## Lecture 4-string in java

1. What is the purpose of the `length()` method in Java's String class?

- A) To return the number of characters in a String

- B) To split a String into an array

- C) To find the index of a character in a String

- D) To convert a String to uppercase

Answer: A

2. Which method converts a String into an array of characters?

- A) `charAt()`

- B) `toCharArray()`

- C) `split()`

- D) `indexOf()`

Answer: B

3. What does the regex `^hello$` match?

- A) Strings that start with "hello"

- B) Strings that end with "hello"

- C) Strings that are exactly "hello"

- D) Any string containing "hello"

Answer: C

4. What does the regex `\bcat\b` match?

- A) The word "cat" as a standalone word

- B) "cat" at the beginning of a word

- C) "cat" at the end of a word

- D) Any occurrence of "cat"

Answer: A

5. In Java, what does the `indexOf(String str)` method do?

- A) Splits a String into an array using the given delimiter

- B) Finds the first occurrence of a substring within a String

- C) Converts a String to lowercase

- D) Replaces characters in a String

Answer: B

6. What does the regex `[a-zA-Z0-9]` match?

- A) Only lowercase letters

- B) Only uppercase letters

- C) Any letter or digit

- D) Only digits

Answer: C

7. What is returned by `split(" +")` when applied to `"Can you hear me? Hello, hello?"`?

- A) An array containing words with extra spaces included

- B) An array containing exactly 6 words without extra spaces

- C) An array containing characters split by space

- D) An error due to invalid regex

Answer: B

8. Which quantifier matches zero or more occurrences of a character in regex?

- A) `+`

- B) `\*`

- C) `{min,max}`

- D) `?`

Answer: B

9. Which quantifier matches one or more occurrences of a character in regex?

- A) `+`

- B) `\*`

- C) `{min,max}`

- D) `?`

Answer: A

10. What does the regex `[0-9]{3}[ -]?[0-9]{3}[ -]?[0-9]{4}` match?

- A) Any string with exactly 10 digits in sequence

- B) Phone numbers with optional spaces or hyphens as separators (e.g., 1234567890, 123 456 7890, 123-456-7890)

- C) Strings with three digits followed by spaces only

- D) Strings with special characters only

Answer: B

11. Which built-in character class matches any digit?

- A) `\D`

- B) `\w`

- C) `\d`

- D) `\s`

*Answer: C*

12. How can you match the literal dot (`.`) character in regex?

- A) Use just `.` directly in the pattern.

- B) Use `\.` to escape it.

- C) Use `[.]`.

- D) Both B and C are correct.

Answer: D

13. Which quantifier matches between 2 and 4 occurrences of a pattern?

- A) `{2,4}`

- B) `{2,}`

- C) `{,4}`

- D) `{4}`

Answer: A

14. What is the output of calling `getTokens("[a-z]+")` on `"Splitting strings is fun!"`?

Assume it extracts sequences of lowercase letters.

- A) ["Splitting", "strings", "is", "fun"]

- B) ["splitting", "strings", "is", "fun"]

- C) ["strings", "is", "fun"]

- D) ["splittingstringsisfun"]

Answer: B

15. What does the regex `(abc|def|ghi)` match?

- A: Only "abc"

- B: Only "def"

- C: Any one of "abc," "def," or "ghi"

- D: All three combined in sequence.

Answer: C