

## Practice Questions

1. What is the difference between a list and a tuple?

List: represented by [ ], Mutable

Tuple: represented by ( ), Immutable

2. How do you define a function in Python?

To define a function, we use def keyword. E.g.

```
def function_name():  
    #function body
```

3. Write a for loop to iterate over a list of numbers.

```
aList=[1,2,3,4,5]  
for n in numbers:  
    print(n)
```

```
#Output:  1  
          2  
          3  
          4  
          5
```

4. How do you handle division by zero in Python?

We can handle division by zero by using exception handling, we can put the code which can give such error in try block and use ZeroDivisionException. For example:

```
try:  
    result = 1 / 0  
except ZeroDivisionError:  
    print("Cannot divide by zero")
```

5. What is a dictionary in Python?

Dictionary is a data type that stores key value pairs. They are mutable and represented as { key=value }. For example:

```
student = {"name": "Ram", "age": 20}
```

6. Give an example of an f-string.

```
name = "Ram"
age = 25
print(f"My name is {name} and I am {age} years old.")
```

#output: My name is Ram and I am 25 years old.

7. Explain the purpose of `__init__` in a class.

It is a constructor which is used to initialize the object.

Example:

```
class Person:
    def __init__(self, name):
        self.name = name
```

8. How do you comment a single line in Python?

By using “#” operator/symbol. Example:

```
#this is single line comment.
```

9. What is the difference between `==` and `=`?

`==` : This is assignment operator.

`=` : This is equals to comparison operator

10. Write a Python code to check if a number is even or odd.

```
num = 5
if num % 2 == 0:
    print("Even")
else:
    print("Odd")
```

#Output: Odd

11. How many spaces should you use per indentation according to PEP8?

We should use 4 spaces.

12. What is the difference between `append()` and `extend()` in a list?

append() : adds one element.  
extend() : adds multiple element

Example:

```
a = [1, 2]
a.append([3, 4]) # [1, 2, [3, 4]]
a.extend([3, 4]) # [1, 2, 3, 4]
```

13. How can you import only one function from a module?

We can import only one function from a module using:

from module\_name import function\_name

Example:- from math import sqrt

14. Write a lambda function to add two numbers.

A lambda function in Python is a small, anonymous function (a function without a name) that is defined in one single line.

Syntax: result = lambda input\_1, input\_2 : return\_value

Example: add = lambda a, b: a + b

15. What are \*args and \*\*kwargs?

Args: Variable number of positional arguments.

Kwargs: Variable number of keyword arguments.

16. Explain the difference between try-except and if-else.

try-except : used to handle runtime error

If-else : used to handle logical conditions

17. How do you print all keys of a dictionary?

```
my_dict = {"a": 1, "b": 2}
```

```
print(my_dict.keys())
```

We can print all keys by using keys() function.

18. What is the use of the pass statement?

Pass statement is used just like skip or empty.

19. Give an example of a Python constant.

Python does not have true constants, but by convention, variables written in uppercase are treated as constants and should not be changed.

Example: `PI=3.14`

20. Write a Python program to print the square of each number in a list using a loop.

```
numbers = [1, 2, 3, 4]
for n in numbers:
    print(n * n)
```

#Output:    1  
             4  
             9  
            16