Assignment Part-1
Note:- Q - Question
Ans - Answer
Ex Code:- Example Code
Exp:- Explanation
In:- Input
Out:-Output

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

Ans:- Python is not written in a machine-readable language. It is written in a human-readable form, a high-level programming language so the program can easily understand. Using an interpreter the high-level code is converted to machine-readeable code.

Q2. Why is Python called a dynamically typed language?

Ans:- We don't have to declare the type of a variable or manage the memory while assigning a value to a variable in Python.

Ex Code:-

```
a = 5
print(type(5))#Out:- <class 'int'>
```

Exp:- a is the Variable declared with an input value of 5 and the type of Variable is Integer. Python while declaring the variable identifies the type of datatype passed.

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

Ans:- Pros
* Python is easy to learn and read
* Python has a vast collection of libraries
* Python is a free, open-source
* Python is an interpreted language

Cons
* Python consumes a lot of memory space
* Python is not easy to test
* Python can have runtime errors
* Python is not so strong in mobile computing

Q4. In what all domains can we use Python?

Ans:- * Game Development
* Web Scraping
* Machine Learning, Deep Learning
* Data Analytics

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

Ans:- Varaible is a name given to a specific memory location.

Ex Code:-

```
a = 5
print(a)#Out:- 5
```

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

Ans:- Input function can be used to get the input from the user.

Ex Code:-

```
name = input('Please enter the name ')
print('Username:-',name)#Out:- Username:- Vikraman
```

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

Ans:- The default datatype of the input function is String.

Ex Code:-

```
roll_no = input('Please enter roll_no ')#Out:- 102, <class 'str'>
print(roll_no)
print(type(roll_no))
```

Exp:- In the above code, the number value is passed from the user. Due to the default type of input function, the roll_no data type is a string.

Q8. What is type casting?

Ans:- Changing from one datatype to another datatype.

Ex Code:-

```
roll_no   = int(input('Please enter roll_no'))#Out:-<class 'int'>
print(type(roll_no))
```

Exp:- Since roll_no received from the input function the default datatype is a string, we are typecasting the roll_no to int.

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

Ans:- Yes we can use the split function to split the single provided input.

Ex Code:-

```
x, y = input("Enter two values: ").split(',')
print("Number of boys:-", x)
print("Number of girls:-", y)
#In:-
Enter two values: 10,55
#Out:-
Number of boys:- 10
Number of girls:- 55
```

Exp:- Using Split Function and comma as separated the values can be split.

Q10. What are keywords?

Ans:- Python keywords are special reserved words that have specific meanings and purposes and can't be used for anything but those specific purposes.

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

Ans:- We cannot use a keyword as a variable name, function name, or any other identifier. For example “if” condition cannot be used as a declare variable.

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

Ans:- Indentation refers to the spaces at the beginning of a code line. Whereas in other programming languages the indentation in code is for readability only, the indentation in Python is very important. Python uses indentation to indicate a block of code

Q13. How can we throw some output in Python?

Ans:- Using the print function we can throw the output.

Ex Code:-

```
a = 5
b = 6
c = a + b
print('The Value of C',c)
#Out:-
The Value of C 11
```

Q14. What are operators in Python?

Ans:- Arithmetic operators, Comparison operators, Logical operators.

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

Ans:- '/' is the division operator. '//' is the floor division operator.

Ex Code:-

```
a =(5/2)
print('Division operator',a)
b =(5//2)
print('Floor operator',b)
#Out:-
Division operator 2.5
Floor operator 2
```

Q16. Write a code that gives the following as an output.”iNeuroniNeuroniNeuroniNeuron”

Ans:-

Ex Code:-

```
val = 'iNeuron'
val_4 = val * 4
print(val_4)
#Out:-
iNeuroniNeuroniNeuroniNeuron
```

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

Ans:-

Ex Code:-

```
val_inp = int(input('Please enter the input '))
if val_inp%2 == 0:
  print('Entered Number is Even')
else:
  print('Entered Number is Odd')

#In:-
Please enter the input 9
#Out:-
Entered Number is Odd
```

Q18. What are boolean operator?

