Q1. Why do we call Python as a general purpose and high-level programming language?

**because this programming lang used to solve wide range of problems and its syntax etc is easy to understand**

Q2. Why is Python called a dynamically typed language?

**because we do not require to provide the data type while variable declare or initialize**

Q3. List some pros and cons of Python programming language?

**Pros- Easy to learn and read Vast collection of libraries**

**Cons- Consume lot of memory space Speed limitations**

Q4. In what all domains can we use Python?’ **API Development,ML /AI,bigdata, test automation etc**

Q5. What are variable and how can we declare them?

**x=10; y="rahul" ,isEnabled=False**

Q6. How can we take an input from the user in Python? **x=input("Take input")**

Q7. What is the default datatype of the value that has been taken as an input using input() function? **string**

Q8. What is type casting?

**Typecasting is a concept to change the type of variable or object in order to convert float to integer ---> int() in order to convert -->bool()**

Q9. Can we take more than one input from the user using single input() function? If yes, how? If no, why?

**Yes we can take multiple input from single input function .But need to split it later into diff variable a,b,c=input().split()--split by space a,b,c=input().split(',')---split by commma**

Q10. What are keywords?

**Python keywords are special reserved words that have specific meanings and purposes and can't be used for anything but those specific purposes like if ,else ,elif, switch-case etc**

Q11. Can we use keywords as a variable? Support your answer with reason.

**No .We cannot use keyword as variable . It will throw compile time error**

Q12. What is indentation? What's the use of indentaion in Python?

**python is indentation level programming . Indentation here is 4 spaces . If we need to define all class level element then need to follow indentation**

Q13. How can we throw some output in Python?

**print statement**

Q14. What are operators in Python?

**Arithmetic, Assignment ,Comparison, Logical, Bitwise, membership operator**

Q15. What is difference between / and // operators?

**Float and integer divison**

Q16. Write a code that gives following as an output.

iNeuroniNeuroniNeuroniNeuron

**print(r"","\n","iNeuroniNeuroniNeuroniNeuron","\n ")**

Q17. Write a code to take a number as an input from the user and check if the number is odd or even.

**if num %2 ==0 :**

**print("even")**

**else :**

**print("odd")**

Q18. What are boolean operator?

**,<,AND , OR ,<>**

Q19. What will the output of the following?

**1 or 0 ---True**

**0 and 0--\_False**

**True and False and True--False**

**1 or 0 or 0--True**

Q20. What are conditional statements in Python?

**if ,else ,elif**

Q21. What is use of 'if', 'elif' and 'else' keywords?

**in order to check conditions**

Q22. Write a code to take the age of person as an input and if age >= 18 display "I can vote". If age is < 18 display "I can't vote".

**age=int(input("Enter your age")) print("I can vote") if age >=18 else print("I can't vote")**

Q23. Write a code that displays the sum of all the even numbers from the given list.

**numbers = [12, 75, 150, 180, 145, 525, 50]**

**ls=[12, 75, 150, 180, 145, 525, 50]**

**print(sum(filter(lambda x:x%2==0,ls)))**

Q24. Write a code to take 3 numbers as an input from the user and display the greatest no as output.

**num1,num2,num3=input("Enter 3 no seperated by comma").split(",")**

**max = num1 if int(num1)>int(num2) else num2 max = num3 if int(num3)>int(max) else max print(max)**

Q25. Write a program to display only those numbers from a list that satisfy the following conditions

* The number must be divisible by five
* If the number is greater than 150, then skip it and move to the next number
* If the number is greater than 500, then stop the loop

**numbers = [12, 75, 150, 180, 145, 525, 50]**

**numbers = [12, 75, 150, 180, 145, 525, 50]**

**for x in numbers :**

**if x%5==0 :**

**if x > 500 :**

**print(x)**

**break**

**elif x > 150 :**

**continue**

**else:**

**print(x)**

Q26. What is a string? How can we declare string in Python?

**St=”” . group of character**

Q27. How can we access the string using its index?

