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Full Name:	Siddhartha Agrawal
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Test Name:	**HCLTech Java Backend Developer**
Taken On:	26 May 2023 15:10:07 IST
Time Taken:	119 min 56 sec/ 120 min
Work Experience:	< 1 years
Invited by:	biswajit
Invited on:	25 May 2023 15:52:55 IST

Skills Score:

- Git (Basic) 0/5
- JUnit 12.33/20
- Java (Intermediate) 23.33/40
- Problem Solving (Intermediate) 54/85
- REST API (Intermediate) 83.75/95
- SQL (Intermediate) 5/30
- Spring Boot (Intermediate) 30.83/55

Tags Score:

- Algorithms 0/5
- Arrays 59/80
- Aspect-Oriented Programming 5/5
- Collections 5/10
- Core CS 10/20
- Data Structures 0/5
- Exception Handling 10/15
- Garbage Collection 0/5
- Generics 0/5
- Git 0/5
- Greedy Algorithms 0/5
- JUnit 12.33/20
- JWT 0/5
- Java 28.33/40
- Java 8 3.33/5
- Language Proficiency 5/5
- Linked Lists 0/5
- Math 54/75
- Medium 209.24/330
- Mockito 7.33/10
- Multithreading 3.33/5
- MySQL 5/25
- Number Theory 54/75
- OOPS 5/5
- Problem Solving 5/5

63.4%

209/330

scored in **HCLTech Java Backend Developer** in 119 min 56 sec on 26 May 2023 15:10:07 IST

Programming	10/10
REST API	80/85
Real-World	54/75
Searching	54/75
Spring	10.83/25
Spring Boot	23.33/40
Spring Data	5/5
Stream	5/5
Strings	0/5
Vectors	5/5

Recruiter/Team Comments:

No Comments.

Plagiarism flagged

We have marked questions with suspected plagiarism below. Please review.

	Question Description	Time Taken	Score	Status
Q1	Java Classes › Multiple Choice	9 min 8 sec	5/ 5	✓
Q2	git status › Multiple Choice	1 min 33 sec	0/ 5	✗
Q3	Java Garbage Collection › Multiple Choice	4 min 29 sec	0/ 5	✗
Q4	Java Generics › Multiple Choice	38 sec	0/ 5	✗
Q5	Multi-threaded code › Multiple Choice	6 min 6 sec	3.33/ 5	✓
Q6	Empty Collection › Multiple Choice	1 min 2 sec	0/ 5	✗
Q7	Java : Collections › Multiple Choice	36 sec	5/ 5	✓
Q8	Java Streams › Multiple Choice	22 sec	5/ 5	✓
Q9	Root Class of the Java Exception Heirarchy › Multiple Choice	18 sec	5/ 5	✓
Q10	Value of Linked List › Multiple Choice	44 sec	0/ 5	✗
Q11	Construct a String › Multiple Choice	55 sec	0/ 5	✗
Q12	Valid keys › Coding	50 min 33 sec	54/ 75	✓
Q13	MySQL: Substring Extraction › Multiple Choice	38 sec	0/ 5	✗
Q14	MySQL: Substring Function › Multiple Choice	16 sec	0/ 5	✗
Q15	MySQL: Table Constraints › Multiple Choice	18 sec	5/ 5	✓
Q16	MySQL: Table Alteration › Multiple Choice	18 sec	0/ 5	✗

Q17	MySQL: Distinct Select Multiple Tables › Multiple Choice	13 sec	0/ 5	✗
Q18	MySQL: Group By Condition › Multiple Choice	25 sec	0/ 5	✗
Q19	REST API Response › Multiple Choice	45 sec	5/ 5	✓
Q20	Restrictions of RESTful Web Services › Multiple Choice	15 sec	3.75/ 5	✓
Q21	JWT › Multiple Choice	12 sec	0/ 5	✗
Q22	HTTP post method › Multiple Choice	4 min 23 sec	0/ 5	✗
Q23	REST API: Capital City › Coding	14 min 34 sec	75/ 75	!
Q24	Spring Bean Initialization › Multiple Choice	1 min 13 sec	0/ 5	✗
Q25	Spring Transactional › Multiple Choice	28 sec	0/ 5	✗
Q26	Spring MVC RestController › Multiple Choice	21 sec	3.33/ 5	✓
Q27	Spring Circular Dependency › Multiple Choice	19 sec	0/ 5	✗
Q28	Spring Data Repository › Multiple Choice	57 sec	5/ 5	✓
Q29	Spring IOC Container › Multiple Choice	25 sec	5/ 5	✓
Q30	Spring Boot Localization › Multiple Choice	1 min 20 sec	5/ 5	✓
Q31	Spring Scopes › Multiple Choice	27 sec	2.5/ 5	✓
Q32	Dispatcher Servlet › Multiple Choice	9 sec	5/ 5	✓
Q33	Error Handling › Multiple Choice	23 sec	5/ 5	✓
Q34	API › Multiple Choice	34 sec	0/ 5	✗
Q35	Java Mockito Usage Annotation › Multiple Choice	2 min 3 sec	5/ 5	✓
Q36	Mockito Verify › Multiple Choice	1 min 44 sec	4/ 5	✓
Q37	Mockito Static Methods › Multiple Choice	2 min 22 sec	3.33/ 5	✓
Q38	JUnit Test Order › Multiple Choice	5 min 8 sec	0/ 5	✗

QUESTION 1

Correct Answer

Score 5

Java Classes › Multiple Choice

Medium | Java | OOPS | Core CS | Programming

QUESTION DESCRIPTION

Which statement is true?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ( ) Non-static member classes must have either default or public accessibility.
- ( ) All nested classes can declare static member classes.
- ( ) Methods in all nested classes can be declared static.

Static member classes can contain non-static methods.