Ans:- Boolean is a type of value that can be either True or False It's used to represent thethe truth value of an expression

Ex Code:-

```
print(15>10)

#Out:-
True
```

Exp:-Above the expression output is True since the value of 15 is greater than 10.

Q19. What will the output of the following be?

1 or 0 Ans:- 1
0 and 0 Ans:- 0
True and False and True Ans:- False
1 or 0 or 0 Ans:- 1

Q20. What are conditional statements in Python?

Ans:- Used to handle conditions in your program. These statements guide the program while making decisions based on the conditions encountered by the program.

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

Ans:- * If the condition following the keyword if evaluates as true, the block of code will execute.
* You can optionally add an else response that will execute if the condition is false.
* Multiple conditions can be checked by including one or more elif checks after your initial if statement. Just keep in mind that only one condition will execute.

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:-
Ex Code:-

```
age = int(input('Please enter your age: '))
if age >=18:
   print("I can vote")
else:
   print("I can't vote")
#In:-
Please enter your age: 15
#Out:-
I can't vote
```

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

Ans:-
Ex Code:-

```
num = [12, 75, 150, 180, 145, 525, 50]
sum = 0
for i in range(len(num)):
  if num[i]%2 == 0:
          sum = sum + num[i]
```

```
print("Sum of Even Numbers is", sum)
```

#Out:-

```
Sum of Even Numbers is 392
```

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

Ans:-

Ex Code:-

```
a = int(input('Enter the value of a: '))
b = int(input('Enter the value of b: '))
c = int(input('Enter the value of c: '))

if (a>b and a>c):
  print('Greatest Number is A: ',a)
elif (b>c and b>a):
  print(Greatest Number is B: ',b)
else:
  print('Greatest Number is C: ',c)
```

#In:-

```
Enter the value of a: 10
Enter the value of b: 15
Enter the value of c: 20
```

#Out:-

```
The Greatest Number is C:  20
```

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]
```

Ans:-

Ex Code:-

```
num       = [12, 75, 150, 180, 145, 525, 50]
list_sel  = []
for i in num:
    if i > 500:
      break
    elif i > 150:
       continue
    elif i % 5 == 0:
```

```
        list_sel.append(i)

print('List of numbers',*list_sel)

#Out:-
List of numbers 75, 150, 145
```

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

Ans:- String is a sequence of characters. Strings can be declared by enclosing characters inside a single quote or double quotes.

Ex Code:-

```
string1 = 'Hello World'
string2 = "Hello World"
print(type(string1))
print(type(string2))

#Out:-
<class 'str'>
<class 'str'>
```

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

Ans:-

Ex Code:-

```
string1 = 'Hello World'
print(string1[0])

#Out:-
H
```

Exp:-

Mentioning the index number of the string we can access the string.

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

```
string = "Big Data iNeuron"
desired_output = "iNeuron"
```

Ans:-

Ex Code:-

```
string = "Big Data iNeuron"
desired_output = string[9:16]
print('desired_output =',desired_output)
```

#Out:-
desired_output = iNeuron

Exp:-
Using Index slicing desired output can be got.

Q29. Write a code to get the desired output of the following?
string = "Big Data iNeuron"
desired_output = "norueNi"

Ans:-
Ex Code:-

```
string = "Big Data iNeuron"
desired_output = string[9:16]
desired_output = desired_output[::-1]
print('desired_output =',desired_output)
```

#Out:-
desired_output = norueNi

Q30. Reverse the string given in the above question.
string = "Big Data iNeuron"

Ans:-
Ex Code:-

```
string = "Big Data iNeuron"
rev_string =  string[::-1]
print('Reversed String =',rev_string)
```

#Out:-
Reversed String = norueNi ataD giB

Q31. How can you delete an entire string at once?

Ans:-
Ex Code:-