**St[index]**

Q28. Write a code to get the desired output of the following

string = "Big Data iNeuron"

desired\_output = "iNeuron"

**x=string.split(" ")[::-1]**

**print(" ".join(x))**

Q29. Write a code to get the desired output of the following

string = "Big Data iNeuron"

desired\_output = "norueNi"

**print(string.split(" ")[2][::-1])**

Q30. Resverse the string given in the above question.

**print(string.split(" ")[2][::-1])**

Q31. How can you delete entire string at once?

**st="rahul"**

**del st**

Q32. What is escape sequence?

**To insert characters that are illegal in a string, use an escape character.\**

Q33. How can you print the below string?

'iNeuron's Big Data Course'

**print("iNeuron's Big Data Course")**

Q34. What is a list in Python?

**Type of data structure**

Q35. How can you create a list in Python?

**Ls=[1,2,3,4,5,6]**

Q36. How can we access the elements in a list?

**Lst[index]**

Q37. Write a code to access the word "iNeuron" from the given list.

lst = [1,2,3,"Hi",[45,54, "iNeuron"], "Big Data"]

**print(lst[4][2])**

Q38. Take a list as an input from the user and find the length of the list.

**ls=input("enter comma seperated value").split(",")**

**print(len(ls))**

Q39. Add the word "Big" in the 3rd index of the given list.

lst = ["Welcome", "to", "Data", "course"]

**lst = ["Welcome", "to", "Data", "course"]**

**lst.insert(2,"big")**

**print(lst)**

Q40. What is a tuple? How is it different from list?

**List is immutable In nature where tupple not**

Q41. How can you create a tuple in Python?

**Tup=()**

Q42. Create a tuple and try to add your name in the tuple. Are you able to do it? Support your answer with reason.

**Exception thrown due to immutable in nature**

Q43. Can two tuple be appended. If yes, write a code for it. If not, why?

**tup=("rhaul")**

**tup1=("rahul12")**

**tup2=tup+tup1**

**print(tup2)**

Q44. Take a tuple as an input and print the count of elements in it.

**tupp=(1,2,3,4,5,78,3,324,324)**

**count=0**

**for x in tupp:**

**count+=1**

**print(count)**

Q45. What are sets in Python?

**Type of data structure in which only unique value present**

Q46. How can you create a set?

**S={}**

Q47. Create a set and add "iNeuron" in your set.

**set={}**

**set.add("ineuron")**

**print(set)**

Q48. Try to add multiple values using add() function.

**Throw exception when adding integer using add() but string values allows**

Q49. How is update() different from add()?

**Add() function add single value where update() add sequence to set**

Q50. What is clear() in sets?

**It clear all the set element**

Q51. What is frozen set?

**Type of set but immutable in nature**

Q52. How is frozen set different from set?

**It is immutable where set is mutable**

Q53. What is union() in sets? Explain via code.

**setA={1,2}**

**setB={2,3}**

**setC=setA.union(setB)**

**print(setC)**

Q54. What is intersection() in sets? Explain via code.

**setA={A,B}. setB={B,C}**

**setC=setA.intersection(setB)**

**print(setC)---o/p-{C}**

Q55. What is dictionary ibn Python?

**Type of data structure to store value**

Q56. How is dictionary different from all other data structures.

**Because it has key value pair and key must be unique**

Q57. How can we delare a dictionary in Python?

**Dic={}**

Q58. What will the output of the following?

**var = {}**

**print(type(var))**

Q59. How can we add an element in a dictionary?

**Dic.add(<key>,<value>)**

Q60. Create a dictionary and access all the values in that dictionary.

**mydict={**

**"a":1,**

**"b":{**

**"c":2,**

**"d":3**

**}}**

**for x in mydict.keys():**

**print(mydict[x])**

Q61. Create a nested dictionary and access all the element in the inner dictionary.

**dict={**

**"a":1,**

**"b":{**

**"c":2,**

**"d":3**

**}}**

**print(dict["b"]["c"])**

Q62. What is the use of get() function?