No Comments

QUESTION 2

Wrong Answer

Score 0

git status › Multiple Choice | Git | Medium

QUESTION DESCRIPTION

Based on the output of the 'git status' command that is shown, which of the following statements is true?

```
git status
On branch newbranch
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   README.md

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   README.md
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- There are 2 files with the name README.md.
- `git reset --soft HEAD~` was executed and the last commit added the REAMDE.md file.
- `git reset --mixed HEAD~` was executed and the last commit added the REAMDE.md file.
- `git reset --hard HEAD~` was executed and the last commit added the REAMDE.md file.
- ✓ `git add README.md` was executed and then another change was made to the README.md file.

No Comments

QUESTION 3

Wrong Answer

Score 0

Java Garbage Collection › Multiple Choice | Garbage Collection | Medium

QUESTION DESCRIPTION

Which of the following statements are true about garbage collection in Java?

INTERVIEWER GUIDELINES

When an object is created using the new keyword, it is allocated on the heap memory, and the garbage collector only runs for the heap memory. On the other hand, static variables in Java are allocated in the stack space, which is separate from the heap. Calling the System.gc() does not guarantee that garbage collection will occur in Java. This method is used to suggest to the JVM that a garbage collection cycle should be performed. However, the JVM has its own algorithm for deciding when to perform garbage collection, based on some factors. When an object is no longer reachable by the program, the garbage

collector will eventually reclaim its memory. Before this happens, the garbage collector will call the object's finalize() method (if it is overridden) as part of the finalization process. If that method restores the object by making it reachable again, then the object will not be garbage collected. However, It's important to note that the finalize() method is not always a reliable mechanism for restoring an object or preventing it from being garbage collected.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ ○ The garbage collector can only free memory that was allocated using the new keyword.
- ● The garbage collector can free memory that is being referenced by a static variable.
- ● The system.gc() method can be used to guarantee that garbage collection will occur.
- ✓ ○ The finalize() method can be used to prevent an object from being garbage collected.

No Comments

QUESTION 4

⊗ Wrong Answer

Score 0

Java Generics › Multiple Choice Generics Medium

QUESTION DESCRIPTION

What is the result of compiling and/or running this code?

```
public class Generic<T> {
    private T value;
    public Generic(T value) {
        this.value = value;
    }
    public T getValue() {
        return value;
    }
}
```

```
import java.util.ArrayList;
public class Main {
    public static void main(String args[]) {
       ArrayList<Generic>  g = new ArrayList<>();
       Generic<?> g1=new Generic<>(10);
       Generic<?> g2=new Generic<>("Hello");
       g.add(g1);
       g.add(g2);
       int i=g.get(0).getValue();
       String s=g.get(1).getValue();
       System.out.println(s);
       System.out.println(i);
    }
}
```

INTERVIEWER GUIDELINES

In the program, we have created two generic objects with the wildcard ?, which means that the exact type is unknown/could be of any type. However, when retrieving a generic value with a wildcard in Java, we cannot directly assign it to a primitive data type, as primitive data types are not compatible with the Object type.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] Compile-time error while retrieving the values from array list and assigning them to their respective datatypes.
- [ ] Compile-time error while creating the generic object with int value, because generics does not work with primitive data type int
- [ ] Hello 10
- [ ] Run-time error because an array list cannot contain generic objects of different types (string and int)

No Comments

QUESTION 5

Correct Answer

Score 3.33

Multi-threaded code › Multiple Choice

Java | Java 8 | Medium | Multithreading

QUESTION DESCRIPTION

```
class Worker implements Runnable
{
  AtomicInteger c = new AtomicInteger(0);
  @Override
  public void run()
  {}
}
```

Which of the following code snippets is an example of multi-threading?

INTERVIEWER GUIDELINES

The correct answers are **A**, **B**, and **C.**

Multi-threading is the concept where two threads are executed at the same time. Java supports multithreading in traditional ways as well as modern ways. In The modern approach, Java has introduced a *concurrent* package exclusively for this purpose. The methods and the corresponding classes used in the code belong to this package.

A and B use fixedThreadPool and scheduledThreadPool methods to create a thread pool size(10). Then, it calls to submit() with a runnable argument inside a loop. This is the modern approach.
C is also a multi-threaded example because it creates a Thread with a runnable interface in a loop. This is the traditional approach.
In the case of D, it creates only one thread, and that same thread is used with a runnable interface. So, D is not the correct answer.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ ExecutorService service = Executors.newFixedThreadPool(10); for(int i = 0; i<10; i++) { service.submit(new Worker()); }
- ✓ ExecutorService service = Executors.newScheduledThreadPool(10); IntStream.range(0, 10).forEach(e -> service.submit(new Worker()));
- ✓ for(int i = 0; i<10; i++) { Worker worker = new Worker(); Thread thread = new Thread(worker, i +""); thread.start(); }
- ExecutorService service = Executors.newSingleThreadExecutor(); IntStream.range(0, 10).forEach(e -> service.submit(new Worker()));

No Comments

QUESTION 6

✗ Wrong Answer

Score 0

Empty Collection › Multiple Choice

Java | Collections | Medium

QUESTION DESCRIPTION

Which code displays an empty ([]) collection when executed?

INTERVIEWER GUIDELINES

The correct answer is D.

There are 10 items in the stack initially. In the first loop, we add these 10 items to the stack. In the second loop, we iterate based on the size of the stack, and in every iteration, we remove the item from the top of the stack and insert it into the queue. Then decrement the counter. This is a very important step as this will adjust the index counter and will remove all the items from the stack.
For example, if i is not decremented, then the stack size is reduced and i is incremented. After 4th iteration, the value of the variable I will be greater than the size of the stack and exit from the loop.
But the stack will not be empty. The final elements in the stack are mentioned below:

[5, 6, 7, 8, 9]

To avoid this, we need to decrement the value of the variable i so that it will never increment. It will be always '0'. But the loop will exit when the stack becomes empty as the condition is evaluated to false.

The same case is applicable to the third loop as well as the variable i is required to be reduced. This way it will remove all the items from the queue.

Based on the above explanation, other answers are not correct.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Stack<Integer> stack = new Stack<>(); Queue queue = new LinkedList(); for(int i = 0; i<10; i++) stack.add(i); for(int i = 0; i< stack.size()-1; i++) { int n = stack.remove(0); queue.add(n); } for(int i = 0; i<queue.size()-1; i++) { int n = (int)queue.remove(); i = i - 1; } System.out.println(queue);
- ● Stack<Integer> stack = new Stack<>(); Queue queue = new LinkedList(); for(int i = 0; i<10; i++) stack.add(i); for(int i = 0; i< stack.size(); i++) { int n = stack.remove(0); queue.add(n); } for(int i = 0; i<queue.size(); i++) { int n = (int)queue.remove(); } System.out.println(queue);

Stack<Integer> stack = new Stack<>(); Queue queue = new LinkedList(); for(int i = 0; i<10; i++) stack.add(i); for(int i = 0; i< stack.size(); i++) { int n = stack.remove(0); queue.add(n); i = i - 1; } for(int i = 0; i<queue.size(); i++) { int n = (int)queue.remove(); } System.out.println(queue);

Stack<Integer> stack = new Stack<>(); Queue queue = new LinkedList(); for(int i = 0; i<10; i++) stack.add(i); for(int i = 0; i< stack.size(); i++) { int n = stack.remove(0); queue.add(n); i = i - 1; } for(int i = 0; i<queue.size(); i++) { int n = (int)queue.remove(); i = i - 1; } System.out.println(queue);

No Comments

QUESTION 7

Correct Answer

Score 5

Java : Collections › Multiple Choice

Medium | Java | Collections | Arrays | Vectors | Language Proficiency | Problem Solving

QUESTION DESCRIPTION

Which of the statements is true about ArrayList and Vector in Java?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Vector can be resized while ArrayList cannot be
- Vector is synchronized while ArrayList is not
- ArrayLists can grow but cannot shrink in size, while Vector can both grow and shrink
- Vectors allow duplicate values while ArrayList doesnot

No Comments

QUESTION 8

Correct Answer

Score 5

Java Streams › Multiple Choice

Java | Medium | Stream

QUESTION DESCRIPTION

Consider the following code

