Day 6 - Java Set - Questions (Theory)

1) In java, a string is a sequence of characters It is a data type that represents textual data and is used to store and manipulate text in a program. Strings are commonly used for String storing and working with words, sentences and other textual information
example - String message = "Hello world";

2) In java we have built-in string methods from that to find the length of String

variable.length();

for example,

```
String name = "Kumaresan";
int name_length = name.length();
System.out.println(name_length);
```

③ In java, you can use charAt() method. The method allows you to retrieve the character at a specific index within the string. The index starts at 0 for the first character at a specific index within the string. The index starts at 0 for the first character and goes up to length-1 for the last character of the string.

eg:-
```
String message = "Hello world";
char character = message.charAt(7);
System.out.println("character at Index 7 :" + character);
```

④ In java, you can split a string into multiple parts using split() method of the String class. This method divides a string into an array of substrings based on a specified ~~diameter~~ delimeter. Here an example:

```
String message = "Hello, world";
String [] parts = message.split(", ");
for(String part : parts)
{ System.out.println(part); }
```

⑤ In java, literal string refers to a string that is specified directly into the source code within double quotes (e.g., "Hello, World!"); when the java compiler encounters a literal string. It creates a String object with the specified value.

for example, String name = "kumaresan";

non-literal strings are not automatically interned. Each non-literal String object is distinct and occupies a separate memory location, even if their contents are the same. This means that non-literal strings created dynamically will have different memory locations, even if they have the same value.

⑥ In java, a mutable String is a string object whose values can be changed after is created. on the other hand, an immutable String is a string object whose value cannot be changed once it is created

for example,

```
String is = "hello";
String ms = new String("Hello");

is = is + "world";
ms.append("would");
Syso(is);
Syso(ms);
```

~~Both are the~~

⑦ Both String Builder and String Buffer are classes that provide mutable string objects. They are similar in functalities, but there is one key difference between them.

String Builder is Synchronized non-thread safe whereas StringBuffer is non-Synchronized thread safe.

⑧ Method to identify the memory location is hashcode();

9 9 Q. STRING METHODS :-

toUpperCase(), toLowerCase(), StartsWith()
endsWith(), indexOf(), lastIndexOf()
equals(), equalsIgnoreCase(), length()
contains(), concat(), charAt(),
toCharArray(), replace(), isEmpty(),
isBlank(), split(), trim(), subString()

(10) charAt() is a string method is used to find the character at the specific index, the return type of the charAt() method is char.

for eg:-

```
String name = "kumareban";
char find = name.charAt(4);
System.out(find);
```

contains() is a string method is used to specified word is present or not. the

return type of the contains() is boolean.

for eg:-

```
String name = "Kumaresan L";
boolean check = name.contains("L");
sysout(check);
```

(11) The return type of compareTo() method is int

(12) String literal memory stores - String Constant pool (SCP) whereas non literal String memory stored in heap memory.

(13) ASCII (American Standard Code for Information Interchange) is a character encoding scheme that represents characters as numeric codes. It is a widely used encoding standards.

ASCII value of 65 represents letter A (UC)
ASCII value of 97 represents letter a (LC)