1. What is the primary purpose of regular expressions in NLP?  
   a) To store data  
   b) To perform mathematical calculations  
   c) To match and manipulate text patterns  
   d) To execute programs  
   **Answer:** c) To match and manipulate text patterns
2. Which Python library is commonly used for working with regular expressions?  
   a) re  
   b) regex  
   c) pandas  
   d) nltk  
   **Answer:** a) re
3. What function is used to search for a pattern in a string in Python?  
   a) re.find()  
   b) re.match()  
   c) re.search()  
   d) re.lookfor()  
   **Answer:** c) re.search()
4. Which function returns all occurrences of a pattern in a string?  
   a) re.match()  
   b) re.findall()  
   c) re.find()  
   d) re.get()  
   **Answer:** b) re.findall()
5. What does the re.sub() function do?  
   a) Splits a string  
   b) Searches for a pattern  
   c) Replaces occurrences of a pattern  
   d) Counts occurrences of a pattern  
   **Answer:** c) Replaces occurrences of a pattern
6. In regex, how do you match a space character?  
   a) \s  
   b) \w  
   c) \d  
   d) \S  
   **Answer:** a) \s
7. What does \S match in regex?  
   a) A space character  
   b) A non-space character  
   c) A digit  
   d) A word  
   **Answer:** b) A non-space character
8. Which of the following matches a tab space?  
   a) \s  
   b) \t  
   c) \w  
   d) \d  
   **Answer:** b) \t
9. What is the purpose of ^ in regex?  
   a) To match the start of a string  
   b) To match the end of a string  
   c) To match any character  
   d) To match spaces  
   **Answer:** a) To match the start of a string
10. Which regex pattern will match a string that starts with "Hello"?  
    a) Hello^  
    b) ^Hello  
    c) Hello$  
    d) $Hello  
    **Answer:** b) ^Hello
11. What does the ? symbol mean in regex?  
    a) Match one or more times  
    b) Match zero or one time  
    c) Match exactly one time  
    d) Match zero or more times  
    **Answer:** b) Match zero or one time
12. What will the pattern colou?r match?  
    a) color only  
    b) colour only  
    c) Both color and colour  
    d) Neither  
    **Answer:** c) Both color and colour
13. What does the \* symbol represent in regex?  
    a) Match exactly one time  
    b) Match zero or more times  
    c) Match one or more times  
    d) Match at least once  
    **Answer:** b) Match zero or more times
14. What will the regex ab\* match?  
    a) Only ab  
    b) a, ab, abb, abbb, etc.  
    c) Only b  
    d) None  
    **Answer:** b) a, ab, abb, abbb, etc.
15. What does the . (dot) symbol match in regex?  
    a) Any digit  
    b) Any whitespace character  
    c) Any single character except newline  
    d) Only letters  
    **Answer:** c) Any single character except newline
16. Which regex will match "cat", "bat", and "rat"?  
    a) c.b  
    b) .at  
    c) rat|bat|cat  
    d) r\*t  
    **Answer:** b) .at
17. What does the $ symbol do in regex?  
    a) Matches the start of a string  
    b) Matches the end of a string  
    c) Matches any number of spaces  
    d) Matches any number of digits  
    **Answer:** b) Matches the end of a string
18. What does the pattern word$ match?  
    a) A string starting with "word"  
    b) A string ending with "word"  
    c) Any occurrence of "word"  
    d) None  
    **Answer:** b) A string ending with "word"
19. What does the | symbol represent in regex?  
    a) Logical OR  
    b) Logical AND  
    c) Match the start of a string  
    d) Match any single character  
    **Answer:** a) Logical OR
20. Which regex pattern will match either "cat" or "dog"?  
    a) cat|dog  
    b) cat dog  
    c) cat-dog  
    d) cat&dog  
    **Answer:** a) cat|dog
21. What are parentheses () used for in regex?  
    a) To define groups  
    b) To escape special characters  
    c) To represent spaces  
    d) To define ranges  
    **Answer:** a) To define groups
22. What does the regex (ha)+ match?  
    a) ha, haha, hahaha, etc.  
    b) Only ha  
    c) Only haha  
    d) None  
    **Answer:** a) ha, haha, hahaha, etc.
23. Which operator has the highest precedence in regex?  
    a) \*  
    b) |  
    c) .  
    d) ()  
    **Answer:** d) ()
24. What is the order of precedence in regex?  
    a) (), \*, |  
    b) |, (), \*  
    c) \*, (), |  
    d) |, \*, ()  
    **Answer:** a) (), \*, |
25. What does the + symbol mean in regex?  
    a) Match zero or more times  
    b) Match one or more times  
    c) Match exactly one time  
    d) Match at most one time

**Answer:** b) Match one or more times

1. What will the regex ba+ match?  
   a) Only b  
   b) b, ba, baa, baaa, etc.  
   c) Only ba  
   d) None

**Answer:** b) b, ba, baa, baaa, etc.

1. What does {n} specify in a regex pattern?  
   a) Matches exactly n times  
   b) Matches at least n times  
   c) Matches up to n times  
   d) Matches any number of times