```
class Weather
{
    String place;
    Double temperature;

    public Weather()
    {

    }

    public Weather(String place, Double temperature)
    {
        this.place = place;
        this.temperature = temperature;
    }

    public Double getTemperature()
    {
        return temperature;
    }
```

```
    public String getPlace()
    {
        return place;
    }

    public String toString()
    {
        return new StringBuffer(" Place : ")
                .append(this.place)
                .append(" Temperature : ")
                .append(this.temperature)
                .toString();
    }
}
```

```
List<Weather> weathers = new ArrayList<>();
weathers.add(new Weather("Sunny", 33.0));
weathers.add(new Weather("Rainy", 17.0));
weathers.add(new Weather("Cloudy", 23.0));
weathers.add(new Weather("Cold", 3.0));
weathers.add(new Weather("Hot", 37.0));
weathers.add(new Weather("Windy", 13.0));
weathers.add(new Weather("Snowy", 0.0));
weathers.add(new Weather("Freezing", -15.0));

// sort & print code block
```

Which of the following options will display the output after sorting the objects by temperature?

INTERVIEWER GUIDELINES

The question is related to the usage of java stream api. sorted and forEach method usage knowledge is tested here.

The answer is C. Only it sorts and print's given array in the right order.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- weathers.stream() .map(Weather::getTemperature) .sorted() .forEach(System.out::println);
- weathers.stream() .sorted(Weather::getTemperature) .forEach(System.out::println);
- ✓ weathers.stream() .sorted((p1, p2) -> p1.getTemperature().compareTo(p2.getTemperature())) .forEach(System.out::println);
- weathers.stream() .map(Weather::getTemperature) .sorted((p1, p2) -> p1.compareTo(p2)) .forEach(System.out::println);

No Comments

QUESTION 9

Correct Answer

Score 5

Root Class of the Java Exception Heirarchy › Multiple Choice

Java | Medium | Exception Handling | Core CS | Programming

QUESTION DESCRIPTION

Which of the following is the root class (apex) of the exception heirarchy in Java?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] Throwable
- [ ] Exception
- [ ] Error
- [ ] RuntimeException

No Comments

QUESTION 10

Wrong Answer

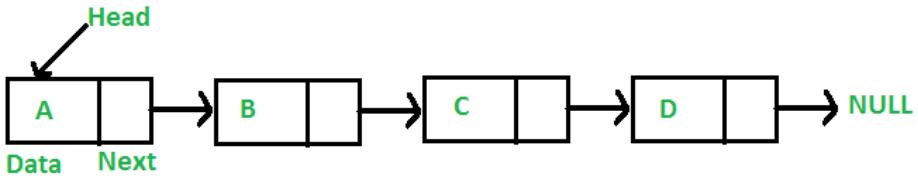
Score 0

Value of Linked List › Multiple Choice

Linked Lists | Medium | Data Structures | Core CS

QUESTION DESCRIPTION

The structure of a singly-linked list is shown below.



The following code is expected to find the middle element in a singly-linked list using the two pointer method. Find the error in the code.

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode(int x) : val(x), next(NULL) {}
 * };
 */

ListNode* middleNode(ListNode* head) {
    ListNode* link = head;
    ListNode* middle = head;
    while(link!=NULL){
        link = link->next->next;
        middle = middle->next;
    }
    return middle;
}
```

INTERVIEWER GUIDELINES

As we access link->next and link->next->next inside the while loop. It is not enough to check the link is NULL or not, we should also check link->next is NULL or not
simanteneously.
so the correct Code is

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode(int x) : val(x), next(NULL) {}
 * };
 */

ListNode* middleNode(ListNode* head) {
    ListNode* link = head;
    ListNode* middle = head;
    while(link!=NULL && link->next!=NULL){
         link = link->next->next;
         middle = middle->next;
    }

    return middle;
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Initialization of the middle variable is wrong. It should be ListNode* middle = head->next;
- ✓ In the while loop, it should also check that link->next!=NULL
- Updatiing the link variable in while loop should be link = link->next
- All of the above

No Comments

QUESTION 11

Wrong Answer

Score 0

Construct a String › Multiple Choice

Strings | Medium | Greedy Algorithms | Algorithms | Core CS

QUESTION DESCRIPTION

Construct a string of length *N* using the first *K* letters of an alphabet. The cost to construct the string is the number of instances where pairs of characters match in position and order. For example, to construct a string from the first *K = 2* letters of the English alphabet that is *N = 4* characters long, two of the many possible results are 'abab' for a cost of 1 and 'abba' for a cost of 0.

Construct the strings for the following test cases to minimize cost. Select the list of answers that matches the costs.

Test Case 1: N=9 K=4
Test Case 2: N=27 K=5
Test Case 3: N=33 K=4

INTERVIEWER GUIDELINES

In this question, we have to find a string of length N and that made up of first K English alphabets.

The cost of the string is the number of times a substring of length 2 is repeating.

If N= 5 and K = 2
Then if we consider "ababa" as the name of the city then the cost is 4. ("ab" and "ba" are repeating twice)

The idea to reduce this cost is to first pick a single character and then pick characters in such a way that will not form a substring of length 2 that has already in the picked characters.

Using the above greedy technique, the answer for the above sample is "aabba".

Test case 1: N=9 K=4
The name can be "aabbccdda" whose cost is 0.

Test case 2: N=27 K=5
The name can be "aabbccddeeacebdadbecaedcbaa" whose minimum cost is 1.

Test case 3: N=33 K=4
Name can be "aabbccddacadbdcbaabbccddacadbdcba" whose minimum cost is 16.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- 1 2 16
- 1 2 15
- ✓ 0 1 16
- 0 2 15

No Comments

QUESTION 12

Correct Answer

Score 54

Valid keys › Coding

Arrays | Number Theory | Math | Searching | Medium | Real-World

QUESTION DESCRIPTION

A cyber security firm has discovered a new type of encryption being used by a group of hackers. The encryption key will be a *valid* key, which is a number that has exactly 3 factors (or divisors). For example, 4 is a *valid* key because it has exactly 3 factors: 1, 2, and 4. But 6 is not a *valid* key because it has 4 factors: 1, 2, 3, and 6.
Given an array *keys* of length *n,* find the number of *valid* keys in the range *[1, keys[i]]*, both inclusive, for each $0 \le i < n$.

