"Aud": "431B AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "PROGRAMMING (LAB)",

"Teacher": "Pertsev Timofey Sergeevich",

"Class format": "Full-time - distance"

},

"Pair №1": {

"Time": "11:40-13:10",

"Week": "even week",

"Aud": "101 AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "FOUNDATIONS OF PROFESSIONAL ACTIVITY (LAB)",

"Teacher": "Nikolaev Vladimir Vyacheslavovich",

"Class format": "Full-time - distance"

},

"Pair №3": {

"Time": "11:40-13:10",

"Week": "odd week",

"Aud": "305 AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "INFORMATICS (LAB)",

"Teacher": "Malysheva Tatyana Alekseevna",

"Class format": "Full-time - distance"

},

"Pair №2": {

"Time": "13:30-15:00",

"Week": "even week",

"Aud": "101 AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "FOUNDATIONS OF PROFESSIONAL ACTIVITY (LAB)",

"Teacher": "Gavrilov Anton Valerievich",

"Class format": "Full-time - distance"

},

"Pair №4": {

"Time": "13:30-15:00",

"Week": "odd week",

"Aud": "305 AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "INFORMATICS (LAB)",

"Teacher": "Malysheva Tatyana Alekseevna",

"Class format": "Full-time - distance"

},

"Pair №3": {

"Time": "15:20-16:50",

"Week": "even week",

"Aud": "369A AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "DISCRETE MATHEMATICS (PRAK)",

"Teacher": "Polyakov Vladimir Ivanovich",

"Class format": "Full-time - distance"

},

"Pair №4": {

"Time": "17:00-18:30",

"Week": "even week",

"Aud": "369A AUD.",

"Building": "Kronverksky pr., 49, letter A",

"Subject": "DISCRETE MATHEMATICS (PRAK)",

"Teacher": "Polyakov Vladimir Ivanovich",

"Class format": "Full-time - distance"

}

}

}

}

**Вывод:**

В процессе выполнения лабораторной работы я изучил особенности языков разметки YAML и JSON, приобрел навык изменения строк в Python.