Python Practice Questions

1. What is the difference between list and tuples in Python?
2. List the key features of Python?
3. What type of language is python?
4. How is Python an interpreted language?
5. What are local variables and global variables in Python? Explain with an example.
6. Explain mutable and immutable objects in python citing proper examples.
7. What is the difference between Python Arrays and lists?
8. What is slicing in Python? Explain with an example.
9. What is `docstring` in Python?
10. What are modules and packages in Python?
11. What are the common built-in data types in Python?
12. What are Dict and List comprehensions? Explain with examples.
13. What is `lambda` function in Python? Why is it used? Explain with an example.
14. What are negative indexes and why are they used? Explain with an example.
15. Explain `split()` and `join()` functions in Python? Explain with an example.
16. What are shallow and deep copy in python? Explain with an example.
17. What is `zip()` capability in Python? Explain with an example.
18. What is the difference between `remove()` function and del statement with respect to lists in python? Explain with an example.
19. How to remove whitespaces from a string in Python? Explain all such functions.
20. Explain how a list can be used as a stack in python.
21. Explain how a list can be used as a queue in python.
22. What is the use of the break statement? Explain with an example.
23. What are the different file processing modes supported by Python?
24. Explain unary, binary and ternary operators in python. Explain with examples.
25. What is the usage of `enumerate()` function in Python? Explain with an example.
26. What is the difference between data structures like list, tuples, dictionaries and sets in python?
27. How do `continue`, `break`, and `pass` work? Explain with examples.
28. What are `map()`, `filter()` and `reduce()` functions ? Explain with examples.
29. Explain the exception handling process using `try....catch....else....finally` structure with a suitable example.
30. How will you check if all the Characters in a String are alphanumeric? Explain with an example.
31. How will you Merge elements in a list? Explain with an example.
32. How would you replace all occurrences of a Substring with a new string? Explain with an example.
33. Differentiate between `append()` and `extend()` in lists.
34. What is the output of the following `print()` function? Explain with reasons.

```
def main(a):
    a = a + '2'
    a = a * 2
    return a

main("byte")
```

35. What is wrong with the code? Explain with reasons.

```
i = 1
while True:
```

```
        if i % 3 == 0:
            break
        print(i)
        i + = 1
```

36. What is the output of the following code? Explain with reasons.

```
data = 50
try:
    data = data/0
except ZeroDivisionError:
    print('Cannot divide by 0.')
else:
    print('Division successful.')

try:
    data = data/5
except:
    print('Inside except block.')
else:
    print('End of Execution.')
```

37. What is the output of the following code? Explain with reasons.

```
L = [13, 12, 21, 16, 35, 7, 4]
s0 = 5
s1 = 3
for i in L:
    if (i % 4 == 0):
        continue
    if (i % 7 == 0):
        s1 = s1 + i
print(s0, end=" ")
print(s1)
```

38. What is the output of the following code? Explain with reasons.

```
def funk(lst):
   lst[0] = ['def']
   lst[1] = ['abc']
   return id(lst)

lst = ['abc', 'def']
id(lst) == funk(lst)
```

39. What is the output of the following code? Explain with reasons.

```
min(max(False, -7.5, -7), 2, 1, 9)
```

40. What is the output of the following code? Explain with reasons.

```
str = 'abcd'
for i in str:
   print(i.upper(), end='--')
```

41. What is the output of the following code? Explain with reasons.

```
for i in range(1,5):
    i+=2
    print(i)
```

Python Practice Questions

42. What are the string methods used to implement the following?
    a. To count the number of characters in the string.
    b. To change the first character of the string in capital letter.
    c. To check whether given character is letter or a number.
    d. To change lowercase to uppercase letter.
    e. Change one character into another character.
43. Observe the following program and answer the question that follows:

```
import random
x = 3
N = random.randint (1, x)
for i in range (N):
   print ('#Iter'+str(i),':', i + 1)
```

    a) What is the minimum and maximum number of times the loop will execute?
    b) What will be the output if x=3?

44. What is the output of the following code? Explain with reasons.

```
st = set('abc')
st.add('def')
st.update({'p','q'})

print(st)
```

45. Write a Python program to reverse an integer using string operations.
46. Write a Python program to find whether a string is palindrome without explicitly finding the reverse of the same using recursion.
47. Write a Python program to count the number of vowels, consonants, numbers and other characters in a given string.
48. Write a Python program to flatten a nested list using recursion.
49. Write a Python program to accept 3 sides of a triangle, assert whether they are positive and can form a triangle. Find the circumference and the area of the same.
50. Write a Python program to generate first N Fibonacci numbers using dictionary and iteration. Use assertion to accept proper values.