Note:

- *a* is called a divisor of *b* if there is an integer *c* such that $a * c = b$.
- Only positive integers are taken into account for counting divisors.

Example
Given, *n = 2, keys = [5, 11].*

keys[i]	*valid* key/keys	Count
keys[0] =[5]	4 (it has three divisors 1, 2 and 4)	1
keys[1] = [11]	4 and 9	2

Hence, the answer is [1, 2].

Function Description

Complete the function *getValidKey* in the editor below.

getValidKey has the following parameter:

long_int numbers[n]: an array of integers.

Returns

int[n]: an array of integers containing the answer for each query.

Constraints

- $1 \le n \le 10^5$
- $1 \le keys[i] \le 2.5 \times 10^{13}$

▼ Input Format For Custom Testing

The first line contains an integer, *n*, the number of elements in *keys*.

Each of the next *n* lines (where $0 \le i < n$) contains an integer, *keys[i]*.

▼ Sample Case 0

Sample Input For Custom Testing

```
STDIN         FUNCTION
-----         --------
2       →     n = 2
10      →     keys = [10, 15]
15
```

Sample Output

```
2
2
```

Explanation

Given *n = 2, keys = [10, 15]*.

- For *i = 0, keys[i] = 10*, the *valid* keys are 4 and 9.
- For *i = 1, keys[i] = 15*, the *valid* keys are again 4 and 9.

▼ Sample Case 1

Sample Input For Custom Testing

```
STDIN         FUNCTION
-----         --------
1       →     n = 1
100     →     keys = [100]
```

Sample Output

```
4
```

Explanation

There are 4 *valid* keys in the range [1, 100].

INTERVIEWER GUIDELINES

▼ Solution

Skills: Mathematical skills, Number Theory

Optimal Solution:

It can be seen that only squares of a prime number form a *valid* key, as that is the only possibility of having exactly 3 divisors. Thus, numbers like 4, 9, 25, etc. are *valid.* In order to find the number of

valid divisors in some required range *[1, x]*, simply find the number of primes in the range *[1, sqrt(x)]* since their squares are *valid* and lie in the range *[1, x]*. *A sieve* can be used to store the number of primes till each integer *num* and thus arrive at the solution in optimal time. Please see the implementation for more details.

Python Solution:

```
from math import sqrt
def getValidKeyCount(keys):
    ubnd = int(sqrt(max(keys))) + 2
    num_primes = [0] * ubnd

    def sieve():
        is_prime = [1] * ubnd
        is_prime[0], is_prime[1] = 0, 0
        for num in range(2, ubnd):
            if is_prime[num]:
                for i in range(2 * num, ubnd, num):
                    is_prime[i] = 0

            num_primes[num] = num_primes[num - 1] + is_prime[num]

    sieve()
    ans = []
    for num in keys:
        ans.append(num_primes[int(sqrt(num))])

    return ans
```

▼ Complexity Analysis

Time Complexity - O(*n* + *ubnd*), where *ubnd* is the upper bound on the maximum possible prime whose square can be present the given set of ranges
The sieve takes O(*ubnd*) time for its computation. This is because even though there are two nested loops involved, each integer in the range *[2, ubnd)* is visited at most once. Further, the answer for each query can be calculated in O(1) time, thus storing the answer for all given numbers takes O(n) time. Hence, total time complexity is O(n + *ubnd*).

Space Complexity - O(*n* + *ubnd*), where *ubnd* is the upper bound on the maximum possible prime whose square can be present the given set of ranges
The *num_primes[]* and *is_prime[]* arrays store *ubnd* elements each, leading to space complexity of O(*ubnd*). Further, the *ans[]* array takes O(n) space. Thus, total space complexity is O(n + *ubnd*).

CANDIDATE ANSWER

Language used: **Java 8**

```
1
2  class Result {
3
4      public static List<Integer> getValidKeyCount(List<Long> keys) {
5          List<Integer> result =new ArrayList<>();
6          for(long key:keys){
7              int c=0;
8              for(long i=2;i*i<=key;i++){
9                  if(checkPrime(i) && i*i<=key){
10                     c++;
11                 }
12             }
```

```
            result.add(c);
        }
         return result;
    }
    public static boolean checkPrime(long num){
        if(num<2){
            return false;
        }
        for(long i=2;i*i<=num;i++){
            if(num%i==0){
                return false;
            }
        }
        return true;
    }
}

```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
TestCase 0	Easy	Sample case	Success	1	0.1188 sec	30 KB
TestCase 1	Easy	Sample case	Success	1	0.1525 sec	29.8 KB
TestCase 2	Easy	Sample case	Success	1	0.1175 sec	29.9 KB
TestCase 3	Easy	Hidden case	Success	5	0.1433 sec	30.1 KB
TestCase 4	Easy	Hidden case	Success	5	0.1418 sec	30 KB
TestCase 5	Easy	Hidden case	Success	5	0.1994 sec	30.1 KB
TestCase 6	Easy	Hidden case	Success	5	0.1587 sec	31.4 KB
TestCase 7	Easy	Hidden case	Success	5	0.5646 sec	58.3 KB
TestCase 8	Easy	Hidden case	Success	5	0.77 sec	63.2 KB
TestCase 9	Easy	Hidden case	Success	7	0.2611 sec	30 KB
TestCase 10	Easy	Hidden case	Success	7	1.6151 sec	30.1 KB
TestCase 11	Easy	Hidden case	Success	7	1.5841 sec	30.1 KB
TestCase 12	Easy	Hidden case	Terminated due to timeout	0	4.0052 sec	31.5 KB
TestCase 13	Easy	Hidden case	Terminated due to timeout	0	4.0067 sec	55.6 KB
TestCase 14	Easy	Hidden case	Terminated due to timeout	0	4.0085 sec	56.3 KB

No Comments

QUESTION 13

Wrong Answer

Score 0

MySQL: Substring Extraction › Multiple Choice

MySQL | Medium

QUESTION DESCRIPTION

Choose the expression that retrieves the base domain "domain.com".

