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

# import re

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

Raw string notation (r"text") keeps regular expressions meaningful and confusion-free. Without it, every backslash ('\') in a regular expression would have to be prefixed with another one to escape it. Usually patterns will be expressed in Python code using this raw string notation.

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

return the first match of a substring found in the string and its index value as well.

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

re.match()

**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(0) stands for all matched string

# group(1) cover the first set of parentheses

group(2) cover the second 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?**

parentheses and intervals can be escaped with a 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?**

If regex has no group a list of string is returned , if regex has group a list of tuple of string is returned.

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

Either ,or between 2 group

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

**.** Any character (except newline character)

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

\* Zero or more occurrences

+ One or more occurrences

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

{4} matches exactly 4 character

{4,5} matches between 4 and 5 inclusively

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

\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 .\*?**

Both are same

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

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

By using re.IGNORECASE as 2nd argument

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

The . character match any character except new line character. if re.DOTALL is passed as 2nd argument to re.compile() then . 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?**

X drummers, X pipers, five rings, X hen

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

re.VERBOSE allow to add whitespace and comment to the string passed 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)**

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)**

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)