

Unit -1 : Computational Thinking and Programming-2

Topic: Revision of python topics covered in class XI

KEY POINTS:

Introduction to Python

- **Python** is an open source, object oriented HLL developed by Guido van Rossum in 1991
- **Tokens**- smallest individual unit of a python program.
- **Keyword**-Reserved word that can't be used as an identifier
- **Identifiers**-Names given to any variable, constant, function or module etc.
-

Classify the following into valid and invalid identifier

- (i) Mybook (ii) Break (iii) _DK (iv) My_book (v) PaidIntrest (vi) s-num
(vii)percent (viii) 123 (ix) dit km (x) class

**Ans:(i)valid(ii)Invalid (iii)Valid (iv)valid (v)valid (vi)invalid ('-' is not allowed
(vii)valid(viii)invalid(First Character must be alphabet(ix)invalid (no space is
allowed) (x)invalid (class is a keyword)**

- **Literals**- A fixed numeric or non-numeric value.
- **Variable**- A variable is like a container that stores values to be used in program.
- **String**- The text enclosed in quotes.
- **Comment**- Comments are non-executable statement begin with # sign.
- **Docstring**-Comments enclosed in triple quotes (single or double).
- **Operator** – performs some action on data
 - Arithmetic(+,-,*/,%,**,//)
 - Relational/comparison (<,>, <=,>=, ==, !=).
 - Assignment-(=,/=,+=,-=,*=,%=,**=,/=)
 - Logical – and, or
 - Membership – in, not in

- **Precedence of operators:**

() Parentheses	Highest
** Exponentiation	
$\sim x$ Bitwise nor	
$+x, -x$ Positive, Negative (Unary +, -)	
$*(\text{multiply}), / (\text{divide}), //(\text{floor division}), \%(\text{modulus})$	
$+(\text{add}), -(\text{subtract})$	
$\&$ Bitwise and	
$^$ Bitwise XOR	
$ $ Bitwise OR	
$<(\text{less than}), \leq(\text{less than or equal}), >(\text{greater than}), \geq(\text{greater than or equal to}), ==(\text{equal}), !=(\text{not equal})$	
is , is not	
not x Boolean NOT	
and Boolean AND	
or Boolean OR	Low

Data type:

There are following basic types of variable in as explained in last chapter:

Type	Description
bool	Stores either value True or False.
int	Stores whole number.
float	Stores numbers with fractional part.
Complex	Stores a number having real and imaginary part ($a+bi$)
String	Stores text enclosed in single or double quote
List	Stores list of comma separated values of any data type between square [] brackets.(mutable)
Tuple	Stores list of comma separated values of any data type between parentheses () (immutable)
Dictionary	Unordered set of comma-separated key:value pairs , within braces {}

All questions are of 1 mark.

Q.No.	Question
1.	Which of the following is a valid identifier: i. 9type ii. _type iii. Same-type iv. True
2.	Which of the following is a relational operator: i. > ii. // iii. or iv. **
3.	Which of the following is a logical operator: i. + ii. /= iii. and iv. in
4.	Identify the membership operator from the following: i. in ii. not in iii. both i & ii iv. Only i
5.	Which one is a arithmetic operator: i. not ii. ** iii. both i & ii iv. Only ii
6.	What will be the correct output of the statement : >>>4//3.0 i. 1 ii. 1.0 iii. 1.3333 iv. None of the above
7.	What will be the correct output of the statement : >>> 4+2**2*10 i. 18 ii. 80 iii. 44 iv. None of the above
8.	Give the output of the following code: >>> a,b=4,2 >>> a+b**2*10 i. 44 ii. 48 iii. 40 iv. 88
9.	Give the output of the following code: >>> a,b = 4,2.5 >>> a-b//2**2 i. 4.0 ii. 4 iii. 0 iv. None of the above
10.	Give the output of the following code: >>>a,b,c=1,2,3 >>> a/b**c+a-c*a i. -2 ii. -2.0 iii. 2.0 iv. None of the above
11.	If a=1,b=2 and c= 3 then which statement will give the output as : 2.0 from the following: i. >>>a%b%c+1 ii. >>>a%b%c+1.0 iii. >>>a%b%c iv. a%b%c-1
12.	Which statement will give the output as : True from the following : i. >>>not -5 ii. >>>not 5 iii. >>>not 0 iv. >>>not(5-1)
13.	Give the output of the following code: >>>7*(8/(5//2)) i. 28 ii. 28.0 iii. 20 iv. 60
14.	Give the output of the following code: >>>import math >>> math.ceil(1.03)+math.floor(1.03) i. 3 ii. -3.0 iii. 3.0 iv. None of the above
15.	What will be the output of the following code: >>>import math >>>math.fabs(-5.03) i. 5.0 ii. 5.03 iii. -5.03 iv. None of the above
16.	Single line comments in python begin with..... symbol. i. # ii. " iii. % iv.
17.	Which of the following are the fundamental building block of a python program. i. Identifier ii. Constant iii. Punctuators iv. Tokens
18.	The input() function always returns a value oftype. i. Integer ii. float iii. string iv. Complex
19. function is used to determine the data type of a variable. i. type() ii. id() iii. print() iv. str()
20.	The smallest individual unit in a program is known as a..... i. Token ii. keyword iii. punctuator iv. identifier

