**Python - surrounding questions - Interview preparation**

**List & tuples: (Same questions can be asked on tuples)**

1. X = [10,20,30] print last 2 values using : operator

Ans: print(X[-2: ]

2. X = [10,20,30] print all elements using : operator

3. X = [10,20,30,40...100] print 10 30 50 and so on (alternative elements) without using the

for loop. Hint - use :: operator

4. Store 10,20,30,....980,990,1000 into a list. Hint - use range

5. Take a list of 10 elements print elements in reverse order, hint use :: operator

6. Take a list of 10 elements print elements in reverse order using for loop

7. Take a list of 10 elements print all elements using for loop

8. Show one eg for the property list is mutable.

9. Modify 2nd index element of list with 300

10. Which method do you use to search if a given element is available in the list. Show e.g.

how do you use it. What happens if the element is not available?

11. Which method do you use to delete an element present in the list. Show one e.g. how do

you use it.

12. Insert a new element before 1st index in the list using a method of list, show e.g. of that

method

13. Which method do you use to delete an element present in the 1st index of the list? Show

code.

14. x=[ (10,20), (30,40), (50,60) ] print element 40

15. In the above example what will happen if we print(x[-1][-1])

**Set:**

1. Create an empty set.

2. Store 10,20,30 in a set and print 10 using index

3. Print set elements using for loop

4. Set stores elements in insertion order [t/f]

5. Sets are faster compared to lists [t/f]

6. Which method do you use to add a new element into the set? Show eg

7. Which method do you use to delete an element from a set? Show eg.

**Dictionary:**

1. Dictionary - Take a dictionary insert a new pair k=30

2. Dictionary - Print the value of key i

3. Dictionary - In the dictionary update value of key j with 20

4. Dictionary x = {‘i’:10, ‘i’ : 20 } what happens if i print (x)

5. Dictionary - does it allow duplicate values

6. Dictionary - can we get key based on value? Why?

7. Dictionary - print(x[‘i’]) assume that key i is not available, what happens?

8. Print dictionary keys and values using a for loop.

9. How will you print only keys present in the dictionary?

10. How will you print only values present in the dictionary?

11. Which method of dictionary do you use to find if a given key is available in the dictionary

or not? Show eg .

12. Which method do you use to get the value of a given key from a dictionary? Show eg?

13. Which method do you use to delete a pair from the dictionary based on the given key.

Show eg.

14. X = { ‘i’ : [10,20], ‘j’:[40,50] } print 10,20

15. X = { ‘i’ : [10,20], ‘j’:[40,50] } print 20

16. X = { ‘i’ : [10,20], ‘j’:[40,50] } print 50

17. X = { ‘a’: {‘i’:10, ‘j’:20}, ‘b’:{‘i’:100, ‘j’:200} } print 10

18. X = { ‘a’: {‘i’:10, ‘j’:20}, ‘b’:{‘i’:100, ‘j’:200} } print 200

19. X = { ‘a’: {‘i’:10, ‘j’:20}, ‘b’:{‘i’:100, ‘j’:200} } dictionary a present in dictionary x

**Functions default arg kwargs parameters:**

1. Trainer can ask find output based questions on default parameters

2. Trainer can ask how do you call this method (with default parameter)

3. What is the data type of args internally

4. What is the data type of kwargs internally

5. How many times can we use args for a given function?

6. How many times can we use kwargs for a given function?

7. How many default parameters can we use for a given function?

8. Def f1(a,b,\*c,d=10,\*\*e) : pass call this method and pass 1 to a, 2 to b, 3,4,5 to c and 6

to d and pass hno=10 street =btm to e.

9. Def f1(x,y,\*z=10): pass what happens if we call f1(10) what will be x y z values

10. Def f1(x,y,\*z=10): pass what happens if we call f1(10,20,30) what will be x y z values

**List comprehension**:

1. Take a list l1 copy all l1 elements into l2

2. Take a list l1 copy double of each element of l1 into l2

3. Take a list l1 copy each element power 2 of l1 into l2

4. Take a list l1 copy each element+1 into l2

5. Take a list l1 copy all even numbers into l2

6. Take name=’palle’ copy all letters into l2 if it is not vowel

7. Copy even numbers from 0 to 11 into a list using comprehension

**Lambda expression:**

1. Write a lambda expression which takes one parameter and returns element power 2, call

that function and print the returned value

2. Write a lambda expression which takes 3 parameters and returns a sum. Call and print.

3. Write a lambda expression to find the biggest of 2 numbers. Call and print

4. Take a list l1 copy each element+1 into l2 using map() function

5. Take a list l1 copy all even numbers into l2 using filter() function

6. Take a list l1 copy all elements which are greater than 10 into l2 using filter function

7. Take a list l1 copy half of each element into l2 using map() function

8. Take a list l1 copy all odd numbers into l2 using filter() function

**Class & object:**

1. Trainer can ask to call methods of a class with object

2. Trainer can ask to create a class with some requirements like mentioned in the

constructor's first question. Trainer has to elaborate the requirements properly.

