Programming Language Learning Series
Mastery of Python Language
(Interview Questions/Assignment-Set&Dict)

Q1: What is the output of the following code sinppet?

```
s = {char for char in 'tweedledum'}
print(len(s))
```

Q2: Do the following:

- Create a dictionary with day of week as key and number of letters as value.
- Loop through the created dictionary, and print the day and number of letters for each entry on a separate line.
- Loop through the created dictionary, and print the day and number of letters for each entry on a separate line, but only for days with more than 6 letters.

Q3: Write the python code that prints the total amount of animals contained in this strange zoo given the following dictionary that stores the quantities of each type of animal:

```
animals = { "dog": 9, "cat": 4, "frog": 2, "bear": 4, "whale": 10 }
```

Q4: Define a function which can generate a dictionary where the keys are numbers between 1 and 20 (both included) and the values are square of keys. The function should just print the keys only.

Q5: The following logic contains mapping of powers of ten. Rewrite the logic using dictionary comprehension.

```
powers = {}
for i in range(-6,7,3):
    powers[i] = 10**i
```

Q6: Write a function that accepts a sentence and calculate the number of letters and digits.

Input: hello world! 123
Output:

```
LETTERS 10
DIGITS 3
```

Q7: Write a function that accepts a comma separated sequence of words as input and prints the words in a comma-separated sequence after removing all duplicate words and sorting them alphanumerically.

Input: education, is, experience, joyful, fun, not, mess, joyful, is, fun, fun
Output: education, experience, fun, is, joyful, mess, not

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Q8: Write the python code that creates and prints a dictionary that stores each of these people's height:weight ratio, given the following dictionary that stores people data:

```
people = {
        "Alice": { "age": 20, "height": 62, "weight": 120.0 },
        "Bob": { "age": 17, "height": 68, "weight": 130.5 },
        "Freddie": { "age": 21, "height": 74, "weight": 190.6 }
}
```

Your code should produce the following dictionary:

{ 'Alice': 0.5166666666666667, 'Freddie': 0.3882476390346275, 'Bob': 0.5210727969348659 }

Q9: How would you sort keys in dictionary?

Q10: The following logic contains dictionary mapping integers to multiples under 100. Rewrite the logic using dictionary comprehension.

```
multiples = {}
for n in range(1,11):
        multiples_list = []
        for i in range(1,101):
                if i%n == 0:
                        multiples_list.append(i)
        multiples[n] = multiples_list
```