1. What is the difference between implicit type conversion and explicit type conversion?

2. An immutable data type is one that cannot change after being created. Give three reasons to use immutable data.

3. What is entry-controlled loop? Which loop is entry-controlled loop in Python?

4. Explain the use of the pass statement. Illustrate it with an example.

5. Differentiate between fruitful functions and non-fruitful functions.

6. Can a function return multiple values how?

7. What is scope? What is the scope resolving rule of Python?

8. What is the difference between local and global variables?

9. When is global statement used? Why is its use not recommended?

10. What are arguments? What are parameters? How these two terms are different yet related? Give example.

11. What is the utility of: - (i) default arguments (ii) Keyword arguments

12. [What is standard input, output and error streams?](https://www.askpython.com/python/python-stdin-stdout-stderr)

13. [What is serialization? How is different from unpicking?](https://www.tutorialspoint.com/what-are-pickling-and-unpickling-in-python#:~:text=Pickling%20is%20the%20process%20through,back%20into%20an%20object%20hierarchy.)

14. [What is flush ()? How is different from close ()](https://stackoverflow.com/questions/9272585/difference-between-flush-and-close-function-in-case-of-filewriter-in-java#:~:text=flush()%20writes%20the%20content,()%20closes%20the%20stream%20permanently.)

15. [What is the significance of newline=”” in open ()?](https://stackoverflow.com/questions/61861172/what-does-the-argument-newline-do-in-the-open-function#:~:text=Including%20the%20newline%20parameter%20allows,as%20defined%20in%20your%20csv.)

16. [What is the difference between regular text file and delimited text file?](https://www.pathwalla.com/2021/10/what-is-difference-between-regular-text.html)

17. [What is bisect module?](https://docs.python.org/3/library/bisect.html#:~:text=Source%20code%3A%20Lib%2Fbisect.,over%20the%20more%20common%20approach.)

18. [Is ragged list a nested list?](https://www.poojabhatiaclasses.com/2019/07/9-ragged-list-nested-list/)

19. [State the conditions when binary search is applicable?](https://en.wikipedia.org/wiki/Binary_search_algorithm#:~:text=Binary%20search%20works%20on%20sorted,lower%20half%20of%20the%20array.)

20. [What are grant and revoke privileges?](https://byjus.com/gate/difference-between-grant-and-revoke/#:~:text=1-,GRANT%20command%20is%20used%20to%20give%20access%20privileges%20to%20the,user%20privileges%20on%20database%20objects.)

21. What are maintenance commands?

22. What are the two types of DMLs? (UPDATE,INSERT?)

23. [SQL commands are divided into five. What are they?](https://www.interviewbit.com/blog/sql-commands/#:~:text=Some%20basic%20SQL%20commands%20are,%2C%20DELETE%2C%20UPDATE%2C%20etc.)

24. [What is referential integrity?](https://www.ibm.com/docs/en/informix-servers/14.10?topic=integrity-referential)

25. Write a query to display EName and Sal of employees whose salary is greater than or equal to 2200 from table Empl.

26. Write a query to display details of employees who are not getting commission from table Empl. 27. Write a query to display employee name and salary of those employee who don't have there salary in the range of 2500 to 4000.

28. Write a query to display the name, job title and salary of employee who do not have manager. 29. Write a query to display the name of employee whose name contains 'A' as third alphabet.

30. Write a query to display the name of employee whose name contains T as the last alphabet.

31. Write a query to display the name of employee whose name contains 'M' as first alphabet 'L' as third alphabet.

32[. Write a query on the customers table whose output will exclude all customers with a rating <= 100, unless they are located in Shimla.](https://www.pathwalla.com/2020/03/q8-simple-queries-in-sql-sumita-arora.html)

33. [What are parametrized queries?](https://techcommunity.microsoft.com/t5/sql-server-blog/how-and-why-to-use-parameterized-queries/ba-p/383483#:~:text=A%20parameterized%20query%20is%20a,to%20avoid%20SQL%20injection%20attacks.)

34. [How do you form a query string in parametrized queries?](https://docs.data.world/documentation/sql/concepts/dw_specific/parameterized_queries.html)

35. [What is unique key? How is different from primary key? Define alternate and candidate keys.](https://stackoverflow.com/questions/3617032/difference-between-primary-key-unique-key-and-candidate-key#:~:text=Candidate%20key%20is%20a%20set%20of%20columns%20which%20can%20uniquely,For%20example%20Emp_id%20etc.)

