py - Questions on String :

Q1 – Program to Calculate the Number of Digits, Letters & vowels in a String ?

Q2 – Program to Check if a String is a Pangram or Not ?

(Pangram - is a sentence or expression that uses all the letters of the alphabet).

Ex:- "A quick brown fox jumps over the lazy dog"

Ex:- "Pack my box with five dozen liquor jugs"

Ex:- "Brown jars prevented the mixture from freezing too quickly"

Q3 – ALMOST THERE:

Given an integer n, return True if n is within 10 of either 100 or 200¶

almost_there(90) --> True
almost_there(104) --> True
almost_there(150) --> False
almost_there(209) --> True

Q4 – FIND 33:¶

Given a list of ints, return True if the array contains a 3 next to a 3 somewhere.

has_33([1, 3, 3]) → True
has_33([1, 3, 1, 3]) → False
has_33([3, 1, 3]) → False

Q5 – PAPER DOLL:

Given a string, return a string where for every character in the original there are three characters¶

paper_doll('Hello') --> 'HHHeeellllllooo'
paper_doll('Mississippi') --> 'MMMiiissssssiiippppppiii'

Q6 – BLACKJACK:

Given three integers between 1 and 11, if their sum is less than or equal to 21, return their sum. If their sum exceeds 21 *and* there's an eleven, reduce the total sum by 10. Finally, if the sum (even after adjustment) exceeds 21, return 'BUST'¶

blackjack(5,6,7) --> 18
blackjack(9,9,9) --> 'BUST'
blackjack(9,9,11) --> 19

Q7 – SUMMER OF '69:

Return the sum of the numbers in the array, except ignore sections of numbers starting with a 6 and extending to the next 9 (every 6 will be followed by at least one 9). Return 0 for no numbers.¶

summer_69([1, 3, 5]) --> 9
summer_69([4, 5, 6, 7, 8, 9]) --> 9
summer_69([2, 1, 6, 9, 11]) --> 14

Q8 – SPY GAME:

Write a function that takes in a list of integers and returns True if it contains 007 in order¶

spy_game([1,2,4,0,0,7,5]) --> True
spy_game([1,0,2,4,0,5,7]) --> True
spy_game([1,7,2,0,4,5,0]) --> False

Q9 – COUNT PRIMES:

Write a function that returns the *number* of prime numbers that exist up to and including a given number¶
count_primes(100) --> 25
By convention, 0 and 1 are not prime.

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Q10 – PRINT BANNER:

Write a function that takes in a single letter, and returns a 5x5 representation of that letter¶
print_big('ace')
Output:

```
  *          *****      *****
 * *         *          *
*****        *          *****
*   *        *          *
*   *        *****      *****
```

HINT: Consider making a dictionary of possible patterns, and mapping the alphabet to specific 5-line combinations of patterns.
For purposes of this exercise, it's ok if your dictionary stops at "E".