FLOW OF EXECUTION

#Decision making statements in python

Statement	Description
if statement	An if statement consists of a boolean expression followed by one or more statements.
if...else statement	An if statement can be followed by an optional else statement, which executes when the boolean expression is false.
if...elif...else	If the first boolean expression is false, the next is checked and so on. If one of the condition is true , the corresponding statement(s) executes, and the statement ends.
nested if...else statements	It allows to check for multiple test expression and execute different codes for more than two conditions.

#Iteration or Looping construct statements in python

Loop	Description
<pre>for loop: for<ctrl_var>in<sequence>: <statement in loop body> else: <statement></pre>	It is used to iterate/repeat itself over a range of values or sequence one by one.
<pre>while loop: while<test_exp>: body of while else: body of else</pre>	The while loop repeatedly executes the set of statement till the defined condition is true.

21. Which of the following is not a decision making statement
 i. if..else statement ii. for statement iii. if-elif statement iv. if statement

22.loop is the best choice when the number of iterations are known.
 i. while ii. do-while iii. for iv. None of these

23. How many times will the following code be executed.

```
a=5
while a>0:
    print(a)
print("Bye")
```

- i. 5 times ii. Once iii. Infinite iv. None of these

24. What abandons the current iteration of the loop
 i. continue ii. stop iii. infinite iv. Break

25. Find the output of the following python program

```
for i in range(1,15,4):
    print(i, end=',')
```

- i. 1,20,3 ii. 2,3,4 iii. 1,5,10,14 iv. 1,5,9,13

26.loop is the best when the number of iterations are not known.
 i. while ii. do-while iii. for iv. None of these

27. In the nested looploop must be terminated before the outer loop.
 i. Outer ii. enclosing iii. inner iv. None of these

28.statement is an empty statement in python.
 i. pass ii. break iii. continue iv. if

29. How many times will the following code be executed

```
for i in range(1,15,5):
    print(i,end=',')
```

- i. 3 ii. 4 iii. 1 iv. infinite

30. Symbol used to end the if statement:
 i. Semicolon(;) ii. Hyphen(-) iii. Underscore(_) iv. colon(:)

String: Text enclosed inside the single or double quotes referred as String.

String Operations: String can be manipulated using operators like concatenation (+), repetition (*) and membership operator like in and not in.

Operation	Description
Concatenation	Str1 + Str2
Repetition	Str * x
Membership	in , not in
Comparison	str1 > str2
Slicing	String[range]

String Methods and Built-in functions:

Function	Description
len()	Returns the length of the string.
capitalize()	Converts the first letter of the string in uppercase
split()	Breaks up a string at the specified separator and returns a list of substrings.
replace()	It replaces all the occurrences of the old string with the new string.
find()	It is used to search the first occurrence of the substring in the given string.
index()	It also searches the first occurrence and returns the lowest index of the substring.
isalpha()	It checks for alphabets in an inputted string and returns True if string contains only letters.
isalnum()	It returns True if all the characters are alphanumeric.
isdigit()	It returns True if the string contains only digits.
title()	It returns the string with first letter of every word in the string in uppercase and rest in lowercase.
count()	It returns number of times substring str occurs in the given string.
lower()	It converts the string into lowercase
islower()	It returns True if all the letters in the string are in lowercase.
upper()	It converts the string into uppercase
isupper()	It returns True if all the letters in the string are in uppercase.
lstrip()	It returns the string after removing the space from the left of the string
rstrip()	It returns the string after removing the space from the right of the string
strip()	It returns the string after removing the space from both sides of the string
isspace()	It returns True if the string contains only whitespace characters, otherwise returns False.
istitle()	It returns True if the string is properly title-cased.
swapcase()	It converts uppercase letter to lowercase and vice versa of the given string.
ord()	It returns the ASCII/Unicode of the character.
chr()	It returns the character represented by the imputed Unicode /ASCII number