36. Can a column defined with NOT NULL constraint, be skipped in an INSERT command? NO

37. [What is ON DELETE CASCADE and ON UPDATE CASCADE? 38. What are table constraints?](https://dba.stackexchange.com/questions/74627/difference-between-on-delete-cascade-on-update-cascade-in-mysql#:~:text=1)%20ON%20DELETE%20CASCADE%20means,the%20parent%20record%20will%20fail.)

39. [Creating table from existing table. Write syntax.](https://www.tutorialspoint.com/sql/sql-create-table-using-tables.htm)

40[. How do you change the data type of a column in a table?](https://www.w3schools.com/sql/sql_ref_alter_column.asp)

41. How do you accept input from the user in python-SQL connectivity? (INPUT statement?)

42. [Can you change the order of dictionary's contents, i.e., can you sort the contents of a dictionary?](https://www.poojabhatiaclasses.com/2019/07/5-can-you-change-the-order-of-dictionarys-contents-i-e-can-you-sort-the-contents-of-a-dictionary/)

43. [Explain the following Python error and how it could arise: Type Error : unhashable type: 'list'](https://www.poojabhatiaclasses.com/2019/07/6-in-no-more-than-one-sentence-explain-the-following-python-error-and-how-it-would-arise-typeerror-unhashable-type-list/)

44. [Can you check for a value inside a dictionary? How?](https://note.nkmk.me/en/python-dict-in-values-items/#:~:text=To%20check%20if%20a%20value,not%20exist%20in%20a%20dictionary.)

45. [How is del D and del D[] different from one another if D is a dictionary?](https://www.pathwalla.com/2020/03/how-is-del-d-and-del-d-different-from.html)

46. [How is clear( ) function different from del < dict > statement ?](https://www.pathwalla.com/2020/03/how-is-clear-function-different-from.html)

47. [What does sorted() return ?](https://www.w3schools.com/python/ref_func_sorted.asp#:~:text=The%20sorted()%20function%20returns,string%20values%20AND%20numeric%20values.)

48. [Will max() and min() always work for a dictionary?](https://www.pathwalla.com/2020/10/will-max-and-min-always-work-for.html#:~:text=Q.,always%20work%20for%20a%20dictionary%3F&text=Yes%2C%20if%20the%20dictionary%20keys%20have%20homogeneous%20data%2Dtypes.)

49. [Can you use sum() with respect to a dictionary? For what purpose can we use this function?](https://www.pathwalla.com/2020/10/what-do-you-understand-by-shallow-copy.html#:~:text=A%20shallow%20copy%20of%20a,the%20dictionary)%20is%20not%20copied.)

50. [What do you understand by shallow copy of a dictionary? Can we use copy() function with dictionary?](https://www.pathwalla.com/2020/10/what-do-you-understand-by-shallow-copy.html#:~:text=A%20shallow%20copy%20of%20a,the%20dictionary)%20is%20not%20copied.)

51. [Does the slice operator always produce a new list?](https://www.geeksforgeeks.org/python-list-slicing/)

52. [Can you say strings are character lists?](https://www.pathwalla.com/2019/11/can-you-say-strings-are-character-lists.html)

53. [What happens when from a string slice you skip the start and/or end values of the slice? In a string slice, can the start and end values be beyond range. Why?](https://www.pathwalla.com/2020/10/what-happens-when-from-string-slice-you.html)

54. What happens if we try to pop an item off the stack when the stack is empty?

55. [What is a cursor?](https://www.geeksforgeeks.org/what-is-cursor-in-sql/) (ans is given in terms of sql cursor) normal one: a movable indicator on a computer screen identifying the point that will be affected by input from the user.

56. [Difference between fetchall(), fetchmany()?](https://pynative.com/python-cursor-fetchall-fetchmany-fetchone-to-read-rows-from-table/#:~:text=It%20returns%20all%20the%20rows,rows%20specified%20by%20size%20argument.)

57. [Difference between extend and append?](https://www.freecodecamp.org/news/python-list-append-vs-python-list-extend/#:~:text=append()%20adds%20a%20single,the%20end%20of%20the%20list.)

