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

Ans: The function re.compile() returns Regex objects

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

Ans: Backslashes do not have to be escaped. For example, to match '/' in the given string; we will use raw stings as re.match(r"/", "/")

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

Ans: If the given pattern is not found, it will return None else it will return the pattern in the given string.

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

Ans: the method called group() will get the actual text out of matched pattern

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

Ans: Group0 fetches the whole match, Group2 match and fetches from 2nd Parentheses, and Group1 match and fetches from 1st 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?

Ans: Parentheses and periods can be escaped using backslash \. , \( , and \) .

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

Ans: if it has a regex group, it will return a list of tuples of strings. If it does not have regex group,it will return list of strings

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

Ans: | is logical or - returns true if one of the statement is true

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

Ans:\w stands for a word character

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

Ans:\* will match zero or more times and + will match at least one or multiple times.

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

Ans:{4} -from regular expression 4 matches should be matched otherwise, the whole regex will not match . {4, 5}- will match regular expression from 4 to 5

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

Ans: \d means for single numeric digit 0 - 9, \w stands for any letter, numeric digit, underscore character like word characters and \s stands for any space, newline, tab like space characters.

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

Ans: It is an inverse to the above, \D stands for Any character that is not a numeric digit, \W means for any character that is not a letter, numeric digit or underscore character. \S means any character that is not space, new line, tab.

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

Ans: its \*? is a non greedy method - matches the string/pattern multiple times and .\* greedy method - matches the string/pattern once

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

Ans: [0-9a-z] will match both numbers and lowercase letters- re.match('[0-9a-z]', '123abc')

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

Ans: re.IGNORECASE flag needs to be added to the regular expression

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

Ans: . won't match new line character whereas re.DOTALL will match new line character as well.

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

Ans: 'X drummers, X pipers, five rings, X hen'

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

Ans: re.VERBOSE will be more readable format and visually separate pattern and comments

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)

Ans: re.compile(r'^\d{1,3}(,\d{3})\*$')

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)

Ans: re.compile(r'^[A-Z][aA-zZ]\*\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.'

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