Regular expressions & Debug & other tools

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Week 7: Learning objectives

Get to know:

- Regular expressions
- Oebugging
- Exception handling

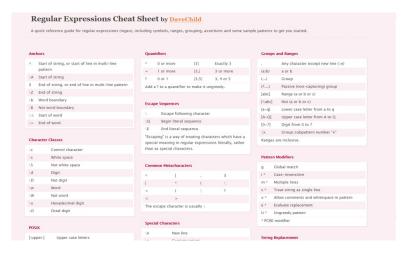
Regular expressions

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

- Task 1
- Task 2
- 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)

- \bullet [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

- Generate array of 1000 random integers (containing both negative and positive) in numpy
- ② Create a sub-array of the above with only the negative even numbers. To do that, do the following:
- Loop one by one through this array . . .
- ...when negative odd, then raise "odd error" and continue to next loop,
- ...when even but positive, raise "sign error" and continue to next loop ...
- o ... 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!