58. [What is the difference between split(0 and partition()?](https://betterprogramming.pub/split-vs-partition-in-python-strings-9505d070af55)

59. [With respect to a list, what is the difference pop (), remove(),del and clear()?](https://www.geeksforgeeks.org/what-is-difference-between-del-remove-and-pop-on-python-lists/#:~:text=In%20python%20del%20is%20a,the%20list%20using%20an%20index.) (clear empties the list)

60. [How will you sort a list in descending order?](https://www.geeksforgeeks.org/python-list-sort-method/#:~:text=Python%20list%20sort()%20function,%2C%20or%20user%2Ddefined%20order.)

61. When we use index() and the item is not found, what will be the output? Value error

62. [Difference between shallow copy and deep copy?](https://www.geeksforgeeks.org/copy-python-deep-copy-shallow-copy/)

63. [Difference between executemany and excutemulti](https://dev.mysql.com/doc/connector-python/en/connector-python-api-mysqlcursor-executemany.html)

64. Define: mycursor.rowcount, mycursor.with\_rows, mycursor.description, mycursor. column\_names, mycursor.statement

mycursor.description - list of coulmn names and description

.columnname - tuple of column names

.statement- executed sql Query

.rowcount - no .of rown affected by the ddl

.with\_rows - returns bool if exec statement returned any rows

65. Display the students who secured less than 60

66. Change the age of ‘Raj’ to 18 and grade to ‘B’

67. Delete the student with registration number 10042

68. [Difference between dump() and dumps()](https://stackoverflow.com/questions/69262878/what-are-the-differences-between-pickle-dump-load-and-pickle-dumps-loads) (recheck)

69. Functions to read and write into a csv file (csv.reader(file),writerobject.writerow/rows(obj)

70. a=[13, 25, 50, 48, 201,135] [x if x%5==0 for x in a] Output => error. if must follow else Correct statement => [x for x in a if x%5==0] => [25,50,135]

71. To remove elements from Dictionary : pop / popitem / del ( learn difference between each)

72. d={1:'One', 2:'Two',3:'Three'} d.pop(4,0) what's the output? => 0

73. Different ways to create a shallow copy of a list. Solution: list(l), l[:], l.copy()

74. s='Round One' {len(k): k for k in s.split()} Output ? =>{5: 'Round', 3: 'One'}

75. lst = [[1,2,3],[4,5],6] lst[0:1][1] =>?

lst.append([10,20]) l

st2 = lst.copy()

lst3=lst lst2 ?

lst3 ? lst ? lst.pop() lst2 ? lst3 ? lst ? lst2[1:][2:] = ? lst[0][:] = ? lst3 / lst2 = ? lst[1:1] =2 ? lst[1:1] = [2] ? lst[1:3] = [0,0] ?

76. lst1 =[1,2,4,5] lst2=[2,6,3,7,5] list comprehension to count how many common elements are there.

77. Different kind of parameter passing in functions? (fns ppt)

78. What are global / local / nonlocal keywords (fns ppt)

79. def f(x,l=[]): for i in range(x): l.append(i\*i) print(l) f(2) f(3,[3,2,1]) f(3)

80. [if \_\_name\_\_ == "\_\_main\_\_" : What does this line signify ?](https://realpython.com/if-name-main-python/#:~:text=name%2Dmain%20idiom.-,In%20Short%3A%20It%20Allows%20You%20to%20Execute%20Code%20When%20the,is%20executed%20as%20a%20script.)

81. Positional arguments - keyword arguments (fns ppt)

82. Positional arguments - default arguments (fns ppt)

83. def fn(a=10,b=20): print(a+b) fn(b=5) fn(5) (fns ppt)

84. Difference between r+ and w+ (fns ppt)

85. Difference between r+ and a+ (fns ppt)

86. [What's pickle / json ?](https://www.educba.com/python-pickle-vs-json/)

87. [Difference between JSON and dictionary ?](https://stackoverflow.com/questions/38885375/need-explanation-difference-between-json-and-dict-in-python)

88. def fn():

print(x+y)

x=y=30

fn() Any issue ?

vars referred before assignment

89. [Name the 5 immutable data types in Python.](https://towardsdatascience.com/https-towardsdatascience-com-python-basics-mutable-vs-immutable-objects-829a0cb1530a)

90. [Explain list comprehension. Which other datatypes can be created using the same concept?](https://towardsdatascience.com/4-types-of-comprehensions-in-python-2fbeafdf2fda) List comprehension **offers a shorter syntax when you want to create a new list based on the values of an existing list**. List,dict, set, generator

91[. What do you mean by slice assignment?](https://stackoverflow.com/questions/10623302/how-does-assignment-work-with-list-slices#:~:text=Slice%20assignment%20is%20a%20special%20syntax%20for%20lists%2C%20where%20you,%2C%201%2C%202%2C%203%5D)

92. [How are parameters passed in python?](https://www.tutorialspoint.com/how-are-arguments-passed-by-value-or-by-reference-in-python#:~:text=All%20parameters%20(arguments)%20in%20the,back%20in%20the%20calling%20function.)

