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

We can use python in different domain like AI,ML,Web Devlopment,Big data and python is easily understandable and straight forward so anyone can learn and code it that’s why python is general purpose and high-level programming language.

Q2. Why is Python called a dynamically typed language?

Ans- In python we don’t have to declare datatype of variable like C++,Java

We can directly use variable without datatype

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

Ans – Pros – Beginner friendly, Flexible and scalable,easy to read & learn

Cons –

Q4. In what all domains can we use Python?

Ans- Web Development,Data Science,Data Analysis,Big data

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

Ans-Variable is only name which used for storing values

Eg. Name = Ganesh,Age = 29

Q6. How can we take an input from the user in Python?

Ans- We can take input from user by using input() function

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

Ans-Default value of input() is String.

Q8. What is type casting?

Ans-Type casting means changing data type to another data type by using

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

Ans – No we can’t take more than 1 input from Input() function because input function takes only one argument

Q10. What are keywords?

Ans- Keywords are reserved words for specific purpose we can’t use them

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

Ans- No, because keywords are reserved for specific purpose for example -while,true,false,from,break

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

Ans-Indentation means whitespaces before code so in python indentation is important without this we can face indentation error because python treat indentate code as block of code

Q13. How can we throw some output in Python?

Ans- By using print function

Q14. What are operators in Python?

Ans-Operators are use to perform some operations on variable like logical and arithmetic operations.

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

Ans- Both operators can use for division but //(Floor Division) operator round result to nearest number

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

```

iNeuroniNeuroniNeuroniNeuron

```

Ans - print("iNeuroniNeuroniNeuroniNeuron")

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

Ans – number = int(input("enter number"))

if number % 2 == 0:

    print("number is even")

elif number % 2 == 1:

    print("number is odd")

Q18. What are boolean operator?

Ans- To check whether the condition is true or false we use Boolean operator

Q19. What will the output of the following?

```

1 or 0 -> o/p - 1

0 and 0 -> o/p - 0

True and False and True

Ans - False

1 or 0 or 0 -> o/p - 1

```

Q20. What are conditional statements in Python?

Ans- To check specific condition to be true or false we use conditional statement in python

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

Ans- We use 'if', 'elif' and 'else' as conditional statement in python to check specific condition.

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".

Ans – age = int(input("Enter your age"))

if age >=18:

    print("i can vote")

elif age < 18 :

    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]

```

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

for num in numbers:

  if num % 2 == 0:

        print(num)

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

Ans - Number1 = int(input("Enter number"))

Number2 = int(input("Enter number"))

Number3 = int(input("Enter number"))

if Number1>Number2 and Number1>Number3:

    print(Number1)

elif Number2>Number1 and Number2>Number3:

    print(Number2)

else:

    print(Number3)

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

Ans-

- 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]

```

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

for num in numbers:

    if num > 150:

        if num > 500:

            break

        continue

    if num % 5 == 0:

        print(num)

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

Ans- String is collection of characters which we declared using quotes

Eg = Name = “Ganesh”

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

We can access string using index slicing

Eg. Name = “Ganesh” ---

Print(Name[0])

O/P - G

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

string = "Big Data iNeuron"

desired\_output = "iNeuron"

Ans- print(string[9:])

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

string = "Big Data iNeuron"

desired\_output = "norueNi"

print(string[:8:-1])

Q30. Resverse the string given in the above question.

Ans - print(string[ : :-1])

Q31. How can you delete entire string at once?

Ans - str = "Ganesh"

del str

Q32. What is escape sequence?

Ans- If we want to insert single quote in single quote word then we use escape sequence using \

Q33. How can you print the below string?

'iNeuron's Big Data Course'

Ans-print('iNeuron\'s Big Data Course')

Q34. What is a list in Python?

Ans- A list is collection of different data objects loke int,char,float

Q35. How can you create a list in Python?