```
string = "Big Data iNeuron"
del string
print(string)
```

#Out:-
NameError: name 'string' is not defined

Exp:-
Del function can be used to delete the string.

Q32. What is escape sequence?

Ans:- An escape sequence is a sequence of characters that, when used inside a character or string, does not represent itself but is converted into another character or series of characters
Ex Code:-

```
txt = "Hello\nWorld!"
print(txt)
```

#Out:-

```
Hello
World!
```

Exp:-
Using the \n escape character we can print the string the next line.

Q33. How can you print the below string?

Ans:-
Ex Code:-

```
string = "iNeuron's Big Data Course"
print(string)
```

#Out:-

```
iNeuron's Big Data Course
```

Exp:-
If single quotes are used in the string then when declaring the string we can used double quotes instead, so that it will allow the single quotes used in the string.
Q34. What is a list in Python?

Ans:- Lists are used to store multiple items in a single variable. List items are ordered, changeable, and allow duplicate values it is heterogeneous in nature we can store string, numeric, boolean, objects, etc.

Q35. How can you create a list in Python?

Ans:-
Ex Code:-

```
empty_list = [ ]
print(type(empty_list))
```

#Out:-
<class 'list'>

Exp:-
We can declare the list using square brackets.

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

Ans:-
Ex Code:-

```
fruit_list = ['Apple', 'Mango', 'Banana']
print(fruit_list[1])
```

#Out:-
Mango

Exp:-
Using Indexing we can access the elements in the list.

Q37. Write a code to access the word "iNeuron" from the given list.
lst = [1,2,3,"Hi",[45,54, "iNeuron"], "Big Data"]

Ans:-
Ex Code:-

```
lst = [1,2,3,"Hi",[45,54, "iNeuron"], "Big Data"]
print(lst[4][2])
```

#Out:-
iNeuron

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

Ans:-
Ex Code:-

```
user_inp = list(map(int,input("\nEnter the values of the list: ").strip().split()))
print("The Length of the List",len(user_inp))
```

#In:-
Enter the values of the list : 45 66 77 88 99

#Out:-
The Length of the List 5

Q39. Add the word "Big" in the 3rd index of the given list.
lst = ["Welcome", "to", "Data", "course"]

Ans:-
Ex Code:-

```
lst = ["Welcome", "to", "Data", "course"]
lst.insert(2, "Big")
print(lst)
```

#Out:-

```
['Welcome', 'to', 'Big', 'Data', 'course']
```

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

Ans:- Tuples are used to store multiple items in a single variable. A tuple is a collection that is ordered and unchangeable. The primary difference between tuples and lists is that tuples are immutable as opposed to lists that are mutable.

Q41. How can you create a tuple in Python?

Ans:-
Ex Code:-

```
empty_tuple  = ()
print(type(empty_tuple ))
```

#Out:-

```
<class 'tuple'>
```

Exp:-
We can declare the tuple using round brackets.

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:-
Ex Code:-

```
a = ('india','Hello','World')
a[0]='Vikraman'
```

#Out:-

```
TypeError: 'tuple' object does not support item assignment
```

Exp:-
We are not able to add the name into the tuple because the tuple is immutable.

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

Ans:- We can't add elements to a tuple because of their immutable property

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

Ans:-
Ex Code:-

```
user_tuple = tuple(map(int,input("\nEnter the values of the tuple: ").strip().split()))
print("The Length of the tuple",len(user_tuple))

#In:-
Enter the values of the tuple: 85 99 77 46 81 22 34

#Out:-
The Length of the tuple 7
```

Q45. What are sets in Python?

Ans:- Sets are used to store multiple items in a single variable. Set items are unordered, unchangeable, and do not allow duplicate values.

Q46. How can you create a set?

Ans:-
Ex Code:-

```
set_1 = {1, 2, 3}
print(type(set_1 ))


#Out:-
<class 'set'>
```

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

Ans:-
Ex Code:-

```
set_1 = {"Big_Data", "Python", "SQL"}
set_1.add("iNeuron")
print(set_1)

#Out:-
{'Big_Data', 'iNeuron', 'SQL', 'Python'}
```

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

Ans:-
Ex Code:-

