

Data Engineer - PySpark

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Screening Test

Completed on : 19-Nov-2024 09:51 PM

#	Question	Response	Marks
1	Do you have strong understanding of Data Bricks concepts and hands-on experience working with Lake tables	Yes	1
2	Do you think you can Handle and process large datasets using Hadoop ecosystem tools such as HDFS, Hive, and Hbase.	Yes	1
3	Do you have knowledge and hands-experiece with CI/CD deployments	Yes	1
4	Do you have a bachelors degree in computer science or in the related field	Yes	1
5	Did you you ever worked with multiple teams and used various collaboration tools and methods	Yes	1
6	Do you have working experience in Big Data development using PySpark at least for 2 years and above	Yes	1
7	Do you have hands-on experience with Linux operating system and basic knowledge of writing SQL queries	Yes	1
8	Are you ready to travel outside of India on the project work	Yes	1
9	Do you have a valid Passport	Yes	1
10	Do you have efficient coding skills in Python programming	Yes	1

Overall Score : 10/10 (Promoted)

Coding Test

Completed on : 19-Nov-2024 09:53 PM

1. Given a string s , determine the minimum number of operations required to convert it into a palindrome. Rules: You can only decrease the value of a character (e.g., change 'd' to 'c'). Increasing the value is not allowed. The letter 'a' cannot be reduced further. Each reduction in the value of a character is counted as a single operation. Examples: Input: $s="cde"$ Expected Output: 2 Explanation: The transformations are: $cde \rightarrow cdd \rightarrow cdc$ Total operations: 2 Input: $s="abcba"$ Expected Output: 0 Explanation: The string is already a palindrome. No operations are needed. Input: $s="abcd"$ Expected Output: 4 Explanation: The transformations are: $abcd \rightarrow abcc \rightarrow abca \rightarrow abba$ Total operations: 4

Marks Scored : 4

```
class PalindromeOperations:
    def minOperationsToPalindrome(self, s):
        operations = 0
        n = len(s)

        # Iterate over the first half of the string
        for i in range(n // 2):
            # Compare characters at positions i and len(s) - 1 - i
            operations += abs(ord(s[i]) - ord(s[n - 1 - i])) # Using ord() to get ASCII value

        return operations

# Example test case
palindrome_operations = PalindromeOperations()
s = "aba"
print(palindrome_operations.minOperationsToPalindrome(s)) # Output: 0
```

2. Akhila and Babu are very good friends and they always distribute all the eatables equally among themselves. Akhila has A chocolates and Babu has B chocolates. Determine whether Akhila and Babu can distribute all the chocolates equally among themselves. Example: Input: [(1, 1)], output: YES Input: [(1, 3)], output: YES Input: [(1, 2)], output: NO Input: [(1, 4)], output: NO

Marks Scored : 2

```
class EqualDistribution:
    def __init__(self, test_cases):
        self.test_cases = test_cases

    def check_distribution(self):
        results = ""
        for A, B in self.test_cases:
            if (A + B) % 2 == 0:
                results = "YES"
            else:
```

```
results = "NO"  
return results
```

3. Ravi knows of an operation called a right circular rotation on an array of integers. One rotation operation moves the last array element to the first position and shifts all remaining elements right one. To test Kiran's abilities, Ravi provides Kiran with an array of integers. Kiran is to perform the rotation operation a number of times then determine the value of the element at a given position. For each array, perform a number of right circular rotations and return the values of the elements at the given indices. Example $a = [3, 4, 5]$ $k = 2$ queries = $[1, 2]$ Here k is the number of rotations on a , and queries holds the list of indices to report. First we perform the two rotations: $[3, 4, 5] \rightarrow [5, 3, 4] \rightarrow [4, 5, 3]$ Now return the values from the zero-based indices 1 and 2 as indicated in the array. $a[1] = 5$ $a[2] = 3$
Marks Scored : 6

```
class CircularArrayRotation:  
    def __init__(self, array):  
        self.array = array  
        self.n = len(array)  
  
    def rotate_and_query(self, k, queries):  
        # Handle empty array case  
        if self.n == 0:  
            return []  
  
        # Calculate effective rotations  
        k %= self.n  
        # Get results for each query  
        results = []  
        for query in queries:  
            # Find the original index in the unrotated array  
            original_index = (query - k + self.n) % self.n  
            results.append(self.array[original_index])  
        return results  
  
n, k, q = 4, 4, 3  
array = [12, 9, 3, 2]  
queries = [0, 1, 3]  
  
print("Hardcoded Input:")  
print(f"Array size (n): {n}, Rotations (k): {k}, Queries (q): {q}")  
print(f"Array: {array}")  
print(f"Queries: {queries}")  
  
# Instantiate the class and perform operations  
rotation = CircularArrayRotation(array)  
results = rotation.rotate_and_query(k, queries)  
  
# Output results  
print("\nOutput:")
```

for result in results:
print(result)

Overall Score : 12/12 (Promoted)

Interview

Interviewed on : 20-Nov-2024 11:00 AM

Interviewd by : Srikanth - Sample User

Interview Summary

Bigdata	3.4
Experience	3.0
Personal	4.0
Python	4.0
Average interview rating	3.6

Question wise rating:

Bigdata

Hadoop, Spark, MangoDB, Cassandra	4
Ingesting data into the system, Persisting the data in storage, Computing and Analyzing data, Visualizing the results	2
Resource Pooling, High Availability, Easy Scalability	4
Tableau, PowerBi	2
Volume, Velocity, Varity	5
Average rating	3.4

Experience

Why do you think you are the right candidate for the role	3
Average rating	3.0

Personal

Explain about yourself	4
Average rating	4.0

Python

Data Type, Data Structure, Control Flow Statements, Data Operations, Modules, Handling Structured Data	4
Resilient Distributed Dataset (RDD), Directed Acyclic Graph (DAG), Transformations, DataFrames and Datasets	3
Scikit-learn, TensorFlow, Keras, Matplotlib, Seaborn	5
Average rating	4.0

Interviewer Remarks:

Candidate is ok

Interviewer's Feedback:

Interviewer	Decision	Notes
Srikanth - Sample User	Hire	Candidate is ok