**To get the value for specific key .dic.get[key]**

Q63. What is the use of items() function?

**To convert dict keys ,value pair into tuple and all tuples store into list**

**[(k1,v1),(k2,v2)]**

Q64. What is the use of pop() function?

**Remove the specifc index from list**

**List.pop(5)**

Q65. What is the use of popitems() function?

**Remove the items last inserted into dictornary and return the removed items**

Q66. What is the use of keys() function?

**To print dictonary keys into list**

Q67. What is the use of values() function?

**To print dictonary values into list**

Q68. What are loops in Python?

**To print large no of value based on condition**

Q69. How many type of loop are there in Python?

**For,while,**

Q70. What is the difference between for and while loops?

**In for loop,will initialize variable at a time while in while initialization happens before loop and the syntax diff**

Q71. What is the use of continue statement?

**To start the loop and cursor jump at loop start**

Q72. What is the use of break statement?

**To break the loop and jump cursor into end of loop**

Q73. What is the use of pass statement?

**On writing pass ,nothing happens. If something not understood and want to leave for future but on leaving giving error so write pass statement**

Q74. What is the use of range() function?

**To convert into list**

Q75. How can you loop over a dictionary?

**dict={"a":1,"b":2,"c":3}**

**for x in dict :**

**print(dict[x])**

**Coding problems**

Q76. Write a Python program to find the factorial of a given number.

**n=int(input("enter no"))**

**p=1**

**for i in range(1,n+1):**

**p=p\*i**

**print(p)**

Q77. Write a Python program to calculate the simple interest. Formula to calculate simple interest is SI = (P*R*T)/100

**P,R,T=100,5,3**

**I=(P\*R\*T)/100**

**print(I)**

Q78. Write a Python program to calculate the compound interest. Formula of compound interest is A = P(1+ R/100)^t.

**P,R,T=100,5,3**

**A=0**

**A=P\*(1+R/100)\*\*T**

**print(A)**

Q79. Write a Python program to check if a number is prime or not.

**num = int(input("Enter a number: "))**

**if num > 1:**

**for i in range(2, num):**

**if (num % i) == 0:**

**print("not prime number")**

**break**

**else:**

**print("prime number")**

**else:**

**print("not prime number")**

Q80. Write a Python program to check Armstrong Number.

**num=int(input("enter which fabonacci no want to know"))**

**power=len(str(num))**

**sum=0**

**n=num**

**# temp=n**

**while n >0 :**

**r=n%10**

**sum=sum+r\*\*power**

**n=n//10**

**if num==sum:**

**print("armstrong no")**

**else:**

**print("not armstrong")**

Q81. Write a Python program to find the n-th Fibonacci Number.

**n=int(input("enter which fabonacci no want to know"))**

**a,b=0,1**

**for i in range(2,n):**

**c=a+b**

**a=b**

**b=c**

**print(c)**

Q82. Write a Python program to interchange the first and last element in a list.

**ls=[1,2,3,4,5,6]**

**ls[0],ls[-1]=ls[-1],ls[0]**

**print(ls)**

Q83. Write a Python program to swap two elements in a list.

**a,b=10,20**

**b,a=a,b**

**print(b,",",a)**

Q84. Write a Python program to find N largest element from a list.

**Sol---**

**ls=[2,4,3,1,5,9,6]**

**print(sorted(ls,reverse=True)[4])**

Q85. Write a Python program to find cumulative sum of a list.

**Sol-**

**from functools import reduce**

**ls=[1,2,3,4,5,6]**

**sum=reduce(lambda x,y:x+y,ls)**

**print(sum)**

Q86. Write a Python program to check if a string is palindrome or not.

**Sol-=**

**superst=input("Enter string")**

**# print("reverse",superst[::-1])**

**if superst != superst[::-1] :**

**print("Not palindrome")**

**else:**

**print(" palindrome")**

Q87. Write a Python program to remove i'th element from a string.