```
set_1 = {"Big_Data", "Python", "SQL"}
set_1.add("iNeuron", "Data Engineering")
print(set_1)
```

#Out:-

```
add() takes exactly one argument (2 given)
```

Exp:-
Add method takes one argument to be passed, we cannot passed multiply values using add function.

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

Ans:- We use add() method to add single value to a set. We use update() method to add sequence values to a set.

Q50. What is clear() in sets?

Ans:-
Ex Code:-

```
fruits_set = {"apple", "banana", "cherry"}
fruits_set.clear()
print(fruits_set)
```

#Out:-

```
set()
```

Exp:-
clear() method removes all elements in a set.

Q51. What is frozen set?

Ans:-
Ex Code:-

```
fruits = {"apple", "banana", "cherry"}
fro_fruits = frozenset(fruits)
print(type(fro_fruits))
```

#Out:-
<class 'frozenset'>

Exp:-
The frozenset() function returns an unchangeable frozenset object

Q52. How is frozen set different from set?

Ans:- Frozenset is similar to set in Python, except that frozensets are immutable, which implies that once generated, elements from the frozenset cannot be added or removed.

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

Ans:-
Ex Code:-

```
fruits_a = {"apple", "banana"}
fruits_b = {"apple","watermelon"}
result_fruit = fruits_a.union(fruits_b)
print("Union Result of fruits",result_fruit)
```

#Out:-
Union Result of fruits {'apple', 'banana', 'watermelon'}

Exp:-
Union returns a set that contains all items from both sets. If an item is present in more than one set, the result will contain only one appearance of this item.

Q54. What is intersection() in sets? Explain via code.
Ans:-
Ex Code:-

```
fruits_a = {"apple", "banana"}
fruits_b = {"apple","watermelon","watermelon"}
result_fruit = fruits_a.intersection(fruits_b)
print("Intersection Result of fruits",result_fruit)
```

#Out:-
Intersection Result of fruits {'apple'}

Exp:-
The intersection method returns a set that contains the similarity between two.

Q55. What is a dictionary in Python?

Ans:- Dictionaries are used to store data values in key: value pairs. Dictionary is a collection that is ordered*, changeable, and does not allow duplicates.

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

Ans:- Dictionary stores the key-value pair. When Compared to other data structures, the dictionary is easier to read.

Q57. How can we delare a dictionary in Python?

Ans:-
Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
print(type(stud_dict))
```

#Out:-

```
<class 'dict'>
```

Q58. What will the output of the following?

```
var = {}
print(type(var))
```

Ans:- Class Dictonary

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

Ans:-

Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
stud_dict["address"] = "No: 44, RV Garden, Chennai-600028"
print(stud_dict)
```

#Out:-

```
{'name': 'Vikraman', 'class': '12 B', 'house': 'Narmada', 'address': 'No: 44, RV Garden, Chennai-600028'}
```

Exp:-
By adding a new key to the dictionary we and elements.

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

Ans:-

Ex Code:-

```
print(stud_dict.values())
print(stud_dict["name"])
```

#Out:-

```
dict_values(['Vikraman', '12 B', 'Narmada', 'No: 44, RV Garden, Chennai-600028'])
Vikraman
```

Exp:-

We use values to print all the values in the dictionary. If we want to access the individual element we can access using the key.

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

Ans:-

Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B",
"house":"Narmada","language":{"first_lang":"tamil","Second_lang":"English"}}
stud_dict["name"]
print('Name of the Student',stud_dict["name"],"first language",stud_dict['language']['first_lang'])
```

#Out:-

Name of the Student Vikraman first language tamil

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

Ans:-

Ex Code:-

```
name = stud_dict.get("name")
print(name)
```

#Out:-

Vikraman

Exp:-

Get method returns the value of the item with the specified key.

