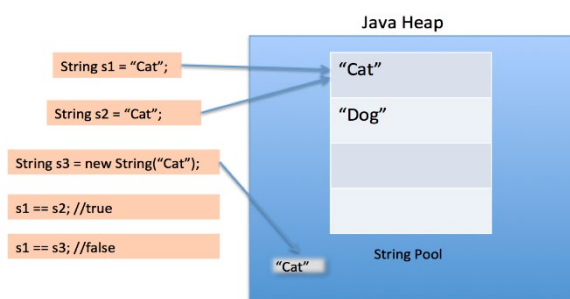# JAVA HomeWork 9 – Classes From Java API

Q1: The Correct Answer is C

Strings are immutable when we concatenate 2 strings the old strings keeps staying in string pool but StringBuilder is mutable when we make changes on it with methods it doesn't create a new instance. StringBuffers are mutable, memory efficient, and thread-safe. Their downfall is the speed when compared to much faster StringBuilders. As for StringBuilders, they are also mutable and memory efficient, they are the fastest in string manipulation, but unfortunately they are not thread-safe. [1]

Q2: The Correct Answer is D

Strings are `'immutable'`, `'final'` and has `'new String()'` constructor.

String pool:

Q3: The Correct Answer is D

`'new Stringbuilder()'` is "", like an empty string, appending "clown" results "clown". `'new Stringbuilder("clown")'` is directly "clown". `'new Stringbuilder("cl")'` and `'.insert(2,"own")'` inserts "own" to "cl" starting from index 2 which again results "clown"

Q4: The Correct Answer is B

The append method of StringBuilder concatenates the String parameter with the old value of StringBuilder.

Q5: The Correct Answer is B

We cannot instantiate the `'type List'` and we cannot convert an `'Object'` class instance into a List.

Q6: The Correct Answer is C

Java indexing starts from 0 which is the first one added hammer and index number 1 is nail.

Q7: The Correct Answer is C

The local variable `'sb'` may not have been initialized, it could have been worked without `'sb.lenght()'`

Q8: The Correct Answer is A

Remove index 2 removes `'Art'` from list leaving `'[Natural History, Science]'` behind.

Q9: **The Correct Answer is C**

`'reverse()'` method reverses whole string.

Q10: **The Correct Answer is D**

The point of all lambdas is deferred execution. After all, if you wanted to execute some code right now, you'd do that, without wrapping it inside a lambda.

Q11: **The Correct Answer is D**

`'true'` because anotherLine gets equalized to line after line gets appended with `'-'` and append command changes the actual line instance and returns a `'StringBuilder'` object back. 2 because both have `'--'` in them.

Q12: **The Correct Answer is B**

`'lenght()'` method is not defined for `'arrayList'` classes its the `'size()'` method for `'arrayList'`. `'add()'` method is not defined for `'StringBuilder'` class its the `'append()'` method for `'StringBuilder'`.

Q13: **The Correct Answer is D**

Predicate returns a `'boolean'` value and input type defined inside `'<>'` characters. If only variable without type defined before `'->'` no need for brackets and if there is no `'return'` no need for curly brackets and semicolon at the end. The boolean return value can be generated by other means.

Q14: **The Correct Answer is A**

Char `'b'` was replaced by code `'chars.set(1, 'c');'` before and char `'a'` was removed by `'chars.remove(0);'`

Q15: **The Correct Answer is D**

`'b.reverse()'` is not a method of `'String'` class.

Q16: **The Correct Answer is A**

Q13's answer explains this question.

Q17: **The Correct Answer is A**

Lambda expressions basically express instances of functional interfaces (An interface with single abstract method is called functional interface. An example is java.lang.Runnable). lambda expressions implement the only abstract function and therefore implement functional interfaces.[17]

Q18: **The Correct Answer is A**

Because Strings are immutable to concatenate it with another String we need to reassing it like `'teams=teams.concat("a");'`

Q19: **The Correct Answer is A**

Only ArrayList in `'java.util'` package. The String class is inside `'java.lang'` and the LocalDate is from `'java.time'`.