31. Which of the following is not a python legal string operation.
i. ‘abc’+‘aba’ ii. ‘abc’*3 iii. ‘abc’+3 iv. ‘abc’.lower()
32. Which of the following is not a valid string operation.
i. Slicing ii. concatenation iii. Repetition iv. floor
33. Which of the following is a mutable type.
i. string ii. tuple iii. int iv. list
34. What will be the output of the following code
`str1="I love Python"
strlen=len(str1)+5
print(strlen)`
i. 18 ii. 19 iii. 13 iv. 15
35. Which method removes all the leading whitespaces from the left of the string.
i. split() ii. remove() iii. lstrip() iv rstrip()
36. It returns True if the string contains only whitespace characters, otherwise returns False. i) isspace() ii. strip() iii. islower() iv. isupper()
37. It converts uppercase letter to lowercase and vice versa of the given string.
i. lstrip() ii. swapcase() iii. istitle() iv. count()
38. What will be the output of the following code.
`Str='Hello World! Hello Hello'
Str.count('Hello',12,25)`
i. 2 ii. 3 iii. 4 iv. 5
39. What will be the output of the following code.
`Str="123456"
print(Str.isdigit())`
ii. True ii. False iii. None iv. Error
40. What will be the output of the following code.
`Str="python 38"
print(Str.isalnum())`
iii. True ii. False iii. None iv. Error
41. What will be the output of the following code.
`Str="pyThOn"
print(Str.swapcase())`
i. PYtHoN ii. pyThon iii. python iv. PYTHON
42. What will be the output of the following code.
`Str="Computers"
print(Str.rstrip("rs"))`
i. Computer ii. Computers iii. Compute iv. compute
43. What will be the output of the following code.
`Str="This is Meera\ pen"
print(Str.isdigit())`
i. 21 ii. 20 iii. 18 iv. 19
44. How many times is the word ‘Python’ printed in the following statement.
`s = "I love Python"
for ch in s[3:8]:
 print('Python')`
i. 11 times ii. 8 times iii. 3 times iv. 5 times

45. Which of the following is the correct syntax of string slicing:
- i. str_name[start:end] iii. str_name[start:step]
 - ii. str_name[step:end] iv. str_name[step:start]
46. What will be the output of the following code?
- ```
A="Virtual Reality"
print(A.replace('Virtual','Augmented'))
```
- i. Virtual Augmented    iii. Reality Augmented
  - ii. Augmented Virtual    iv. Augmented Reality
47. What will be the output of the following code?
- ```
print("ComputerScience".split("er",2))
```
- i. ["Computer","Science"] iii. ["Comput","Science"]
 - ii. ["Comput","erScience"] iv. ["Comput","er","Science"]
48. Following set of commands are executed in shell, what will be the output?
- ```
>>>str="hello"
>>>str[:2]
i. he ii. lo iii. olleh iv. hello
```
49. .....function will always return tuple of 3 elements.
- i. index()    ii. split()    iii. partition()    iv. strip()
50. What is the correct python code to display the last four characters of “Digital India”
- i. str[-4:]    ii. str[4:]    iii. str[\*str]    iv. str[/4:]

**LIST: A list is a collection of comma-separated values (items) of same or different type within square brackets. List types can be of three types:**

1. Empty list    2. Long List    3. Nested List

2.

### **Built-in Function (Manipulating Lists)**

| <b>Function</b> | <b>Description</b>                                                                               |
|-----------------|--------------------------------------------------------------------------------------------------|
| append()        | It adds a single item to the end of the list.                                                    |
| extend()        | It adds one list at the end of another list                                                      |
| insert()        | It adds an element at a specified index.                                                         |
| reverse()       | It reverses the order of the elements in a list.                                                 |
| index()         | It returns the index of first matched item from the list.                                        |
| len()           | Returns the length of the list i.e. number of elements in a list                                 |
| sort()          | This function sorts the items of the list.                                                       |
| clear()         | It removes all the elements from the list.                                                       |
| count()         | It counts how many times an element has occurred in a list and returns it.                       |
| pop()           | It removes the element from the end of the list or from the specified index and also returns it. |

|               |                                                                                  |
|---------------|----------------------------------------------------------------------------------|
| del Statement | It removes the specified element from the list                                   |
| remove()      | It is used when we know the element to be deleted, not the index of the element. |
| max()         | Returns the element with the maximum value from the list.                        |
| min()         | Returns the element with the minimum value from the list.                        |

