Python Hackathon

Duration: 90 mins

1. **Create a CountDividedBy() Function:**
   This function will take a list of integers as an Input and return an Integer count of numbers that satisfies the condition, mentioned below.
   Sample Input:
   e.g. Assume you have given list of 4 integers with values 3, 5, 15, 11, then given input as follows:

   4
   3
   7
   12
   21

   Sample Output
   1

   Explanation: Only 12 out of all input list of numbers will be divisible by both 3 and 4 but sum of digits of 12, i.e., 1 + 2 = 3 is not divisible by 5.

2. Create a function StringBinaryOperations ()
   Description:
   The Binary number system uses two digits 0 and 1 and number system can be called binary string. You are required to implement given function StringBinaryOperations() This function accepts a string str as its argument. The string str consists of binary digits separated with an alphabet as follows:
   - X denotes AND operation
   - Y denotes OR operation
   - Z denotes XOR Operation

   You are required to calculate the result of the string, scanning the string to right taking one operation at a time, and return the same.
   Note:
   - No order of priorities of operations is required
   - Length of str is odd
   - If str is NULL / None (in case of Python), return "Invalid Input"

   Input str: 1Z0Z1Z1X0Y1
   Output: 1

3. Create a **class** Account with the below attributes:
   accntNo (Integer)
   accntName (String)

accntBalance (Integer)
Create a constructor which takes all parameters in the above sequence.

Create a **class** AccountDemo Create a default constructor in the AccountDemo class as below

```
def __init__(self):
        pass
```

Create a method depositAmnt which takes an account object and amount to be deposited (amount) as input parameters. Update the balance i.e. Add the amount to the existingbalance and return the updated balanceCreate another method withdrawAmnt which takes an Account object and amount to bedeposited (amount) as input parameters.

Deduct the amount from the balance and returnthe updated balance. Minimum balance to be maintained is 10000. i.e if the balance isbecoming less than 10000 when deducting the withdrawal amount, the operation needs tobe stopped with a message "No Adequate balance".
Create a main function if __name__ == '__main__'. Declare all user's input using input() required.

4. **Problem Statement:**
   An Autobiographical Number is a number N such that the first digit of N represents the count of how many zeroes are there in N, the second digit represents the count of how many ones are there in N and so on.
   You are given a function, def FindAutoCount(n):
   The function accepts string "n" which is a number and checks whether the number is an autobiographical number or not. If it is, an integer is returned, i.e. the count of distinct numbers in 'n'. If not, it returns 0.
   Assumption:
   The input string will not be longer than 10 characters.
   Input string will consist of numeric characters.
   Note:
   If string is None return 0.
   Example:
   Input:
   n: "1210"
   Output:
   3
   Explanation:
   0th position in the input contains the number of 0 present in input, i.e., 1, in 1st position the count of number of 1s in input i.e. 2, in 2nd position the count of 2s in input i.e. 1, and in 3rd position the count of 3s i.e. 0, so the number is an autobiographical number.
   Now unique numbers in the input are 0, 1, 2, so the count of unique numbers is 3.

5. Write a function isAnagrams () to validate if the provided two strings are anagrams or not. If the two strings are anagrams, then return ‘Anagrams. Otherwise, return ‘Word is not anagrams.
   Words Example: Race and Care, Listen and Silent