1. What is the name of the feature responsible for generating Regex objects?

The re.compile() function returns Regex objects.

2. Why do raw strings often appear in Regex objects?

Raw strings are used so that backslashes do not have to be treated as an escape character

3. What is the return value of the search() method?

it returns the matching value or an element

4. From a Match item, how do you get the actual strings that match the pattern?

the group() will return the matched element from the actual string

5. In the regex which created from the r'(\d\d\d)-(\d\d\d-\d\d\d\d)', what does group zero cover? Group 2? Group 1?

group()- will return all the matched element, group(1)-will return the first set of matched parentheses,group(2)-will return the second set of matched parentheses

6. In standard expression syntax, parentheses and intervals have distinct meanings. How can you tell a regex that you want it to fit real parentheses and periods?

it will be like \(\n\) - \( it will print ( and )

7. The findall() method returns a string list or a list of string tuples. What causes it to return one of the two options?

If it has no group() method it return a string of list , it has a group() it will return a list of string tuples

8. In standard expressions, what does the | character mean?

The | character signifies matching "either, or" between two groups.

9. In regular expressions, what does the character stand for?

the ? character will either mean "match zero or one of the group" or for non\_greedy matching

10.In regular expressions, what is the difference between the + and \* characters?

the + will match one or more and \* will match one or zero

11. What is the difference between {4} and {4,5} in regular expression?

{4} will match only if it is three time , whereas {4,5} will match between 4 and 5

12. What do you mean by the \d, \w, and \s shorthand character classes signify in regular expressions?

\d means for single digit, \w for single word and \s for single white spaces

13. What do means by \D, \W, and \S shorthand character classes signify in regular expressions?

\D ,\W,\S will match a single character that is not a digit, word, or space character

14. What is the difference between .\*? and .\*?

.\*? it used for non-greedy matching ,it will match the first and last value and stop

and .\* greedy matching,it will match the first value and goes till the last of element and matches the last element from back

15. What is the syntax for matching both numbers and lowercase letters with a character class?

[0-9a-z] or [a-z0-9]

16. What is the procedure for making a normal expression in regax case insensitive?

by using re.IGNORECASE as the second argument to re.compile()

17. What does the . character normally match? What does it match if re.DOTALL is passed as 2nd argument in re.compile()?

the . will match any character except for newline character , where as re.DOTALL will also match new line character

18. If numReg = re.compile(r'\d+'), what will numRegex.sub('X', '11 drummers, 10 pipers, five rings, 4 hen') return?

it will give 'X drummers, X pipers, five rings, X hens'

19. What does passing re.VERBOSE as the 2nd argument to re.compile() allow to do?

helps us to add whitespaces and newline character to the string

20. How would you write a regex that match a number with comma for every three digits? It must match the given following:

'42'

'1,234'

'6,368,745'

but not the following:

'12,34,567' (which has only two digits between the commas)

'1234' (which lacks commas)

re.compile(r'^\d{1,3}(,\d{3})\*$') this regex can match both with the digit for 12,12,000 and 11,000,000

21. How would you write a regex that matches the full name of someone whose last name is Watanabe? You can assume that the first name that comes before it will always be one word that begins with a capital letter. The regex must match the following:

'Haruto Watanabe'

'Alice Watanabe'

'RoboCop Watanabe'

but not the following:

'haruto Watanabe' (where the first name is not capitalized)

'Mr. Watanabe' (where the preceding word has a nonletter character)

'Watanabe' (which has no first name)

'Haruto watanabe' (where Watanabe is not capitalize

re.compile(r'[A-Z][a-z]\*\sNakamoto')

22. How would you write a regex that matches a sentence where the first word is either Alice, Bob, or Carol; the second word is either eats, pets, or throws; the third word is apples, cats, or baseballs; and the sentence ends with a period? This regex should be case-insensitive. It must match the following:

'Alice eats apples.'

'Bob pets cats.'

'Carol throws baseballs.'

'Alice throws Apples.'

'BOB EATS CATS.'

but not the following:

'RoboCop eats apples.'

'ALICE THROWS FOOTBALLS.'

'Carol eats 7 cats.'

re.compile(r'(Alice|Bob|Carol)\s(eats|pets|throws)\s(apples|cats|baseballs)\.', re.IGNORECASE)