Q20: **The Correct Answer is C**

It should have been inserted from index 8.

Q21: **The Correct Answer is A**

At the end `'Art'` was set to index number 0 so `'museum'` List contains `'Art'`.

Q22: **The Correct Answer is D**

If it starts with "abc" it naturally contains "abc"

Q23: **The Correct Answer is D**

Size is the valid method for List class not length

Q24: **The Correct Answer is B**

Both methods wasnt defined for ArrayList but for StringBuilder there is a replace method but does not take these arguments.

Q25: **The Correct Answer is C**

Difference that diamond operator does it makes variables generic. It avoids unchecked warnings in a program as well as reducing generic verbosity by not requiring explicit duplicate specification of parameter types. If we insert <> at left side we need to set the type too.

Q26: **The Correct Answer is D**

Lambda expression's parameter o is expected to be of type String but cant use s variable because it was used in main method.

Q27: **The Correct Answer is A**

`'false 1'` same reason with Q18

Q28: **The Correct Answer is C**

The method `'startsWith(String)'` is undefined for the type Object because Predicate was not defeined with a data type using diamond operator.

Q29: **The Correct Answer is B**

Only the LocalDate class does not store or represent a time or time-zone. Instead, it is a description of the date, as used for birthdays and LOCALTIMESTAMP is in sql.

Q30: **The Correct Answer is D**

Returns a string that is a substring of a string. Thesubstring begins with the character at the specified index and extends to the end of this string.

Q31: **The Correct Answer is D**

Q13's answer explains this question.

Q32: **The Correct Answer is B**

plusDays() method increments the day with amount and returns is as a new LocalDate object. LocalDate is an immutable object.

Q33: **The Correct Answer is A**

When charAt(0) deleted "ed" remains and then chars at index 1 to 2 gets deleted and only "e" remains.

Q34: **The Correct Answer is B**

Predicate can have any kind of statement after the arrow that produces a `'boolean'` output like `'equals()'` method.

Q35: **The Correct Answer is C**

There are no months in `'LocalTime.'`

Q36: a

a

Q37: **The Correct Answer is B**

`'ofDays(10)'` is larger amount of time.

Q38: **The Correct Answer is B**

When we make changes on date & time they get checked before applied for valid date&time.

Q39: **The Correct Answer is B**

The substring from index 0 to lenght of string returns same string.

Q40: **The Correct Answer is C**

The supported units of a period are YEARS, MONTHS and DAYS. All three fields are always present, but may be set to zero. [40]

Q41: **The Correct Answer is A**

The substring method does not change String itself it returns a copy so `'builder.charAt(1)'` still returns `'1'`.

Q42: **The Correct Answer is B**

`'remove(2)'` does not remove `'integer 2'` it removes `'index number 2'`.

Q43: **The Correct Answer is C**

ArrayList doesnt have these methods. String doesnt have insert its immutable. StringBuilder has all these methods.

Q44: **The Correct Answer is C**

LocalTime is an immutable date-time object that represents a time, often viewed as hour-minute-second. Time is represented to nanosecond precision. [44]

Q45: **The Correct Answer is D**

LocalDate does not support `'ofPattern("mm-dd-yyyy")'` it does support `'ofPattern("MM-dd-yyyy"')`   `'m'` is used for minutes and `'M'` is used for Months

Q46: **The Correct Answer is D**

All of them are is valid input for replace method.

Q47: **The Correct Answer is C**

The numbers in the list are in `'String'` type they need to be casted into `'Integer'` with `'parseInt()'` in `'test()'` method.

Q48: **The Correct Answer is D**

remove(1) throws an IndexOutOfBoundsException.

Q49: **The Correct Answer is C**

`'String'` type variable was defined with a `'char'`.

Q50: **The Correct Answer is C**

The code does not compile because LocalDate class doesnt have setYear() method its withYear() method and even if it were true method to change xmas variable we still need to redefine it because LocalDate is immutable.