51. Given the list L=[11,22,33,44,55], write the output of print(L[: :-1]).  
 i. [1,2,3,4,5] ii. [22,33,44,55] iii. [55,44,33,22,11] iv. Error in code
52. Which of the following can add an element at any index in the list?  
 i. insert() ii. append() iii. extend() iv. all of these
53. Which of the following function will return a list containing all the words of the given string?  
 i . split() ii. index() iii. count() iv. list()
54. Which of the following statements are True.  
 a. [1,2,3,4]>[4,5,6]  
 b. [1,2,3,4]<[1,5,2,3]  
 c. [1,2,3,4]>[1,2,0,3]  
 d. [1,2,3,4]<[1,2,3,2]  
 i. a,b,d ii. a,c,d iii. a,b,c iv. Only d
55. If l1=[20,30] l2=[20,30] l3=['20','30'] l4=[20.0,30.0] then which of the following statements will not return 'False':  
 a. >>>l1==l2 b. >>>l4>l1 c. >>>l1>l2 d. >>>l2==l2  
 i. b, c ii. a,b,c iii. a,c,d iv. a,d
56. >>>l1=[10,20,30,40,50]  
 >>>l2=l1[1:4]  
 What will be the elements of list l2:  
 i. [10,30,50] ii. [20,30,40,50] iii. [10,20,30] iv. [20,30,40]
57. >>>l=['red','blue']  
 >>>l = l + 'yellow'  
 What will be the elements of list l:  
 i. ['red','blue','yellow'] ii. ['red','yellow'] iii. ['red','blue','yellow'] iv. Error
58. What will be the output of the following code:  
 >>>l=[1,2,3,4]  
 >>>m=[5,6,7,8]  
 >>>n=m+1  
 >>>print(n)  
 i. [1,2,3,5,6,7,8] ii. [1,2,3,4,5,6,7,8] iii. [1,2,3,4][5,6,7,8] iv. Error
59. What will be the output of the following code:  
 >>>l=[1,2,3,4]  
 >>>m=l\*2  
 >>>n=m\*2  
 >>>print(n)
- i [1,2,3,4,1,2,3,4,1,2,3,4] ii. [1,2,3,4,1,2,3,4,1,2,3,4] iii. [1,2,3,4][4,5,6,7]  
 iv. [1,2,3,4]
60. Match the columns: if  
 >>>l=list('computer')

Column A

Column B

1. L[1:4]      a. [‘t’, ‘e’, ‘r’]  
 2. L[3:]      b. [‘o’, ‘m’, ‘p’]  
 3. L[-3:]      c. [‘c’, ‘o’, ‘m’, ‘p’, ‘u’, ‘t’]  
 4. L[:-2]      d. [‘p’, ‘u’, ‘t’, ‘e’, ‘r’]  
 i. 1-b,2-d,3-a,4-c    iii. 1-c,2-b,3-a,4-d  
 ii. 1-b,2-d,3-c,4-a    iv. 1-d,2-a,3-c,4-b
61. If a list is created as  
`>>>l=[1,2,3,’a’,[‘apple’,’green’],5,6,7,[‘red’,’orange’]]` then what will be the output of the following statements:  
`>>>l[4][1]`  
 i. ‘apple’    iii. ‘green’  
 ii. ‘red’    iv. ‘orange’
62. `>>>l[8][0][2]`  
 i. ‘d’    iii. ‘e’  
 ii. ‘r’    iv. ‘o’
63. `>>>l[-1]`  
 i. [‘apple’,’green’]    iii. [‘red’,’orange’]  
 ii. [‘red’]    iv. [‘orange’]
64. `>>>len(l)`  
 i. 10    iii. 9  
 ii. 8    iv. 11
65. What will be the output of the following code:  
`>>>l1=[1,2,3]`  
`>>>l1.append([5,6])`  
`>>>l1`  
 i. [1,2,3,5,6]    ii. [1,2,3,[5,6]]    iii. [[5,6]]    iv. [1,2,3,[5,6]]
66. What will be the output of the following code:  
`>>>l1=[1,2,3]`  
`>>>l2=[5,6]`  
`>>>l1.extend(l2)`  
`>>>l1`  
 ii. [5,6,1,2,3]    ii. [1,2,3,5,6]    iii. [1,3,5]    iv. [1,2,3,6]
67. What will be the output of the following code:  
`>>>l1=[1,2,3]`  
`>>>l1.insert(2,25)`  
`>>>l1`  
 iii. [1,2,3,25]    ii. [1,25,2,3]    iii. [1,2,25,3]    iv. [25,1,2,3,6]
68. `>>>l1=[10,20,30,40,50,60,10,20,10]`  
`>>>l1.count(‘10’)`  
 i. 3    ii. 0    iii. 2    iv. 9
69. Which operators can be used with list?  
 i. in    ii. not in    iii. both (i)&(ii)    iv. Arithmetic operator only
70. Which of the following function will return the first occurrence of the specified element in a list.  
 i. sort()    ii. value()    iii. index()    iv. sorted()