Eg: create a patient class and create 2 patient objects with values pno=1,

pname=ramesh, disease = fever. pno=2, pname=suresh, disease=cold.

This requires students to create init method also with appropriate parameters. (this

question can be included in constructor also)

**Constructor:**

1. There are 2 students with values sno-1 sname-ramesh sub-python, sno-2 snake=suresh

sub AI. create a student class with init() and display(). Create above 2 objects and print

each student object values by calling display() function

2. Same as above question, print student object values with object without calling display()

3. Calling constructor with parameter, correct way to create object for that class. Trainer

should ask the code based question on this.

4. Can we remove self parameter from init

5. Can we place x in place of self parameter in init

6. Can I overload constructor? What will happen if we overload constructor?

7. Ca we create object without calling constructor

8. What is the sequence of object creation and constructor call?

9. Can we call a constructor after creating an object?

10. For one object how many times will the constructor be called? Can we call a constructor

multiple times for one object?

11. Is it mandatory for every class to have constructor

12. If we create 10 objects for a class, how many times will the constructor be called?

**Encapsulation:**

1. Give one example where you have used encapsulation. (students must explain an

example).

2. What is the advantage of using encapsulation

self and super:

1. What exactly does self contain?

2. Trainer can ask any code on find output on self() or super()

**Inheritance:**

1. In the inheritance, if we create an object for child class, which class constructor will be

called?

2. How do you call a parent class constructor which has parameter x from the child class

constructor, show code.

3. How do you call a parent class constructor which does not have parameters from the

child class constructor, show code.

4. How do you call parent class methods from child class? Show code

5. How do we access the parent class self.x variable in child class methods? Show code

6. Can we access parent class instance variables with child class object? Show code

7. Can we access parent class methods with child class object? Show code

8. Show eg for multiple inheritance

9. How many types of inheritances supported in python

10. What is function ambiguity, show code. Which class method will be executed in case of

function ambiguity

**Types of variables:**

1. Trainer can ask code to find output or find error while printing local variables and global

variables.

2. Trainer can ask code to find output or find error while printing instance variables and

class variables.

3. Can we access class variables with self or object?

4. Can we access instance variables with class name?

5. Which variables are shared among all objects of the same class?

6. Which variables are present as separate copy in every object?

7. Which variables are created only once?

**Types of methods:**

1. Trainer can ask code on find output or find error on calling instance methods, static

methods and class methods

2. Trainer can ask how to call different methods code

3. Can we access instance variables inside a class method?

4. Can we access instance variables inside a static method/

5. Can we access class variables inside an instance method?

6. Can we call class method with object

7. Can we call static method with object

8. What is the difference between static method and class method?

9. Instance method or class method, which one is faster?

**Split or join**

1. Trainer can ask any coding find output related question on split() join()

2. X = ‘a,b,c,d’ store these elements into a list using split()

3. X = ‘py#palle#banglore’ store py, palle, bangalore into a list

4. X = ‘palle py bangalore’. Store these three words into a list

5. If i want to split a word based on spaces is it mandatory to pass the separator?

6. What is the return type of split() function.

7. X = (‘palle’, ‘py’) join these 2 words into a string and print

8. X = [‘palle’,’py’] i want to store palle#py into a string how will you do it

9. x = [‘p’,’a’,’l’] res=’\*’.join(x) print(res) find output

**Exceptions:**

1. Write one e.g. for exceptions with files. Open a file in c: and write ‘hi’ into the file. How

will you handle permission error if O.S is not allowing to create file.

2. Write one e.g. for exceptions with files. Open a file in h: drive. Assume that h: drive is not

there which exception will be thrown? How will you handle that exception?

3. Write one e.g. for exceptions with files. Open an existing file from d: drive and print all

the lines present in that file. Which exception do you need to handle?

4. What happens if we don't handle an exception

5. If an exception occurs in try block, and if we are handling that except block, will the

remaining lines of the try block be executed?

6. If an exception occurs in the except block, will it execute the remaining lines of the

except block?

7. If an exception occurs in the finally block, will it execute the finally block completely?

8. Can i use try-except inside try (is nested try blocks allowed)

9. Can i use try-except inside except block

10. Can i use try-except inside finally block

11. If there is an exception in the try block, and if we are not handling that exception, in that

case the finally block will be executed or not?

12. If an exception occurs in the try block, and we are handling a different exception in the

except block what will happen?

13. Can one try block can have multiple except blocks?

14. Is it possible to have a try without except block?

15. How will you handle generic exceptions?

16. Show code for finally block with files example. Students must write code for reading

content from a file and close the file in the finally block.

**Re**

^ - starting

$ - ending

+ - 1 or more

\* - 0 or more

? - 0 or 1

. - any character

[ ] - set of letters

1. Write code to find if a given text starts with word palle

2. Write code to find if a given text ends with word python

3. Write code to find if a given text starts with palle and ends with python and in between 0

or more letters

4. Find how many digits are there in a given text

5. Find how many small letters are there and how many capital letters are there in a given

text

6. In a given text print all words starting with he and ending with o, and in the middle it has

1 or more letters.

7. search for a sequence that starts with "he", followed by 0 or more (any) characters, and