

1. Which of the following data types are mutable sequences ?

- ❖ List
- ❖ Tuple
- ❖ Dictionary
- ❖ String

2. How do you add elements to a dictionary ?

1. Using append method
2. Using extend method
3. both options 1 and 2
4. Using update method
5. None of options are correct

3. Find the bug in the code

```
x = dict()
x = x.update({'x':100, 'y': 500, 'x': 1000})
print('The updated x is', x)
```

4. Get 5 pairs of username and password as input from the user. (Hint : Use '\n' character to separate each pair)

- i) Validate if name and password is a string. Else, exit.
- ii) If the length of the username exceeds 10 chars, print a message to the user.
- iii) Or if the length of the password exceeds 8 chars, print a message to the user.
- iv) Validate if the username contains a mix of capital and lowercase. If not, print a message to the user.
- v) Validate if password contains at least one alphabetic char, numeric char and one special symbol like @#%#!^&*. If any one of the validation fails, print a message to the user.

If all above validation passes, store the username and password (if they pass all the above validations) in a dictionary.

5. Iterators, iterables and generators can be iterated using a for loop and by comprehension. State True or False

6. Write a Python program to convert month name to number of days.

Expected Output:

List of months: January, February, March, April, May, June, July, August , September, October, November, December

Input the name of Month: February

No. of days: 28/29 days (depending on whether the year is leap year or not)

7. Compute the Mean & Median score of the following sample of ten students from score string :

score='1.90 3.00 2.53 3.71 2.12 1.76 2.71 1.39 4.00 3.33'

Note :

Mean - average of samples.It's the sum of all elements divided by length of elements.

Median - if the number of samples is odd, then the middle number is the median, if the number of samples is even, then the median is the sum of middle numbers. Here, the number of samples is 10, so, the median is the sum of 5th and 6th element.

8. Have a list of numbers starting from 1 to 100.
Have a second list containing numbers starting from 100 to 200.
Merge two lists and make a combined list.
Filter out odd and even numbers from the combined list and create an odd_numbers list and an even_numbers list separately. Use comprehension.