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] SELECT SUBSTRING_INDEX('my.subdomain.domain.com', '.', -2)
- [ ] SELECT SUBSTRING_INDEX('my.subdomain.domain.com', 'my.subdomain.', 1)
- [x] SELECT SUBSTRING_INDEX('my.subdomain.domain.com', '.', 2, 2)
- [ ] All expressions are correct

No Comments

QUESTION 14

Wrong Answer

Score 0

MySQL: Substring Function › Multiple Choice MySQL Medium

QUESTION DESCRIPTION

Select the extraneous expression (not the same as the others).

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [ ] SELECT SUBSTR('user@domain.com', 5, 1)
- [ ] SELECT SUBSTR('user@domain.com' FROM 5 FOR 1)
- [x] SELECT SUBSTR('user@domain.com' FROM -11 FOR 1)
- [x] None of the above, all expressions are the same.

No Comments

QUESTION 15

Correct Answer

Score 5

MySQL: Table Constraints › Multiple Choice MySQL Medium

QUESTION DESCRIPTION

Select an expression that is not a table constraint definition.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [ ] PRIMARY KEY
- [ ] FOREIGN KEY
- [ ] CHECK
- [x] None of the above.

No Comments

QUESTION 16

MySQL: Table Alteration › Multiple Choice Medium

Wrong Answer

Score 0

QUESTION DESCRIPTION

Select the expressions that are correct.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ The ALTER TABLE statement is used to add, remove, or change existing columns in a table.
- ✓ The ALTER TABLE statement is used to add and remove various constraints in a table.
- The ALTER TABLE statement is used to delete all data in a table.
- The ALTER TABLE statement is used to rename a table.

No Comments

QUESTION 17

Wrong Answer

Score 0

MySQL: Distinct Select Multiple Tables › Multiple Choice MySQL Medium

QUESTION DESCRIPTION

Select any expression(s) with the correct syntax.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- SELECT DISTINCT id FROM customers, customers
- SELECT a.id, DISTINCT b.id FROM customers a, customers b
- SELECT DISTINCT a.id, DISTINCT b.id FROM customers a, customers b
- ✓ SELECT DISTINCT a.id, b.id FROM customers a, customers b

No Comments

QUESTION 18

Wrong Answer

Score 0

MySQL: Group By Condition › Multiple Choice MySQL Medium

QUESTION DESCRIPTION

Select the expression(s) that cause a MySQL error.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- SELECT customer_id, COUNT(*) FROM transactions GROUP BY customer_id HAVING COUNT(*) > 10
- SELECT customer_id, COUNT(*) AS transactions FROM transactions GROUP BY customer_id HAVING transactions > 10
- ✓ SELECT customer_id, COUNT(*) AS transactions FROM transactions WHERE transactions > 10 GROUP BY customer_id

SELECT customer_id, COUNT(*) AS transactions FROM transactions
GROUP BY 1 HAVING transactions > 10

No Comments

QUESTION 19

Correct Answer

Score 5

REST API Response › Multiple Choice REST API Medium

QUESTION DESCRIPTION

Consider the following RESTful API endpoint and response.

```
GET /api/books?sort=desc&limit=10&offset=20 HTTP/1.1
Accept: application/json
```

```
{
  "count": 100,
  "next": "/api/books?sort=desc&limit=10&offset=30",
  "previous": "/api/books?sort=desc&limit=10&offset=10",
  "results": [
    {
      "id": 1,
      "title": "To Kill a Mockingbird",
      "author": "Harper Lee",
      "publication_date": "1960-07-11",
      "genre": "Novel"
    },
    {
      "id": 2,
      "title": "1984",
      "author": "George Orwell",
      "publication_date": "1949-06-08",
      "genre": "Dystopian Fiction"
    },
    {
      "id": 3,
      "title": "Brave New World",
      "author": "Aldous Huxley",
      "publication_date": "1932-06-11",
      "genre": "Dystopian Fiction"
    }
  ]
}
```

Which of the following statements is true about the endpoint and response?

INTERVIEWER GUIDELINES

Answer: C. The endpoint is using a standard HTTP method, and the response is paginated and sorted by the publication_date field in descending order.

Explanation: The endpoint is using the standard GET method to retrieve a collection of books, and includes query parameters to control the sorting (sort), limit (limit), and offset (offset) of the results. The response includes a count of the total number of books in the collection, as well as next and previous links to navigate to the next and previous pages of results. The results array contains an array of book objects, which include an id, title, author, publication_date, and genre field. The results array is sorted by the publication_date field in descending order, which is indicated by the sort=desc query parameter. Option A is incorrect because the endpoint is using the standard GET method, not a custom method. Option B is

incorrect because the response is sorted by the publication_date field, not the title field, and in descending order, not ascending. Option D is incorrect for the same reason.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ○ The endpoint is using a custom HTTP method. The response is paginated and sorted by the publication_date field in ascending order.
- ○ The endpoint is using a standard HTTP method. The response is paginated and sorted by the title field in descending order.
- ✓ ● The endpoint is using a standard HTTP method. The response is paginated and sorted by the publication_date field in descending order.
- ○ The endpoint is using a custom HTTP method. The response is paginated and sorted by the title field in ascending order.

No Comments

QUESTION 20

Correct Answer

Score 3.75

Restrictions of RESTful Web Services › Multiple Choice Medium

QUESTION DESCRIPTION

Select all statements below that are major constraints according to the REST specifications.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ ○ There should be separate concerns for each server and client which will help to maintain the application's modularity. This will also reduce the complexity and increase the scalability.
- ✓ ● The client-server communication should be stateless, which means no previous information is used, and the complete execution is done in isolation. In cases of failure, it also helps the client to recover.
- ✓ ● In client-server communication, the HTTP response should be cacheable so that, when required, a cached copy can be used, enhancing the server's scalability and performance.
- ✓ ● Client-server communication should be done on a layered system. Thus the client should only have knowledge about the intermediate level with which communication is being done.

No Comments

QUESTION 21

Wrong Answer

Score 0

JWT › Multiple Choice JWT Medium

QUESTION DESCRIPTION

Consider a RESTful API that uses JWTs(JSON Web Tokens) for authentication, and the following code snippets.

```
# Code Snippet 1
import jwt
```

```
payload = {'sub': 'user123', 'exp': 1620864000}
secret_key = 'mysecretkey'

token = jwt.encode(payload, secret_key, algorithm='HS256')
```

```
#  Code Snippet 2
import jwt

token =
'eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiJ1c2VyMTIzIiwiZXhwIjoxNjIw
ODY0MDAwfQ.-7AVsnwkztx8V7lBEC6U23H6rLr6g8mc6iYsT32TzZA'
secret_key = 'mysecretkey'

try:
    payload = jwt.decode(token, secret_key, algorithms=['HS256'])
    print(payload)
except jwt.ExpiredSignatureError:
    print('Token has expired')
except jwt.InvalidTokenError:
    print('Invalid token')
```

Which of the following statements is true?