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

Ans:-

Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
std_list_bk =  stud_dict.items()
```

```
stud_dict["class"]="12 A"
print(std_list_bk)

#Out:-
dict_items([('name', 'Vikraman'), ('class', '12 A'), ('house', 'Narmada')])
```

Exp:-
items() method returns a view object. The view object will reflect any changes done to the dictionary

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

Ans:-

Ex Code:-

```
fruits = ['apple', 'banana', 'cherry']
fruits.pop(1)
print(fruits)

#Out:-
['apple', 'cherry']
```

Exp:-
pop() method removes the element at the specified position.

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

Ans:-

Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
stud_dict.popitem()
print(stud_dict)
#Out:-
{'name': 'Vikraman', 'class': '12 B'}
```

Exp:-
popitem() method removes the last inserted key-value pair.

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

Ans:-
Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
```

```
print(stud_dict.keys())

#Out:-
dict_keys(['name', 'class', 'house'])
```

Exp:-
keys() method contains the keys of the dictionary, as a list.

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

Ans:-
Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
print(stud_dict.values())

#Out:-
dict_values(['Vikraman', '12 B', 'Narmada'])
```

Exp:-
values() method contains the values of the dictionary, as a list.

Q68. What are loops in Python?

Ans:- Loop in Python is used to iterate over a sequence, which could be a list, tuple, array, or string.

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

Ans:- For Loop, While Loop, Nested loops.

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

Ans:- For loop is used when the number of iterations is already known. While loop is used when the number of iterations is already Unknown.

Q71. What is the use of continue statement?

Ans:- The continue keyword is used to end the current iteration in a for loop (or a while loop), and continues to the next iteration.

Q72. What is the use of break statement?

Ans:- The Break statement terminates the loop containing it.

Q73. What is the use of pass statement?

Ans:- Pass statement is used as a placeholder for future code. When the pass statement is executed, nothing happens, but you avoid getting an error when empty code is not allowed. Empty code is not allowed in loops, function definitions, class definitions, or in if statements.

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

Ans:- Range function returns a sequence of numbers, starting from 0 by default, and increments by 1 (by default), and stops before a specified number.
Range Syntax:-
range*(start, stop, step*)

Q75. How can you loop over a dictionary?

Ans:-
Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
for key in stud_dict:
  print(key)

#Out:-
name
class
House
```

Exp:-
With the help of the key function we can print all the key's on the dictionary.

Ex Code:-

```
stud_dict = { "name":"Vikraman", "class":"12 B", "house":"Narmada"}
for values in stud_dict.values():
  print(values)

#Out:-
Vikraman
12 B
Narmada
```

Exp:-
With the help of the values function we can print all the key's on the dictionary.

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

Ans:-

Ex Code:-

```
num = int(input('Please enter the number '))
fact = 1
if num<0:
  print('Factorial does not exist for negative numbers')
elif num==0:
  print('Factorial for 0 is 1')
else:
  for i in range(1,(num)+1):
    fact = fact*i
  print('Factorial for',num,'is',fact )
```

#In:-

Please enter the number 7

#Out:-

Factorial for 7 is 5040

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

Ans:-

Ex Code:-

```
p = int(input('Please enter the Principle Amount '))
t = int(input('Please enter the Time Period '))
r = float(input('Please enter the Rate of Interest '))
si = (p*r*t)/100
print('Simple Interest is',si)
```

#In:-

Please enter the Principle Amount 4000

Please enter the Time Period 2

Please enter the Rate of Interest 4

#Out:-

Simple Interest is 320.0

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

Ans:-

Ex Code:-

```
p = int(input('Please enter the Principle Amount '))
t = int(input('Please enter the Time Period '))
r = float(input('Please enter the Rate of Interest '))
cd = p*(1+ (r/100))**t
print('Compound Interest is',cd)
```

#In:-

Please enter the Principle Amount 1200
Please enter the Time Period 2
Please enter the Rate of Interest 5.4

#Out:-

Compound Interest is 1333.0992

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

Ans:-

Ex Code:-

```
num = int(input('Please enter a number '))

if num >1:
  for i in range(2,num):
    if num%i == 0:
      print(num,'is not a prime number')
      break
  else:
    print(num,'is a prime number')
else:
  print(num,'is not a prime number')
```

#In:-

Please enter a number 7

#Out:-

7 is a prime number

Q80. Write a Python program to check Armstrong Number.

Ans:-

Ex Code:-

