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

Ans. Python provides a **re** module that supports the use of regex in Python. Its primary function is to offer a search, where it takes a regular expression and a string.

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

 Ans. The raw string is slightly different from a regular string, it won’t interpret the \ character as an escape character. This is because the regular expression engine uses \ character for its own escaping purpose.

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

Ans. It find the word passed in a parameter and return index of that string..

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

Ans. Using Re.search()

1. 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?

Ans - group(0) contains first 3 digit and group(1) will contain last 6 digit.

1. 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- To fit real parentheses or . you need to add ‘\’(backward slash) before it.

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

Ans. The pattern r'((\w+))' has two capturing groups

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

Ans | character means either or.

Example: x = re.findall("falls|stays", txt)

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

Ans: character stand for any alphabet, number or any symbol.

10.In regular expressions, what is the difference between the + and \* characters?  
Ans: + mean 1 or more occurance of a character and \* means zero or more occurance of any character

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

Ans: {4} means 4 times occurance..

{4,5} between 4 to 5 occurances

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

And: \d – Returns a match where the string contains digits (numbers from 0-9)

\w - Returns a match where the string contains any word characters (characters from a to Z, digits from 0-9, and the underscore \_ character)

\s - Returns a match where the string contains a white space character

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

\D - Returns a match where the string DOES NOT contain digits

\W - Returns a match where the string DOES NOT contain any word characters

\S - Returns a match where the string DOES NOT contain a white space character

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

The patterns yield the following matches:

A.\*Z yields 1 match: AiiZuuuuAoooZ

A.\*?Z yields 2 matches: AiiZ and AoooZ

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?

Pass re.IGNORECASE to the flags param of [search](https://docs.python.org/library/re.html#re.search), [match](https://docs.python.org/library/re.html#re.match), or [sub](https://docs.python.org/library/re.html#re.sub)

Example: re.findall('text', test, flags=re.IGNORECASE)

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

character normally matches any character except the newline character. If re. DOTALL is passed as the second argument to re. compile(), then the 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 hen

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

This flag allows you to write regular expressions that look nicer and are more readable by allowing you to visually separate logical sections of the pattern and add 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)

,[0-9]{3}

numRegex = re.compile(r'(\d{1,3}(,\d{3})\*)')

numRegex.fullmatch('1234')

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)

Regex = re.compile(r'[A-Z][A-Za-z]+\sWatanabe')

Regex.fullmatch('Haruto watanabe')

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.'

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

Regex.fullmatch('Alice eats apples.')