**Answer:** a) Matches exactly n times

1. What will the regex a{2,4} match?  
   a) Exactly two as  
   b) Between two and four as  
   c) At least four as  
   d) Only one a

**Answer:** b) Between two and four as

1. Which regex will match any digit?  
   a) \w  
   b) \d  
   c) \s  
   d) \D

**Answer:** b) \d

1. Which regex matches a non-digit character?  
   a) \D  
   b) \w  
   c) \d  
   d) \s

**Answer:** a) \D

1. What does \w match in regex?  
   a) Any word character (letters, digits, underscore)  
   b) Any whitespace character  
   c) Only lowercase letters  
   d) Any symbol

**Answer:** a) Any word character (letters, digits, underscore)

1. Which regex matches a non-word character?  
   a) \D  
   b) \W  
   c) \s  
   d) \w

**Answer:** b) \W

1. What is the function of re.split()?  
   a) To replace a pattern in a string  
   b) To find all occurrences of a pattern  
   c) To split a string using a regex pattern  
   d) To match the start of a string

**Answer:** c) To split a string using a regex pattern

1. What does re.compile() do?  
   a) Matches a pattern in a string  
   b) Compiles a regex pattern for reuse  
   c) Removes whitespace from a string  
   d) Extracts numbers from a string

**Answer:** b) Compiles a regex pattern for reuse

1. Which regex pattern will match either "apple" or "banana"?  
   a) apple banana  
   b) apple|banana  
   c) (apple banana)  
   d) apple&banana

**Answer:** b) apple|banana

1. Which regex pattern will match any single uppercase letter?  
   a) [a-z]  
   b) [A-Z]  
   c) [A-Z0-9]  
   d) [a-zA-Z]

**Answer:** b) [A-Z]

1. What does [0-9] match?  
   a) Any lowercase letter  
   b) Any digit from 0 to 9  
   c) Any uppercase letter  
   d) Any whitespace character

**Answer:** b) Any digit from 0 to 9

1. Which regex pattern will match only vowels (a, e, i, o, u)?  
   a) [aeiou]  
   b) [AEIOU]  
   c) [aeiouAEIOU]  
   d) All of the above

**Answer:** d) All of the above

1. What does [^0-9] match?  
   a) Any digit  
   b) Any character except digits  
   c) Only numbers  
   d) Only spaces

**Answer:** b) Any character except digits

1. What will [^aeiou] match?  
   a) Only vowels  
   b) Only consonants  
   c) Only numbers  
   d) Only spaces

**Answer:** b) Only consonants

1. Which regex matches a string containing "abc" anywhere?  
   a) ^abc$  
   b) abc  
   c) [abc]  
   d) abc\*

**Answer:** b) abc

1. Which regex pattern ensures the entire string is numeric?  
   a) ^\d+$  
   b) \d+  
   c) \w+  
   d) ^\w+$

**Answer:** a) ^\d+$

1. What does \b represent in regex?  
   a) A word boundary  
   b) A whitespace character  
   c) A non-digit character  
   d) A lowercase letter

**Answer:** a) A word boundary

1. Which regex matches a word that starts with "cat"?  
   a) \bcat  
   b) cat\b  
   c) ^cat  
   d) cat$

**Answer:** a) \bcat

1. Which regex pattern will match "cat" only if it's a whole word?  
   a) \bcat\b  
   b) ^cat$  
   c) cat|dog  
   d) cat\*

**Answer:** a) \bcat\b

1. What does re.match() do?  
   a) Matches a pattern at any position in a string  
   b) Matches a pattern only at the beginning of a string  
   c) Finds all occurrences of a pattern  
   d) Splits a string

**Answer:** b) Matches a pattern only at the beginning of a string

1. What is the main difference between re.match() and re.search()?  
   a) re.match() searches the entire string, while re.search() checks only the beginning  
   b) re.match() checks only the beginning, while re.search() searches the entire string  
   c) re.match() returns a list, while re.search() returns a boolean  
   d) Both do the same thing

**Answer:** b) re.match() checks only the beginning, while re.search() searches the entire string

1. What does re.escape() do?  
   a) Escapes all special characters in a string  
   b) Removes spaces from a string  
   c) Converts lowercase to uppercase  
   d) Finds patterns in a string

**Answer:** a) Escapes all special characters in a string

1. What does \Z match in regex?  
   a) The end of a string  
   b) The beginning of a string  
   c) A whitespace character  
   d) A word character

**Answer:** a) The end of a string

1. What will the regex ^\s+|\s+$ do?  
   a) Match only spaces  
   b) Remove leading and trailing whitespace  
   c) Match only digits  
   d) Match only letters

**Answer:** b) Remove leading and trailing whitespace