**Tuples and Dictionary:** Tuple is a data structure in python, A tuple consists of multiple values in a single variable separated by commas. Tuples are enclosed within parentheses ( ). Tuple is an immutable data type.

Common Tuple Operations:

| <b>Operation</b> | <b>Description</b> |
|------------------|--------------------|
| Concatenation    | Tuple1 + Tuple2    |
| Repetition       | Tuple * x          |
| Index            | Tuple.index(ele)   |
| Count            | Tuple.count(ele)   |
| Slicing          | Tuple[range]       |
| Membership       | in and not in      |

### **Tuple Functions:**

| <b>Function</b> | <b>Description</b>                                                           |
|-----------------|------------------------------------------------------------------------------|
| del statement   | It is used to delete the tuple.                                              |
| index( )        | It returns the index of first matched item from the tuple.                   |
| len( )          | Returns the length of the tuple i.e. number of elements in a tuple           |
| count( )        | It counts how many times an element has occurred in a tuple and returns it.  |
| any( )          | It returns True if a tuple is having at least one item otherwise False.      |
| sorted( )       | It is used to sort the elements of a tuple. It returns a list after sorting. |
| sum( )          | It returns sum of the elements of the tuple.                                 |
| max( )          | Returns the element with the maximum value from the tuple.                   |
| min( )          | Returns the element with the minimum value from the tuple.                   |

**Dictionary:** Python Dictionaries are a collection of some key-value pairs .Dictionaries are **mutable** unordered collections with elements in the form of a key:value pairs that associate keys to values. Dictionaries are enclosed within braces {}

| <b>Function</b> | <b>Description</b>                                                               |
|-----------------|----------------------------------------------------------------------------------|
| items( )        | It returns the content of dictionary as a list of tuples having key-value pairs. |
| keys( )         | It returns a list of the key values in a dictionary                              |

|             |                                                                                      |
|-------------|--------------------------------------------------------------------------------------|
| values( )   | It returns a list of values from key-value pairs in a dictionary                     |
| get( )      | It returns the value for the given key ,if key is not available then it returns None |
| copy( )     | It creates the copy of the dictionary.                                               |
| len( )      | Returns the length of the Dictionary i.e. number of key:value pairs in a Dictionary  |
| fromkeys( ) | It is used to create dictionary from a collection of keys(tuple/list)                |
| clear( )    | It removes all the elements from the Dictionary.                                     |
| sorted( )   | It sorts the elements of a dictionary by its key or values.                          |
| popitem( )  | It removes the last item from dictionary and also returns the deleted item.          |
| max( )      | Returns the key having maximum value in the Dictionary.                              |
| min( )      | Returns the key having minimum value in the Dictionary.                              |

71. Which of the statement(s) is/are correct.
- Python dictionary is an ordered collection of items.
  - Python dictionary is a mapping of unique keys to values
  - Dictionary is mutable.
  - All of these.
72. ....function is used to convert a sequence data type into tuple.
- List()
  - tuple()
  - TUPLE
  - tup()
73. It `tup=(20,30,40,50)`, which of the following is incorrect
- `print(tup[3])`
  - `tup[2]=55`
  - `print(max(tup))`
  - `print(len(tup))`
74. Consider two tuples given below:
- ```
>>>tup1=(1,2,4,3)
>>>tup2=(1,2,3,4)
```
- What will the following statement print(`tup1<tup2`)
- True
 - False
 - Error
 - None of these
75. Which function returns the number of elements in the tuple
- `len()`
 - `max()`
 - `min()`
 - `count()`

