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

- re.compile()

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

- This is to make sure that backslashes aren’t escaped.

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

- The search() method returns the matched value/objects.

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

- It can be achieved by using the group() method.

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 zero covers the match as a whole, whereas the group 1 covers the set of values in the first parenthesis and group 2 covers the set of values in the second parenthesis.

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?

- We can use escape sequences in this scenario. \., \(, and \).

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

- A list of strings is returned when there are no groups. But when regex has a group, a list of tuples of strings is returned.

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

- It represents ‘OR’.

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

- It is used to match from the preceding group or to match zero.

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

- (+) represents one or more matches whereas (\*) represents zero or more matches.

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

- In {4}, it only matches 4 instances in the preceding group whereas in {4,5}, it matches in between the given instances, i.e between 4th and 5th instances.

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

-\d -matches a single digit

\w- matches a single word.

\s- matches a single space.

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

-\d -matches a single character that is not a digit

\w- matches a single character that is not a word

\s- matches a single character that is not a space.

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

-(.\*?) is used to match a given character, for a given number of times with the minimum possible times to make the regex match. It would stop at the first instance when it matches that’s why it can be called as a non greedy match. But in case of (.\*)?, it is more greedy match as it doesn’t stop at the first match encounter.

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

-[0-9a-z]

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

- We can pass re.l or re.IGNORECASE as the second argument in re.compile() to make it case insensitive.

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

-The . character can match any character except for a newline character. If re.DOTALL is passed as 2nd argument in re.compile(), then dot will also match newline characters.

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

- ‘X drummers, X pipers, five rings, X hens’

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

-In order to add whitespaces and comments to the string, re.VERBOSE is passed as the 2nd argument to re.compile().

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)

- This regex can be created by using re.compile(r^\d{1,3}(,\d{3})\*’$’). The other regex strings produces a similar regular expression.

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 capitalized)

- re.compile(r’[A-Z][a-z]\*\sWatanabe’)

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)