93. What is the output of this code? and why do you think so? def func1(x,a=[]): a.append(x) print(a) func1(7) func1(8,[4,5]) func1(9)

94. [Why are functions called as first class objects in python?](https://realpython.com/lessons/functions-are-first-class-citizens-python/#:~:text=In%20this%20lesson%2C%20you'll,in%20variables%20and%20data%20structures.)

95. [Give an example of zip function](https://www.w3schools.com/python/ref_func_zip.asp#:~:text=The%20zip()%20function%20returns,iterator%20are%20paired%20together%20etc.)

96. What does sorted("python") return? ['h', 'n', 'o', 'p', 't', 'y']

97. [How can you sort a dictionary based on values](https://www.freecodecamp.org/news/sort-dictionary-by-value-in-python/) (can be a list of key, value pairs)

98. What is \*\* operator in function definition? All keyword arguments will be made into a dict {keyword: value}

99. Explain zip() function. Qn 95

100. [Explain join()](https://www.javatpoint.com/python-string-join-method#:~:text=Python%20join()%20method%20is,List%2C%20Tuple%2C%20String%20etc.)

101. [What is \_init\_.py?](https://stackoverflow.com/questions/448271/what-is-init-py-for#:~:text=The%20__init__.py%20file%20makes%20Python%20treat%20directories,the%20submodules%20to%20be%20exported.)

102. What is the extension of python module? .py

103. [What are site packages?](https://techtipnow.in/what-is-the-importance-of-site-packages-folder-of-python-installation/#:~:text=Site%2Dpackage%20is%20the%20folder,package%20folder%20of%20Python%20Installation.)

104. [What is relative and absolute path?](https://www.geeksforgeeks.org/absolute-relative-pathnames-unix/#:~:text=An%20absolute%20path%20is%20defined%20as%20specifying%20the%20location%20of,the%20present%20working%20directly(pwd))

105. [What is string.ascii\_letters, string.ascii\_lowercase, string.ascii\_uppercase?](https://www.geeksforgeeks.org/python-string-ascii_letters/#:~:text=In%20Python3%2C%20ascii_letters%20is%20a,string.ascii_letters)

106. [What are capwords()](https://www.educative.io/answers/what-is-stringcapwords-in-python#:~:text=The%20capwords()%20method%20of,using%20the%20join()%20method.)

107. What is the difference between random() ,randint() - stop included, randrange() -stop excluded. [What is random.uniform()](https://stackoverflow.com/questions/30030659/in-python-what-is-the-difference-between-random-uniform-and-random-random#:~:text=on%20this%20post.-,random.,end%20up%20giving%20you%20b%20).)?

108. [What is divmod()](https://www.w3schools.com/python/ref_func_divmod.asp)

109. Difference between import and from .. import? (lib ppt)

110. [What is namespace?](https://realpython.com/python-namespaces-scope/)

111. [What is a module, package and a library?](https://www.geeksforgeeks.org/what-is-the-difference-between-pythons-module-package-and-library/)

112. [What do you understand by standard library of python?](https://en.wikibooks.org/wiki/Python_Programming/Standard_Library#:~:text=The%20Python%20Standard%20Library%20is,the%20beginning%20of%20a%20script.)

113. [What is the difference between readline() and readlines().](https://www.edureka.co/blog/python-readline/#:~:text=Python%20readline()%20method%20will,a%20line%20in%20the%20file.)

114. [What is GROUP BY ? Significance of HAVING.](https://www.geeksforgeeks.org/difference-between-having-clause-and-group-by-clause/)

115. [What is DISTICNT in SQL?](https://www.w3schools.com/sql/sql_distinct.asp#:~:text=The%20SELECT%20DISTINCT%20statement%20is,the%20different%20(distinct)%20values.)