```
num = int(input('Please enter a number '))
order = len(str(num))
sum = 0
temp = num
while temp > 0:
   digit = temp % 10
   sum += digit ** order
   temp //= 10

# display the result
if num == sum:
   print(num,"is an Armstrong number")
else:
   print(num,"is not an Armstrong number")
```

#In:-

Please enter a number 111

#Out:-

111 is not an Armstrong number

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

Ans:-

Ex Code:-

```
def Fibonacci_Series(n):
    if n < 0:
        print("Please enter positive numbers")
    elif n == 0:
        return (0)
    elif n == 1:
        return (1)
    else:
        return (Fibonacci_Series(n - 1) + Fibonacci_Series(n - 2))
```

#In:-

```
Fibonacci_Series(12)
```

#Out:-

144

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

Ans:-

Ex Code:-

```
num_list = [1, 15, 20, 49, 100, 7]
num_len  = len(num_list)
temp = num_list[0]
num_list[0] = num_list[num_len-1]
num_list[num_len-1] = temp

print(num_list)
```

#Out:-

[7, 15, 20, 49, 100, 1]

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

Ans:-

Ex Code:-

```
num_list = [1, 15, 20, 49, 100, 7]
num_list[0], num_list[1] = num_list[1], num_list[0]
print(num_list)
```

#Out:-

[15, 1, 20, 49, 100, 7]

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

Ans:-

Ex Code:-

```
num_list = [1, 15, 20, 49, 100, 7]
print('Largest Number',max(num_list))
```

#Out:-

Largest Number 100

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

Ans:-

Ex Code:-

```
num_list = [1, 15, 20, 49, 100, 7]
sum = 0
for i in num_list:
  sum = sum + i
print('Cumulative sum of the List',sum)
```

#Out:-

Cumulative sum of the List 192

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

Ans:-

Ex Code:-

```
inp_str = input('Please enter the string ')
rev_str = inp_str[::-1]
if inp_str == rev_str:
  print('Provided String',inp_str,'is a Palindrome')
else:
  print('Provided String',inp_str,'is not a Palindrome')
```

#In:-

Please enter the string mom

#Out:-

Provided String mom is a Palindrome

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

Ans:-

Ex Code:-

```
inp_str = input('Please enter the string ')
rem_pos = int(input('Please enter position of the string that needs to be removed '))
len_str = len(inp_str)
res_string = inp_str[0:rem_pos]+inp_str[rem_pos+1:len_str]
```

```
print('Removed Element Output',res_string)
```

#In:-

Please enter the string Vikraman

Please enter position of the string that needs to be removed 2

#Out:-

Removed Element Output Viraman

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

Ans:-

Ex Code:-

```
inp_str = input('Please enter the main string ')
sub_str = input('Please enter the Substring ')
if sub_str in inp_str:
  print('Provide Substring is present in the',sub_str,'main sting')
else:
   print('Provide Substring is not present in the',sub_str,'main sting')
```

#In:-

Please enter the main string Big Data Course iNeuron

Please enter the Substring iNeuron

#Out:-

Provide Substring is present in the iNeuron main sting

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

Ans:-

Ex Code:-

```
inp_str = input('Please enter the main string ')
len_str = int(input('Enter the value of k '))
text = inp_str.split(" ")
grt_lst = []
for i in text:
  if len(i)>len_str:
    grt_lst.append(i)

if len(grt_lst)>1:
  print('Words Greater than length of k,',*grt_lst)
```

```
else:
  print('No Workds Greater than length of k')

#In:-
Please enter the main string Big Data Course iNeuron
Enter the value of k 4

#Out:-
Words Greater than length of k, Course iNeuron
```

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

Ans:-

Ex Code:-

```
dict1 = {'A' : [1, 3, 5, 4],
         'B' : [4, 6, 8, 10],
         'C' : [6, 12, 4 ,8],
         'D' : [5, 7, 2]}

res = list(sorted({ele for val in dict1.values() for ele in val}))
print("The unique values list is : " , res)


