Regular expressions & Debug & other tools

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Week 8: Additional learning objectives

Get to know:

1. Database CRUD operations (psycopg2 and alchemy)
2. Regular expressions
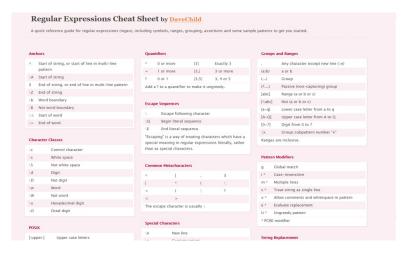3. Debugging
4. Exception handling

Regular expressions

Search "pattern"from text and do an action Package "re":

- compile
- findall – find all matches
- match – match at the beginning of string
- search – first match anywhere in string
- split – split string into pieces at pattern points
- sub – replace match by user input
- group
- special characters

Regular expressions special characters

Debugging

In IDEs (VSCode):

- Actions at breakpoints: continue, step over, step into, step out
- Additional actions at breakpoints - expression, hit count, log message
- Watch
- Exceptions

Hand inputted breakpoint:

- import pdb, pdb.set_trace()

Exception handling

Exceptions occur from time to time in any sort of job. If you know what kind of errors potentially could occur and implement "remedy(ies)" on it beforehand

```
373
374    try:
375        # do main job
376    except:
377        # do another - Hereby, you are handling an exception!
378
```

Homework

1. Task 1
2. Task 2
3. Task 3

- Submit your result as a Github repository
- Deadline: 1 week

Task 1: Regex

Өөрөө зохиох эсвэл бэлэн текст интернетээс олж regex-ийн дараах үйлдлүүдийг ашиглан текстүүд гаргаж авах жишээнүүд үзүүл (нэг бүр дээр нь бус хамтад нь ашиглаж болно. Гэхдээ доорх бүх тэмдгээс ядаж 1 удаа ашиглаарай)

- [a-zA-Z0-9], [a-z],[A-Z],[0-9]
- \d, \D, \w, \W, \s
- ^, $, ?, *, +, .
- {m,n}, {,n}, {m,}, {n}
- Look behind, Look ahead, Negative look behind, Negative look ahead

Task 2: Exception

1. Generate array of 1000 random integers in numpy
2. Create a sub-array of the above with only the negative even numbers.
3. Loop one by one through this array . . .
4. . . . when negative odd, then raise "odd error" and continue to next loop,
5. . . . when even but positive, raise "sign error" and continue to next loop . . .
6. . . . when "negative even", then append your list.

Task 3: Debugging

- Debugging гэж юу вэ?
- Breakpoint – ийн ямар 3 төрөл (log message г.м) Vscode дээр байдаг вэ?
- Debug-ийн step into, step over, step out – ийн ялгааг тайлбарла

Thank you!