Ans - L1=[10,’abc’,3.2]

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

Ans – List can be accessed by it’s index

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

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

Ans- print(lst[5])

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

Ans – n = int(input(“enter how many elements for list”))

List1 = [ ]

For i in range(n)

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

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

Ans- lst[3]="Big"

print(lst)

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

Ans- Tuple is collection of object but it immutable means we can’t change it’s object value like list

Q41. How can you create a tuple in Python?

Ans- T1=(0,1,2,3)

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

Ans – Tuples are immutable so we can’t append or modify tuple

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

Ans - Tuples are immutable so we can’t append or modify tuple however we can concatenate tuples

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

Q45. What are sets in Python?

Ans-Sets are collections items which are unordered and immutable and every set element is unique (no duplicates)

Q46. How can you create a set?

Ans- My\_set = {(1,2,3),”Hello”,2.4}

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

Ans - My\_set = {"Hello","Ganesh"}

My\_set.add("iNeuron")

print(My\_set)

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

Ans - My\_set = {"Hello","Ganesh"}

My\_set.update(["iNeuron","Big","Data"])

print(My\_set)

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

Ans- Update function is use to add multiple items whereas add function is use to add one item

Q50. What is clear() in sets?

Ans – Clear() is use to clear all items from the set.

Q51. What is frozen set?

Ans- Frozen set is immutable means we can’t modify elements of sets after declaring set as frozenset

Q52. How is frozen set different from set?

Ans- We can modify elements in sets while we can’t modify elements in frozenset.

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

Ans- Union() of 2 sets will return all the items present in both sets.

Eg. A = {1,2,3,4,5}

B = {2,4,7,6}

C = A | B

print(C)

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

Ans – Intersection() of 2 sets will return common items present in both sets.

Eg. A = {1,2,3,4,5}

B = {2,4,7,6}

C = A & B

print(C)

Q55. What is dictionary ibn Python?

Ans- Dictionary in python is collection of key & value pairs

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

Ans-

Q57. How can we delare a dictionary in Python?

Ans- my\_dict = {

"key1":"value1",

"key2":"value2"

}

Q58. What will the output of the following?

var = {}

print(type(var))

Ans- Class - Dict

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

Ans - Data = {

    "Name": "Ganesh",

    "Age": 25,

    "language": "English"

}

Data["Role"] = "Employee"

print(Data)

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

Ans- Data = {

    "Name": "Ganesh",

    "Age": 25,

    "language": "English"

}

print(Data['Name'])

print(Data['Age'])

print(Data['language'])

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

Ans- Data1 = {

    "Name": "Ganesh",

    "Age": 25,

    "language": "English"

}

Data2 = {

    "Name": "Gaurav",

    "Age": 26,

    "language": "Hindi"

}

print(Data2['Name'])

print(Data2['Age'])

print(Data2['language'])

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

Ans- get() function returns value of specified keys

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

Ans- items() function is use to get all elements of dictionary in a list

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

Ans-

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

Ans- popitems() function use to remove last item in the dictionary.

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

Ans- Keys() function use to return all the keys in the dictionary.

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

Ans- values() function use to return all the values in the dictionary.

Q68. What are loops in Python?

Ans- Repeating something over and over again until some condition is met is called Looping.

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

Ans-1-While loop 2-For loop 3-Nested loop

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

Ans- For loop is used when we know the number of iterations and while loop is used when we don’t know the numbers of iterations

Q71. What is the use of continue statement?

Ans-It is used to terminates the loop and skip to the next code after loop

Q72. What is the use of break statement?

Ans- It is used to exit for loop or while loop

Q73. What is the use of pass statement?

Ans- it is used when we don’t want to execute any block of code

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

Ans-To generate sequence of numbers within given range

Q75. How can you loop over a dictionary?