#Out:-
The unique values list is :  [1, 2, 3, 4, 5, 6, 7, 8, 10, 12]
```

Q91. Write a Python program to merge two dictionaries.

Ans:-

Ex Code:-

```
dict_1 = {1: 'a', 2: 'b'}
dict_2 = {2: 'c', 4: 'd'}
dict_3 = {**dict_1, **dict_2}
print(dict_3)

#Out:-
{1: 'a', 2: 'c', 4: 'd'}
```

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

Ans:-

Ex Code:-

```
def Convert(tup, di):
    for a, b in tup:
        di.setdefault(a, []).append(b)
    return di

tups = [('Sachin', 10), ('MSD', 7), ('Kohli', 18), ('Rohit', 45)]
dictionary = {}
print (Convert(tups, dictionary))
```

#Out:-

```
{'Sachin': [10], 'MSD': [7], 'Kohli': [18], 'Rohit': [45]}
```

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

Ans:-

Ex Code:-

```
list1 = [9, 5, 6]
res = [(val, val**3) for val in list1]
print(res)
```

#Out:-

```
[(9, 729), (5, 125), (6, 216)]
```

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

Ans:-

Ex Code:-

```
from itertools import chain, product
tuple1 = (7, 2)
tuple2 = (7, 8)
print("The tuple 1 : " + str(tuple1))
print("The tuple 2 : " + str(tuple2))
result = list(chain(product(tuple1, tuple2), product(tuple2, tuple1)))
print(result)
```

#Out:-

```
[(7, 7), (7, 8), (2, 7), (2, 8), (7, 7), (7, 2), (8, 7), (8, 2)]
```

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

Ans:-

Ex Code:-

```
def Sort_Tuple(tup):
    lst = len(tup)
    for i in range(0, lst):

        for j in range(0, lst-i-1):
            if (tup[j][1] > tup[j + 1][1]):
                temp = tup[j]
                tup[j]= tup[j + 1]
                tup[j + 1]= temp
    return tup

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

print(Sort_Tuple(tup))
```

#Out:-

```
[('Geeks', 8), ('for', 24), ('Geeks', 30)]
```

Q96. Write a python program to print below pattern.

```
*
* *
* * *
* * * *
* * * * *
```

Ans:-

Ex Code:-

```
n = int(input("Enter the number of rows "))
# outer loop to handle number of rows
for i in range(0, n):
  for j in range(0, i + 1):
        print("* ", end="")
  print()
```

#In:-

```
5
```

#Out:-

```
*
* *
* * *
* * * *
* * * * *
```

Q97. Write a python program to print below pattern.

```
    *
   **
  ***
 ****
*****
```

Ans:-

Ex Code:-

```
rows = int(input("Enter the number of rows:"))
k = 2 * rows - 2
for i in range(0, rows):
    for j in range(0, k):
        print(end=" ")
    k = k - 2
    for j in range(0, i + 1):
        print("* ", end="")
    print("")
```

#Out:-

```
  *
    * *
   * * *
  * * * *
* * * * *
```

Q98. Write a python program to print the below pattern.

```
    *
   * *
  * * *
 * * * *
* * * * *
```

Ans:-

Ex Code:-

```
def triangle(n):
  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)

#Out:-
    *
   * *
  * * *
 * * * *
* * * * *
```

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:-

Ex Code:-

```
def num(n):
    num = 1
    for i in range(0, n):
        num = 1
        for j in range(0, i+1):
            print(num, end=" ")
            num = num + 1
        print("\r")

n = 5
num(n)
```

#Out:-

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

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:-

Ex Code:-

```
def alphapat(n):
    num = 65
    for i in range(0, n):
        for j in range(0, i+1):
            ch = chr(num)
            print(ch, end=" ")

        num = num + 1
        print("\r")

n = 5
alphapat(n)
```

#Out:-

A

B B

C C C

D D D D

E E E E E