INTERVIEWER GUIDELINES

Answer: C. The first code snippet generates a JWT with an HMAC-SHA256 signature, and the second code snippet verifies the JWT using the same signature.

Explanation: JWTs are a standard way to represent claims securely between two parties. In this case, the first code snippet generates a JWT using the PyJWT library, with a payload that includes a subject (sub) of "user123" and an expiration time (exp) of 1620864000 (which is equivalent to April 12, 2021). The JWT is signed using an HMAC-SHA256 algorithm with the secret_key value of "mysecretkey". The second code snippet verifies the JWT by attempting to decode it using the same secret_key value and algorithm. If the JWT is valid, the decode() function will return a dictionary containing the decoded payload, which can then be used to authenticate the user. If the JWT has been tampered with or has expired, the decode() function will raise an appropriate error.

Option A is incorrect because the expiration time in the first code snippet is not 24 hours, but a specific UNIX timestamp.

Option B is incorrect because the second code snippet does not verify the claim specifically.

Option D is incorrect because the JWT is signed using an HMAC-SHA256 algorithm, not an RSA-256 algorithm.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ( ) The first code snippet generates a JWT with an expiration time of 24 hours, and the second code snippet verifies that the JWT is still valid.
- (•) The first code snippet generates a JWT with an expiration time of 1620864000 milliseconds and the second code snippet verifies that the JWT has not been tampered with.
- ✓ ( ) The first code snippet generates a JWT with an HMAC-SHA256 signature, and the second code snippet verifies the JWT using the same signature.
- ( ) The first code snippet generates a JWT with an RSA-256 signature, and the second code snippet verifies the JWT using the same signature.

No Comments

QUESTION 22

Wrong Answer

Score 0

HTTP post method › Multiple Choice Medium REST API

QUESTION DESCRIPTION

Which of the choices is/are incorrect regarding the HTTP POST method?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Use POST to add a child resource under the resources collection.
- POST is NOT idempotent. If the request is made N times, there will be N resources with N different URIs created on the server.
- ✓ POST requests are cacheable by default.
- Use POST for CREATE operations.

No Comments

QUESTION 23

Needs Review

Score 75

REST API: Capital City › Coding REST API Medium

QUESTION DESCRIPTION

Given a *country* name, query the REST API at https://jsonmock.hackerrank.com/api/countries?name=*country* and return the capital city's name.

The response is a JSON object with 5 fields. The essential field is *data*:

- *data*: Either an empty array or an array with a single object that contains the country's record.
- In the *data* array, the country has the following schema:
  - *name:* The name of the country (String)
  - *capital:* The name of the capital city (String)
  - A number of fields that are not of interest.

page, per_page, total, total_pages, etc., are not required for this task.

If the country is found, the *data* array contains exactly 1 element. If not, it is empty and the function should return '*-1*'.

If the country name is 'Afghanistan', for example, query https://jsonmock.hackerrank.com/api/countries?name=Italy. A portion of the country record for Afghanistan is:

```
{
    "name":"Italy",
        "nativeName":"Italia",
        "topLevelDomain":[".it"],
        "alpha2Code":"IT",
        "numericCode":"380",
        "alpha3Code":"ITA",
        "currencies":["EUR"],
        "callingCodes":["39"],
        "capital":"Rome"
}
```

Function Description
Complete the *getCapitalCity* function in the editor.

getCapitalCity has the following parameters:
string country: the country to query

Returns
string: the capital city or *'-1'*

Constraints
- The returned JSON object contains either 0 or 1 record in *data*.
- The country name may contain uppercase and lowercase English letters and <space> (ascii 32)

▼ Input Format For Custom Testing

In the first and only line, there is a country name.

▼ Sample Case 0

Sample Input For Custom Testing

```
Afghanistan
```

Sample Output

```
Kabul
```

Explanation
A call is made to API https://jsonmock.hackerrank.com/api/countries?name=Afghanistan.

▼ Sample Case 1

Sample Input For Custom Testing

```
Oceania
```

Sample Output

```
-1
```

Explanation
An API call is made to https://jsonmock.hackerrank.com/api/countries?name=Oceania. The *data* field is an empty array.

CANDIDATE ANSWER

Language used: **Java 8**

```
1
2  class Result {
3
4      /*
5       * Complete the 'getCapitalCity' function below.
6       *
7       * The function is expected to return a STRING.
8       * The function accepts STRING country as parameter.
9       * API URL: https://jsonmock.hackerrank.com/api/countries?name=<country>
10      */
11
12     public static String getCapitalCity(String country) {
13         String temp="";
14         try{
```

```
            String url="https://jsonmock.hackerrank.com/api/countries?
name="+country;
            URL url2=new URL(url);
            HttpURLConnection conn=(HttpURLConnection) url2.openConnection();
            conn.setRequestMethod("GET");
            conn.connect();
            BufferedReader br=new BufferedReader(new
InputStreamReader(conn.getInputStream()));
            String result=br.readLine();
            if(result.length()<90){
                return "-1";
            }
            int c=0;
            while(true){
                char t=result.charAt(result.indexOf("capital")+10+c);
                if(Character.compare(t,'"')==0)
                break;
                temp+=result.charAt(result.indexOf("capital")+10+c);
                c++;
            }
        }
        catch(Exception e){
            System.out.println(e);
        }
        return temp;

    }

}
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 0	Easy	Sample case	Success	1	0.6012 sec	53.4 KB
Testcase 1	Easy	Sample case	Success	1	0.6951 sec	54.7 KB
Testcase 2	Easy	Sample case	Success	1	0.6266 sec	56.3 KB
Testcase 3	Easy	Hidden case	Success	12	0.6391 sec	52.2 KB
Testcase 4	Easy	Hidden case	Success	12	0.5951 sec	53.1 KB
Testcase 5	Easy	Hidden case	Success	16	0.6758 sec	52.9 KB
Testcase 6	Easy	Hidden case	Success	16	0.6822 sec	51.7 KB
Testcase 7	Easy	Hidden case	Success	16	0.6105 sec	52 KB

No Comments

QUESTION 24

Wrong Answer

Score 0

Spring Bean Initialization › Multiple Choice

Java | Spring | Medium | Exception Handling

QUESTION DESCRIPTION

What will be the output of the following code?
Vehicle.java

```
public class Vehicle
{
    public String name;

    public String getName()
```

```
    {
      return name;
    }

    public void setName(String name)
    {
      this.name = name;
    }
}
```

BeanConfiguration.java

