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

**Ans: re.compile()**

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

**Ans: Raw strings are used so that backslash (\) does not need to be escaped.**

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

**Ans: Match objects.**

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

**Ans: group() method of match object.**

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?

**Ans: Group 0 covers entire string, Group 2 covers the string within the second set of parentheses and Group 1 covers the string within the first set of 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: Periods and parentheses can be escaped using backslash (\).**

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: findall() method returns a string list if there is no grouping in the regex object and if there is grouping then it returns a list of string tuples.**

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

**Ans: Either or.**

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

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

**Ans: The + matches for one or more occurrences whereas \* matches for zero or more occurrences.**

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

**Ans: {4} searches for exactly 4 characters within specified characters and {4,5} searches for both 4 and 5 characters between specified characters.**

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

**Ans: \d returns a match where string contains a number between 0 and 9.**

**\w returns a match where string contains any word characters (a-z, A-Z, 0-9 and underscore).**

**\s returns a match where string contains white space character.**

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

**Ans: \D returns a match where string does not contain any digit.**

**\W returns a match where string does not contain any word characters.**

**\S returns a match where string does not contain any white spaces.**

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

**Ans: .\*? is non greedy quantifier and performs shortest possible match whereas .\* is a greedy quantifier and performs longest possible match.**

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

**Ans: [0-9a-z] or [a-z0-9].**

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

**Ans: Passing re.I or re.IGNORECASE in the second argument (flags) in re.compile() method.**

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

**Ans: the . character matches any character except new line (\n) character but re.DOTALL matches any characters including new line character.**

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 allows us to add white spaces 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][a-zA-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.'

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