**Sol-**

**superst=input("Enter string")**

**elementindex=int(input("Enter nth index which you want to delete in given string"))**

**mainst=""**

**if elementindex >0 and len(superst) > elementindex :**

**mainst=superst[0:elementindex]+superst[elementindex+1:]**

**else:**

**print("invalid input")**

**print(mainst)**

Q88. Write a Python program to check if a substring is present in a given string.

**Sol-**

**import re**

**superst=input("Enter super string")**

**subst=input("Enter sub string")**

**x=re.search(subst,superst)**

**print( bool(x))**

Q89. Write a Python program to find words which are greater than given length k.

**Sol-**

**wordsls=["rahul","ineuron","delhi","punjab","DU","KPI"]**

**length=int(input("enter minimum length of words"))**

**newls=[]**

**for x in wordsls:**

**if len(x)>length:**

**newls.append(x)**

**print(newls)**

Q90. Write a Python program to extract unique dictionary values.

**dic1={"a":1,"b":2}**

**for x in dic1:**

**print(dic1[x])**

Q91. Write a Python program to merge two dictionary.

**Sol-**

**dic1={"a":1,"b":2}**

**dic2={"c":3,"d":4}**

**dic1.update(dic2)**

**print(dic1)**

Q92. Write a Python program to convert a list of tuples into dictionary.

Input : [('Sachin', 10), ('MSD', 7), ('Kohli', 18), ('Rohit', 45)]

Output : {'Sachin': 10, 'MSD': 7, 'Kohli': 18, 'Rohit': 45}

**Sol-**

**ls=[('Sachin', 10), ('MSD', 7), ('Kohli', 18), ('Rohit', 45)]**

**dic={}**

**for x in ls :**

**dic[x[0]]=x[1]**

**print(dic)**

Q93. Write a Python program to create a list of tuples from given list having number and its cube in each tuple.

Input: list = [9, 5, 6]

Output: [(9, 729), (5, 125), (6, 216)]

**Sol-**

**ls=[9,5,6]**

**newls=[]**

**for x in ls:**

**newls.append((x,x\*\*3))**

**print(newls)**

Q94. Write a Python program to get all combinations of 2 tuples.

Input : test\_tuple1 = (7, 2), test\_tuple2 = (7, 8)

Output : [(7, 7), (7, 8), (2, 7), (2, 8), (7, 7), (7, 2), (8, 7), (8, 2)]

**Note** -**Question not understood**

Q95. Write a Python program to sort a list of tuples by second item.

Input : [('for', 24), ('Geeks', 8), ('Geeks', 30)]

Output : [('Geeks', 8), ('for', 24), ('Geeks', 30)]

**Sol—**

**ls= [('for', 24), ('Geeks', 8), ('Geeks', 30)]**

**def func(x):**

**return x[1]**

**print(sorted(ls,key=func))**

Q96. Write a python program to print below pattern.

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

**Sol**

**for i in range(5):**

**for j in range(i+1):**

**print("\*",end=" ")**

**print("")**

Q97. Write a python program to print below pattern.

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*\*\*

**Sol—**

**for i in range(5,0,-1):**

**for j in range(0,i):**

**print(" ",end="")**

**print("\*"\*(5-j))**

Q98. Write a python program to print below pattern.

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

Sol—

**def triangle(n):**

**# number of spaces**

**k = n - 1**

**for i in range(0, n):**

**for j in range(0, k):**

**print(end=" ")**

**k = k - 1**

**for j in range(0, i + 1):**

**print("\* ", end="")**

**print("\r")**

**n = 5**

**triangle(n)**

Q99. Write a python program to print below pattern.

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

**for i in range(0,5):**

**for j in range(i+1):**

**print(j+1,end=" ")**

**print("")**

Q100. Write a python program to print below pattern.

A

B B

C C C

D D D D

E E E E E

**Sol—**

**for i in range(5):**

**for j in range(i+1):**

**print(chr(i+65),end=" ")**

**print("")**