```
@Configuration
public class BeanConfiguration
{
    @Bean
    Vehicle vehicle1()
    {
        var veh = new Vehicle();
        veh.setName("Honda");
        return veh;
    }

    @Bean
    Vehicle vehicle2()
    {
        var veh2 = new Vehicle();
        veh2.setName("Volvo");
        return veh2;
    }
}
```

Example.java

```
@Component
@Slf4j
public class Example implements CommandLineRunner
{
    @Override
    public void run(String... args) throws Exception
    {
        var context = new
AnnotationConfigApplicationContext(BeanConfiguration.class);
        Vehicle vehicle = context.getBean(Vehicle.class);
        log.info("Vehicle name: {}", vehicle.getName());
    }
}
```

INTERVIEWER GUIDELINES

Spring context register classes name by default. Vehicle object doesn't registered to spring context by default and registered with method name and it's registered as "vehicle1" and "vehicle2". When context.getBean(Vehicle.class) code block rıuns, it will throw NoUniqueBeanDefinitionException on runtime.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- (●) Volvo
- ( ) Honda

Honda
Volvo

throws org.springframework.beans.factory.NoUniqueBeanDefinitionException on runtime

No Comments

QUESTION 25

Wrong Answer

Score 0

Spring Transactional › Multiple Choice

Spring | Spring Boot | Medium

QUESTION DESCRIPTION

```
@Transactional(propagation= Propagation.REQUIRED)
public void saveProduct(Product product) {
        productService.save(product);
        try{
            saveProductToLogService(product);
        }catch (Exception ex){
            log(ExceptionUtils.getStackTrace(ex));
        }
}
@Transactional(propagation=Propagation.REQUIRES_NEW)
public void saveProductToLogService(Product account) {
    productLogService.save(product);
}
```

Which of the following options describes the given code functionality with @Transactional annotation?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

saveProductToLogService will use the saveProduct's transaction to save the product.

saveProductToLogService will use a new transaction for productLogService.save method.

As soon as saveProduct method execution is done, saveProductToLogService.save method execution will be reflected to saveProductToLogService database.

None of the above

No Comments

QUESTION 26

Correct Answer

Score 3.33

Spring MVC RestController › Multiple Choice

Spring | Spring Boot | Medium

QUESTION DESCRIPTION

```
@RestController
@RequestMapping("/api/product/categories")
public class ProductCategoryController{
    @Autowired
    private CategorySerice categoryService;
```

```
    @GetMapping("/{id}/{locale}")
    public ResponseEntity<CategoryDto>
getByIdAndLocale(@PathVariable("id") Long id,

@PathVariable("locale") String locale {
        CategoryDto dto = categoryService.getByIdAndLocale(id, locale);
        return new ResponseEntity<>(dto, HttpStatus.OK);
    }
}
```

Which of the following options are true about the given controller method?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ ● getByIdAndLocale endpoint can return the response in JSON format
- ○ getByIdAndLocale endpoint does not accept GET request
- ✓ ○ getByIdAndLocale endpoint does not accept POST request
- ✓ ● getByIdAndLocale endpoint is not accesible without providing id and locale variables

No Comments

QUESTION 27

Wrong Answer

Score 0

Spring Circular Dependency › Multiple Choice

Spring Boot | Medium

QUESTION DESCRIPTION

When two beans depend on each other, there is said to be a circular dependency. Which of the following options can be used on either of the beans to prevent circular dependency?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ○ @Eager
- ○ @Proxy
- ✓ ○ @Lazy
- ● None of the above

No Comments

QUESTION 28

Correct Answer

Score 5

Spring Data Repository › Multiple Choice

Spring Boot | Medium | Spring Data

QUESTION DESCRIPTION

To use Spring data repositories within another jar module and to use them in a Spring Boot application, what annotation should be used in Spring Boot configuration/ SpringBootApplication classes?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] @EnableJpaRepositories(basePackages = {repsitoryPackageOfJarModule})
- [ ] @EnableRepositories(basePackages = {repsitoryPackageOfJarModule})
- [ ] @EnableEntities(basePackages = {repsitoryPackageOfJarModule})
- [ ] @EnableHibernateRepositories(basePackages = {repsitoryPackageOfJarModule})

No Comments

QUESTION 29

Correct Answer

Score 5

Spring IOC Container › Multiple Choice Spring Medium

QUESTION DESCRIPTION

Which of the following options act as a Spring IOC Container?

INTERVIEWER GUIDELINES

ApplicationContext and BeanFactory interfaces are act as Spring IOC Container
https://docs.spring.io/spring-framework/docs/4.3.12.RELEASE/spring-framework-reference/html/overview.html
https://www.baeldung.com/spring-application-context

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] ApplicationContext
- [ ] DispatcherServlet
- [ ] SpringRunner
- [x] BeanFactory
- [ ] None of the above

No Comments

QUESTION 30

Correct Answer

Score 5

Spring Boot Localization › Multiple Choice Spring Boot Medium

QUESTION DESCRIPTION

Which of the following options can be used for internationalization in Spring Boot?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] MessageResource
- [ ] ParameterResource
- [x] ResourceBundle
- [ ] None of the above

No Comments

QUESTION 31

Correct Answer

Score 2.5

Spring Scopes › Multiple Choice Medium Spring

QUESTION DESCRIPTION

Which of the following statements is/are true about @Scope("request") and @Scope("prototype") annotations?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] Both are used to define the scope of spring beans.
- [x] @Scope(“request”) creates a bean instance for a single HTTP request.
- [x] @RequestScope can be used instead of @Scope(“request”).
- [x] @Scope(“prototype”) will return a different instance every time it is requested from the container.

No Comments

QUESTION 32

Correct Answer

Score 5

Dispatcher Servlet › Multiple Choice Spring Boot Medium

QUESTION DESCRIPTION

What is the purpose of Dispatcher Servlet in Spring Boot ?

INTERVIEWER GUIDELINES

Dispatcher Servlet is work like a gate keeper. It checks coming request paths and redirect these request to related @RequestMapping annotated controller methods and send backs the responses.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [ ] It is used for transaction management.
- [ ] It is used for database connection pool management.
- [x] It is used to handle all HTTP requests and responses.
- [ ] It is used heavily for dependency injection.

No Comments

QUESTION 33

Correct Answer

Score 5

Error Handling › Multiple Choice Spring Boot Medium Exception Handling Aspect-Oriented Programming

QUESTION DESCRIPTION

What scenario does this 'custom error handling' block handle?