Ans- By using for loop

Coding problems

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

Ans- num = int(input("enter number"))

fact = 1

if num < 0:

    print(" Factorial does not exist")

elif num == 0:

    print(" Factorial of 0 is 1")

else:

    for i in range(1,num+1):

        fact = fact \* i

    print("factorail is",fact)

Q77. Write a Python program to calculate the simple interest. Formula to calculate simple interest is SI = (PRT)/100

Ans - P = 10000

R = 5.5

T = 2

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

print(SI)

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

Ans - P = 10000

R = 5.5

T = 2

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

CI = A - P

print(CI)

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

Ans - num = int(input("Enter number"))

for i in range(2,num):

    if num % i == 0:

        print("not prime")

        break

else:

        print("prime number")

Q80. Write a Python program to check Armstrong Number.

Ans-num = int(input("Enter number : "))

  sum = 0

order=len(str(num))

temp = num

while temp > 0:

    digit = temp % 10

    sum += digit \*\*order

    temp = temp//10

if sum==num:

    print('It is an Armstrong number')

else:

    print('It is not an Armstrong number')

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

Ans- num = int(input("Enter number"))

first = 0

second = 1

for i in range(num):

    print(first)

    temp = first

    first = second

    second = temp + second

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

Ans- list1 = [1,2,4,7,8]

length = len(list1)

print(length)

temp = list1[0]

list1[0]=list1[length-1]

list1[length-1] = temp

print(list1)

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

Ans- def swap\_pos(lst,a,b):

lst[a], lst[b] = lst[b], lst[a]

return lst

lst\_val = [20, 13, 41, 11, 10, 29]

print("The values inside the list are: ",lst\_val)

a, b = 2, 5

print("The list with swapped elements is: ",swap\_pos(lst\_val,a-1,b-1))

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

Ans- list1 = [10, 20, 4, 45, 99]

print("Largest element is:", max(list1))

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

Ans - list1 = [10, 20, 30, 40, 50]

sum = 0

result = []

for num in list1:

    sum = sum + num

    result.append(sum)

print(result)

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

Ans - str1 = input("enter string")

reverse = str1[ : :-1]

if reverse == str1:

    print("palindrome")

else:

    print("not palindrome")

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

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

Ans- str1 = "This is big data course"

substr = "data"

s = str1.split()

if substr in s:

    print("Yes")

else:

    print("No")

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

Ans- Str1 = input("enter string")

k = int(input("enter K length"))

inputstr=[]

words = Str1.split()

for word in words:

    if len(word)>k:

        inputstr.append(word)

print(inputstr)

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

Q91. Write a Python program to merge two dictionary.

Ans- dict\_1 = {1: 'a', 2: 'b'}

dict\_2 = {2: 'c', 4: 'd'}

print(dict\_1 | dict\_2)

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}

Ans- tuples = [('Sachin', 10), ('MSD', 7), ('Kohli', 18), ('Rohit', 45)]

result=dict(tuples)

print(result)

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)]

Ans- list1 = [9, 5, 6]

res = [(val, pow(val, 3)) for val in list1]

print(res)

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)]

Ans- test\_tuple1 = (7, 2)

test\_tuple2 = (7, 8)

result =  [(x, y) for x in test\_tuple1 for y in test\_tuple2]

result = result +  [(x, y) for x in test\_tuple2 for y in test\_tuple1]

print(result)

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)]

Q96. Write a python program to print below pattern.

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

Ans- for i in range(5):

    for j in range(i+1):

        print("\*",end="")

    print()

Q97. Write a python program to print below pattern.

\*

\*\*

\*\*\*

\*\*\*\*

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Ans- n = 5

for i in range(n-1):

    for j in range(i,n):

       print(" ",end="")

    for j in range(i):

        print("\*",end="")

    for j in range(i+1):

        print("\*",end="")

    print()

Q98. Write a python program to print below pattern.

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

Ans - n = 5

for i in range(n-1):

    for j in range(i,n):

       print(" ",end="")

    for j in range(i):

        print("\*",end="")

    for j in range(i+1):

        print("\*",end="")

    print()

Q99. Write a python program to print below pattern.

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

Ans - n = 5

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

    for j in range(1,i+1):

        print(j,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

Ans- n = 5

p = 65

for i in range(n):

    for j in range(i+1):

        print(chr(p),end="")

    p+=1

    print()