76. Which function is used to return a value for the given key.
i. len() ii. get() iii. keys() iv. None of these
77. Keys of the dictionary must be
i. similar ii. unique iii. can be similar or unique iv. All of these
78. Which of the following is correct to insert a single element in a tuple .
i. T=4 ii. T=(4) iii. T(4,) iv. T=[4,]
79. Which of the following will delete key-value pair for key='red' from a dictionary D1
i. Delete D1("red") ii. del. D1("red") iii. del D1["red"] iv. del D1
80. Which function is used to remove all items from a particular dictionary.
i. clear() ii. pop() iii. delete iv. rem()
81. In dictionary the elements are accessed through
i. key ii. value iii. index iv. None of these
82. Which function will return key-value pairs of the dictionary
i. key() ii. values() iii. items() iv. get()
83. Elements in a tuple can be oftype.
i. Dissimilar ii. Similar iii. both i & ii iv. None of these
84. To create a dictionary , key-value pairs are separated by.....
i. ; ii. (,) iii. (:) iv. (/)
85. Which of the following statements are not correct:
a. An element in a dictionary is a combination of key-value pair
b. A tuple is a mutable data type
c. We can repeat a key in dictionary
d. clear() function is used to delete the dictionary.
i. a,b,c ii. b,c,d iii. b,c,a iv. a,b,c,d
86. Which of the following statements are correct:
a. Lists can be used as keys in a dictionary
b. A tuple cannot store list as an element
c. We can use extend() function with tuple.
d. We cannot delete a dictionary once created.
i. a,b,c ii. b,c,d iii. b,c,a iv. None of these
87. Like lists, dictionaries are.....which mean they can be changed.
i. Mutable ii. immutable iii. variable iv. None of these
88. To create an empty dictionary , we use
i. d=[] ii. d=() iii. d={} iv. d=<>
89. To create dictionary with no items , we use
ii. Dict ii. dict() iii. d=[] iv. None of these
90. What will be the output
`>>>d1={'rohit':56,"Raina":99}`
`>>>print("Raina" in d1)`
i. True ii. False iii. No output iv. Error
91. Rahul has created the a tuple containing some numbers as
`>>>t=(10,20,30,40)`
now he wants to do the following things help him
1. He want to add a new element 60 in the tuple, which statement he should use out of the given four.

- i. >>>t+(60)
 ii. >>>t + 60
 iii. >>>t + (60,)
 iv. >>>t + ('60')
- 92 Rahul wants to delete all the elements from the tuple, which statement he should use
 i. >>>del t
 ii. >>>t.clear()
 iii. >>>t.remove()
 iv. >>>None of these
- 93 Rahul wants to display the last element of the tuple, which statement he should use
 i. >>>t.display()
 ii. >>>t.pop()
 iii. >>>t[-1]
 iv. >>>t.last()
- 94 Rahul wants to add a new tuple t1 to the tuple t, which statement he should use
 i. >>>t+t1
 ii. >>>t.add(t1)
 iii. >>>t*t1
 iv. None of these
- 95 Rahul has issued a statement after that the tuple t is replace with empty tuple, identify the statement he had issued out of the following:
 i. >>> del t
 ii. >>>t= tuple()
 iii. >>>t=Tuple()
 iv. >>>delete t
- 96 Rahul wants to count that how many times the number 10 has come:
 i. >>>t.count(10)
 ii. >>>t[10]
 iii. >>>count.t(10)
 iv. None of these
- 97 Rahul want to know that how many elements are there in the tuple t, which statement he should use out of the given four
 i. >>>t.count()
 ii. >>>len(t)
 iii. >>>count(t)
 iv. >>>t.sum()
- 98 >>>t=(1,2,3,4)
 Write the statement should be used to print the first three elements 3 times
 i. >>>print(t*3)
 ii. >>>t*3
 iii. >>>t[:3]*3
 iv. >>>t+t
- 99 Match the output with the statement given in column A with Column B
 1. >>>tuple([10,20,30]) a. >>>(10,20,30)
 2. >>>("Tea",)* 3 b. >>> 2
 3. >>>tuple("Item") c. >>> ('Tea', 'Tea', 'Tea')
 4. >>>print(len(tuple([1,2]))) d. >>> ('T', 't', 'e', 'm')
- i. 1-b,2-c,3-d,4-a
 ii. 1-a,2-c,3-d,4-b
 iii. 1-c,2-d,3-a,4-a
 iv. 1-d,2-a,3-b,4-c

