Assignment 2
Roll Number: BE17B037
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Collaborators: none
Time: 03:00:00

1. i.
No, the regex does not match the target exactly.
Regex: [129]|18 can be understood like 1|2|9|18 so when "1" is encountered in the
sample text, it just matches that substring and does not match "18".
Match: 1

1. ii.
No, the regex does not match the target exactly because the word "There" also appears
before in the sample text. So the following regex matches the entire text from the point
of occurence of the first "There".
Match : There are 18 trunks and eight suitcases arranged neatly at the side of the room.
Each is painted with the initials Mdm. C.V.D.u.T. Outside, a light snow fall ensues. A
tall, blond, forty-year-old concierge stands patiently alone surveying the room. He is
tranquil, perfectly composed, waiting. He wears the faintest hint of mascara. He is M.
Gustave. M. Gustave crosses swiftly to the door and opens it just as a contingent of
hotel staff arrives together from down the corridor. There are two waiters, two footmen,
two bellboys, and an Arab teenager, small, cheerful, and alert, who appears to be some
kind of page. He is Zero

2. a.
Regex: \b[A-Za-z]{1,3}ell?\b
Start with a word boundary, have 1-3 letters, have "el", can have one more optional "l"
and then end with a word boundary.

2. b.
Regex: \b\w*[qQ]u\w[tn]\w*\b
Start with a word boundary, have 0 or more word characters, have either "q" or "Q",
have "u", have any single word character, have either "t" or "n", have 0 or more word
characters and then end with a word boundary.

2. c.

Regex: \b\w*[iI]n[ie]\w*\b

Start with a word boundary, have 0 or more word characters, have either "i" or "I", have "n", have either "i" or "e", have 0 or more word characters and then end with a word boundary.

2. d.

Regex: \b\d{4,5}\b

Start with a word boundary, have 4-5 digits and then end with a word boundary.

3. a.

Regex: \<a\w*e\w*i\w*o\w*u\w*\>

Match:

<a2e2i2o2u2>

<adsadeasdsisafdosdfdfu>

<a988eiou>

<aeiou326a>

Mismatch:

asdasdasfsdg

aeiou>

<asdyq3e28912

a12e12i12o12

Explanation: Should have "<" character, followed by "a", followed by 0 or more word characters, followed by "e", followed by 0 or more word characters, followed by "i", followed by 0 or more word characters, followed by "o", followed by 0 or more word characters, followed by "u", followed by 0 or more word characters, followed by ">" character.

3. b.

Regex: \<\w*\w{2}\w*\w{2}\w*\>

Match:

<aaaa>

<323434343>

<32askdjh234>

<dsa231askd>

Mismatch:

asdsaffas

234hasd21

<asd>

<awr2344df

Explanation: Should have "<" character, followed by 0 or more word characters, followed by exactly 2 word characters, followed by 0 or more word characters, followed by exactly 2 word characters, followed by 0 or more word characters, followed by ">" character.

3. c.

Regex: ^(\d{3})\d*(\1\d){1,}\$

Match:

12391234$

987656598749874$

465465446544654$

913239134$

Mismatch:

123456789

132542133$

123123$

asrdasdasd

Explanation: Begin the string with 3 digits, followed by 0 or more digits, followed by a group (of first three digits and any other additional digit) repeated at least 1 or more times, followed by a "$" character.

3. d.

Regex: \w+\'\w+

Match:

da'asddsa

asd'ds

345'54

4'345gd

Mismatch:

'dasdas

sadasd'

nsalka342

asd+'hna

Explanation: Should have at least one or more word characters, followed by a "'" character, followed by at least one or more word characters.

3. e.

Regex: ^(((\d)\d)\d)\d\1\2\3\$

Match:

1234123121$

9876987989$

4652465464$

3541354353$

Mismatch:

9874167451$

845134351531

asds48754as

98784522745

Explanation: Begin the string with 4 digits, followed by the group of first three digits, followed by the group of first two digits, followed by the first digit, followed by a "$" character.

4. a.

Regex: \d+

4. b.

Regex: (0\d|1[12])[\._V]([0-2]\d|3[01])[\._V]\d{4}

4. c.

Regex: \w*\.\w*

4. d.

Regex: ((aug|AUG)([AUGCaugc]{3})*(uaa|uag|uga|UAA|UAG|UGA)

4. e.

(Assuming the sequence given is in lowercase)

Regex: aug([cg][augc]{2}|u[uc][augc]|u[ag][uc]|ugg|a[cag][augc]|au[uca])*(uaa|uag|uga)

(Otherwise)

Regex:
(aug|AUG)([cgCG][augcAUGC]{2}|(u|U)[ucUC][augcAUGC]|(u|U)[agAG][ucUC]|(ugg|UGG)|(a|A)[cagCAG][augcAUGC]|(au|AU)[ucaUCA])*(uaa|uag|uga|UAA|UAG|UGA)

4. f. i.

Regex: \S{7,15}

4. f. ii.

Regex: \S*[A-Z]\S*

4. f. iii.

Regex: \S*[a-z]\S*

4. f. iv.

Regex: \S*\d\S*

4. f. v.

Regex: ^[^@*]*[!"#$%'()+,-.\/:<=>?\[\]\\_^`{}|~]+[^@*]*$