```
@ControllerAdvice
public class CustomResourceNotFoundExceptionHandler {

    @ExceptionHandler(value = { NoHandlerFoundException.class })
    public ResponseEntity<Object> noHandlerFoundException(Exception ex) {

        return
ResponseEntity.status(HttpStatus.BAD_REQUEST).body("Resource Not Found");
    }
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] This block of code will be executed when we try to hit an API and it does not exist in the project scope.
- [ ] This block of code will be executed when we try to hit an API and its execution encounters an error.
- [ ] This block of code will be executed when we try to hit an API and it does not have enough data to execute.
- [ ] This block of code will be executed when we try to hit an API which we are not authorized to access.

No Comments

QUESTION 34

Wrong Answer

Score 0

API › Multiple Choice Medium Spring Boot

QUESTION DESCRIPTION

What is the console output when the following API is executed?

application.properties

```
logging.level.root=DEBUG
```

```
@GetMapping("/demo")
public String demo() {
    LOG.debug("ERROR log");
    LOG.trace("DEBUG log");
    LOG.info("TRACE log");
    LOG.error("INFO log");

    someRandomClass.longOperation();

    return "Log demo";
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ERROR log
  DEBUG log
  TRACE log
  INFO log
- ✓ ERROR log
  TRACE log
  INFO log
- ERROR log
  DEBUG log
  INFO log
- DEBUG log
  TRACE log
  INFO log

No Comments

QUESTION 35

✓ Correct Answer

Score 5

Java Mockito Usage Annotation › Multiple Choice

Java | JUnit | Medium

QUESTION DESCRIPTION

PatientServiceImpl.java

```
@Service
public class PatientServiceImpl implements PatientService {

    private PatientRepository patientRepository;
    private PatientMapper patientMapper;
    private DoctorService doctorService;

    public PatientServiceImpl(PatientRepository patientRepository,
                              PatientMapper patientMapper,
                              DoctorService doctorService) {
        this.patientRepository = patientRepository;
        this.patientMapper = patientMapper;
        this.doctorService = doctorService;
    }


    @Override
    public PatientDto save(String name, boolean isPatientDoctor, Long
doctorId) throws DoctorNotFoundException {
        Patient patient = new Patient();
        patient.setName(name);

        if (isPatientDoctor) {
            Doctor doctor = doctorService.getEntityById(doctorId);
            patient.setDoctor(doctor);
            patient.setPatientType(PatientType.DOCTOR);
        } else {
            patient.setPatientType(PatientType.PATIENT);
        }

        patientRepository.save(patient);
        PatientDto dto = patientMapper.entityToDto(patient);
        return dto;
    }
}
```

PatientServiceTest.java

```
<X>
public class PatientServiceTest{

    <Y>
    private PatientServiceImpl patientService;
    <Z>
    private PatientRepository patientRepository;
    <T>
    private DoctorService doctorService;
    <S>
    private PatientMapper patientMapper;

    @Test
    void givenPatient_whenSave_thenCheckIfPatientSaved() throws
DoctorNotFoundException {
        //given
        String patientName = "doctor bambam";
        boolean isPatientIsDoctor = false;
        Long doctorId = Long.MIN_VALUE;
        //when
        patientService.save(patientName, true, doctorId);
        //then
        verify(patientRepository, times(1)).save(any(Patient.class));
    }
}
```

Which of the following *X, Y, Z, and T* values will result in the successful execution of the test?

INTERVIEWER GUIDELINES

To mock related tested objects class must be annotated with @ExtendWith(MockitoExtension.class)

And the patientService is the one used in test and all of it's related constructor parameters will be mocked. @InjectMocks annotations provide this ability to use other @Mock annotated objects into @InkectMocks annotated object. That means,

X must be @ExtendWith(MockitoExtension.class)
Y must be @InjectMocks
T, Z ,X must be @Mock annotations

Answer C provides this

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- X= @ExtendWith
  Y = @Mocked
  Z = @Mock
  T = @Mock
  S = @Mock

- X= @ExtendWith
  Y = @InjectMock
  Z = @Mock
  T = @Mock
  S = @Mock

- ✓ X= @ExtendWith(MockitoExtension.class)
  Y = @InjectMocks

Z = @Mock
T = @Mock
S = @Mock

- ( ) None of the above

No Comments

QUESTION 36

Correct Answer

Score 4

Mockito Verify › Multiple Choice

Mockito | JUnit | Medium

QUESTION DESCRIPTION

Which of the following is/are true about Mockito's verify method?

INTERVIEWER GUIDELINES

https://www.baeldung.com/mockito-verify

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] With verify method, you can check unexpected interactions on a mocked object.
- [x] With verify method, you can check the order of interactions on a mocked object.
- [x] With verify method, you can check not occurred interactions on a mocked object.
- [x] With verify method, you can check interaction with a certain argument on a mocked object.
- [x] With verify method, you can check interaction using argument capture.

No Comments

QUESTION 37

Correct Answer

Score 3.33

Mockito Static Methods › Multiple Choice

Mockito | JUnit | Medium

QUESTION DESCRIPTION

Which of the following options is/are true about Mockito library?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] With Mockito's Mockito.mockStatic(<Class>) method, static methods can be mocked.
- [ ] With Mockito's Mockito.mockPrivate(<Class>) method, private methods can be mocked.
- [x] With Mockito's Mockito.spy(<Instance>) method, you get a real object and you can spy or stub specific methods of it.
- [x] Mockito.mock(<Class>) method returns mocked new instance of given class.

No Comments

QUESTION 38

Wrong Answer

Score 0

JUnit Test Order › Multiple Choice JUnit Medium

QUESTION DESCRIPTION

```
//annotation 1 here
public class HackerRankTest {
    private static StringBuilder test = new StringBuilder("");
    @Test
    //annotation 2
    public void hack() {
        test.append("Hack");
    }
    @Test
    //annotation 3
    public void rank() {
        test.append("Rank");
    }
    @Test
    //annotation 4
    public void er() {
        test.append("er");
    }
    @AfterAll
    public static void assertOutput() {
        assertEquals(test.toString(), "HackerRank");
    }
}
```

Which of the following annotation usages would pass the test with success?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ annotation 1 -> @TestMethodOrder(MethodOrderer.Random.class)
  annotation 2 -> @Order(1)
  annotation 3 -> @Order(2)
  annotation 4 -> @Order(3)
- annotation 1 ->
  @TestMethodOrder(MethodOrderer.OrderAnnotation.class)
  annotation 2 -> @Order(1)
  annotation 3 -> @Order(2)
  annotation 4 -> @Order(3)
- ✓ annotation 1 ->
  @TestMethodOrder(MethodOrderer.OrderAnnotation.class)
  annotation 2 -> @Order(1)
  annotation 3 -> @Order(3)
  annotation 4 -> @Order(2)
- None of the above

No Comments