100 Write the output of the following code:

```
>>>d={'name':'rohan','dob':'2002-03-11','Marks':98}  
>>>d1={'name':'raj'}  
>>>d1=d.copy()  
>>>print("d1 :"d1)  
i. d1 : {'name': 'rohan', 'dob': '2002-03-11', 'Marks': 98}  
ii. d1 = {'name': 'rohan', 'dob': '2002-03-11', 'Marks': 98}  
iii. {'name': 'rohan', 'dob': '2002-03-11', 'Marks': 98}  
iv. (d1 : {'name': 'rohan', 'dob': '2002-03-11', 'Marks': 98})
```

WORKING WITH FUNCTIONS

FUNCTION: A function is a subprogram that acts on data and often returns a value. Python functions can belong to one of the following three categories:

1. Built-in Function
2. Functions defined in modules
3. User defined functions

Arguments and Parameters: The values being passed through a function call statement are called argument (or actual parameter or actual argument).

The values received in the function definition/header are called parameter (or formal parameter or formal argument)

Note: A function header cannot have expressions. It can have just names or identifiers. Python supports three types of arguments/parameters:

1. **Positional Argument (Required Arguments):** The way of parameter and argument specification is called Positional or Required arguments or Mandatory arguments
2. **Default Arguments:** A parameter having default value in the function header is known as a default parameter.
3. **Keyword (or named) Arguments:** Keyword arguments are the named arguments with assigned values being passed in the function call statement.

Rules for combining all three types of statements:

- i. An argument list must first contain positional (required) arguments followed by any keyword argument.
- ii. Keyword arguments should be taken from the required arguments preferably.
- iii. We cannot specify a value for an argument more than once.

There can be broadly two types of functions in Python:

1. Functions returning some value (Non – void function)
2. Functions not returning any value (void function)

Scope of variable: Part(s) of program within which a name is legal and accessible, is called scope of the variable (name).

There are two kinds of scopes in Python:

1. Global Scope: A name declared outside all the function body is called Global variable and it has Global Scope.
2. Local Scope: A name declared within a function is called Local variable and it has Local scope.

Lifetime: The time for which a variable or name remains in memory is called Lifetime of variable.

Built-in Functions

Function	Description
eval()	It is used to evaluate the value of a string and returns numeric value
min() and max()	Both can take two or more arguments and returns the smallest and largest value respectively.
abs()	It returns the absolute value of a single number.
type()	It is used to determine the type of variable.
round()	It returns the result up to a specified number of digit .
len()	Returns the length of an object.
range()	It is used to define a series of numbers.

Functions form math module

ceil(x)	It returns the smallest integer that is greater than or equal to x.
floor(x)	It returns the largest integer that is less than or equal to x.
pow(x,y)	It returns the value of x^y , where x and y are numeric expressions, and returns the output in floating point number.
sqrt(x)	Returns the square root of x.

Functions from random module

random()	It generates a random number from 0 to 1.
randrange()	It generates an integer between its lower and upper argument. By default the lower argument is 0 and upper argument is 1
choice()	It is used for making a random selection from a sequence like list, tuple or string.
shuffle()	It is used to shuffle or swap the contents of a list.

101 A function in python begins with which keyword?
 i. void ii. return iii. int iv. Def

102 Name the statement that sends back a value from a function
 i. print ii. input iii. return iv. None

103 What is the output of the program given below:

```
x=50
def func(x):
    x=2
    func(x)
    print('x is now',x)
```

- i. x is now 50 iii. x is now 2
ii. x is now 100 iv. Error
- 104 What is the output of the program given below:

```
import random
x = random.random()
y= random.randint(0,4)
print(int(x)," :", y+int(x))
```


i. 0: 0 iii. 2 : 4
ii. 1: 6 iv. 0 : 5
- 105

```
def cal(a,b,c):
    return a*3,b*3,c*3
val=cal(10,12,14)
print(type(val))
print(val)
```


i. [30, 24, 28] iii. [30,36,42]
ii. [10, 20, 30] iv. [10,12,14]
- 106 What is the output of the expression:round(4.576)
i. 4.5 ii. 5 iii. 4 iv. 4.6
- 107 What is the output of the function shown below?

```
import math
abs(math.sqrt(25))
```


i. Error ii. -5 iii. 5 iv. 5.0
- 108 What is the output of the functions shown below?>>>min(max(False,-3,-4), 2,7)
i. 2 ii. False iii. -3 iv. -4
- 109 What are the outcomes of the function shown below?

```
>>>x=3
>>>eval('x**2')
```