116. [Difference between char and varchar.](https://www.geeksforgeeks.org/char-vs-varchar-in-sql/#:~:text=Difference%20between%20CHAR%20and%20VARCHAR%20datatypes%3A&text=In%20CHAR%2C%20If%20the%20length,padded%20with%20extra%20memory%20spaces.)

117. [What is TCL?](https://www.geeksforgeeks.org/tcl-full-form/)

118. What are scalar functions in SQL? Answer: These functions return a single value. a) UCASE() b) LCASE() c) MID() d) LEN() e) ROUND() f) NOW() g) FORMAT()

119[. With respect to SQL learn about drop and delete.](https://www.tutorialspoint.com/difference-between-delete-and-drop-sql#:~:text=DELETE%20is%20a%20Data%20Manipulation,table%2C%20constraints%20or%20entire%20schema.)

120. [Difference between cartesian product, natural join and equi join.](https://www.geeksforgeeks.org/difference-between-natural-join-and-cross-join-in-sql/) (Joins ppt)

121. How to group multiple columns using GROUP BY?

122. [What is the purpose os module?](https://www.geeksforgeeks.org/os-module-python-examples/)

123. [What is the purpose of fromkeys() (dictionary)?](https://www.w3schools.com/python/ref_dictionary_fromkeys.asp#:~:text=The%20fromkeys()%20method%20returns,keys%20and%20the%20specified%20value.)

124. [With respect to a dictionary what is the difference between get() and [] brackets( when we access items from dictionary) ?](https://medium.com/@harrison.miller13_28580/an-alternative-to-brackets-for-dictionary-values-in-python-b000b64fb730#:~:text=get()%20works%20no%20differently,can%20be%20anything%20you%20want.)

125. With respect to a dictionary, what is the difference between [setdefault()](https://www.geeksforgeeks.org/python-dictionary-setdefault-method/) and [update()?](https://www.geeksforgeeks.org/python-dictionary-update-method/)

126. [What is the significance of IFNULL (in sql)?](https://www.w3schools.com/sql/func_mysql_ifnull.asp#:~:text=The%20IFNULL()%20function%20returns,this%20function%20returns%20the%20expression.)

127. [What is a view? Purpose](https://stackoverflow.com/questions/2381195/what-is-the-purpose-of-views-in-sql)

128. With the respect to SQL, difference between round() and truncate()?

129. [What is dual?](https://www.geeksforgeeks.org/dual-table-in-sql/) (Page 532)

130. In dictionary what is mapping? A mapping type is **a data type comprised of a collection of keys and associated values**. Keys are mapped to values

131. [When do you encounter an attribute error?](https://www.geeksforgeeks.org/python-attributeerror/)

**ALL NETWOEKING QUESTIONS CAN BE ANSWERED USING SUMITA ARORA.**

132. Which protocol out of the following will be ideal to have an audio-visual chat with an expert sitting in a far-away place to fix –up a technical issue? a) POP3 b) SMTP c) VoIP d) HTTP

133. Which of the following cables provide the maximum speed in a wired medium? Coaxial , Optical Fiber, Twisted pair.

134. Write 2 features of each kind of cable.

135. Define (i) IP Address (ii) MAC Address

136. What is the difference between Packet switching and circuit switching techniques?

137. In networking, what is WAN? How is it different from LAN and MAN?

138. 2 Advantages + 2 Disadvantages of any topology ( Star, Bus, Ring, Mesh, Tree)

139. 2 Differences between bridges, gateways, routers, hubs, switches, repeaters.

140. What is a URL? Parts of URL. What is a domain Name?

141. 2 examples of guided media and 2 for unguided media 142. What is Ethernet? Explain Ethernet card. What is RJ45 used for?

143. Difference between HTTP , HTTPS and FTP

144. What is a firewall?

A Firewall is **a network security device that monitors and filters incoming and outgoing network traffic based on an organization's previously established security policies**.

145. How are active hubs different from passive hubs?

146. Differentiate between radiowaves and microwaves.

147. Differentiate between web server and web browser. Mention examples too.

148. What is a modem? What is its function?

149. What do you mean by bandwidth? What is its significance in a network?

150. Components of a network – Node, NIC Card, Server, Communication channel ( Define each)

151. 2 advantages of networking.

152. Define the terms – Wifi, WiMax, WAP

153. What was the role of ARPANET in Computer Networks?