i. Error ii. 1 iii. 9 iv. 6
- 110 Which of the following functions does not throw an error?
i. ord() ii. ord(' ') iii. ord("") iv. ord("")
- 111 What is the output of below program?

```
def say(message, times = 1):
    print(message * times , end =' ')
say('Hello and')
say('World', 5)
```


i. Hello and WorldWorldWorldWorldWorld
ii. Hello and World 5
iii. Hello and World,World,World,World,World
iv. Hello and HelloHelloHelloHelloHello
- 112 What is a variable defined inside a function referred to as?
i. A global variable ii. A volatile variable
iii. A local variable iv. An automatic variable
- 113 How many keyword arguments can be passed to a function in a single function call?
i. zero ii. one iii. zero or more iv. one or more

- 114 How are required arguments specified in the function heading?
i. identifier followed by an equal to sign and the default value
ii. identifier followed by the default value within backticks (`)
iii. identifier followed by the default value within square brackets ([])
iv. identifier
- 115 What is returned by
`>>> math.ceil(3.4)?`
i. 3 ii. 4 iii. 4.0 iv. 3.0
- 116 What is the value returned by
`>>> math.floor(3.4)`
i. 3 ii. 4 iii. 4.0 iv. 3.0
- 117 What is returned by
`>>> math.ceil(-3.4)?`
ii. 3 ii. 4 iii. 4.0 iv. -3
- 118 What is the value returned by
`>>> math.floor(-3.4)`
ii. 3 ii. -4 iii. 4.0 iv. 3.0
- 119 What is displayed on executing `print(math.fabs(-3.4))?`
i. -3.4 ii. 3.4 iii. 3 iv. -3
- 120 What is output of `print(math.pow(3, 2))?`
i. 9 ii. 9.0 iii. None iv. None of these
- 121 What is the value of x if `x = math.sqrt(4)?`
i. 2 ii. 2.0 iii. (2, -2) iv. (2.0, -2.0)
- 122 To include the use of functions which are present in the random library, we must use the option:
i. import random iii. random.h
ii. import.random iv. random.random
- 123 What is the output of the code shown below?
`import random
random.choice(2,3,4)`
i. An integer other than 2, 3 and 4 ii. Either 2, 3 or 4
iii. Error iv. 3 only
- 124 What is the output of the function shown below (random module has already been imported)?
`>>>random.choice('sun')`
i. sun ii. u iii. either s, u or n iv. Error
- 125 What is the output of the function shown below if the random module has already been imported?
`>>>import random
>>>random.randint(3.5,7)`
i. Error
ii. Any integer between 3.5 and 7, including 7
iii. Any integer between 3.5 and 7, excluding 7
iv. The integer closest to the mean of 3.5 and 7
- 126 Which type of elements are accepted by `random.shuffle()`?
i. strings ii. lists iii. tuples iv. integers
- 127 keyword is used to define a function.
i. Void ii. func iii. def iv. None
- 128 Which of the following statements are True out of the given below:

1. More than one value(s) can be returned by a function
 2. The variable declared inside a function is a Global variable.
 3. Once the function is defined , it may be called only once
 4. A function is used by invoking it
- i. 1 & 2 ii. 1 & 4 iii. 2 & 3 iv. 2 & 4

129 Match the columns:

A	B
1. max()	a. will compute $x^{**}y$
2. sqrt(x)	b. will select a option randomly
3. choice()	c. will return the largest value
4. pow(x,y)	d. will compute $(x)^{1/2}$
i. 1-a,2-b,3-c,4-d	iii. 1-c,2-d,3-b,4-a
ii. 1-d,2-a,3-c,4-b	iv. 1-b,2-c,3-d,4-a

130 What will be the output of the following code:

```
A=1
def f():
    A=10
    print(A)
i. 1 ii. 10 iii. Error iv. None
```

131 >>>def Interest(p,c,t=2,r=0.09):
 return p*t*r

Considering the above defined function which of following function call are legal.

1. Interest(p=1000,c=5)
 2. Interest(r=0.05,5000,3)
 3. Interest(500,t=2,r=0.05)
 4. Interest(c=4,r=0.12,p=5000)
- i. 1 , 2 and 4 ii. 2 & 3 iii. 1 &4 iv. 3 & 4

133 Consider the program given in question no.132 and answer the question from 133 to 138 given below:

What will come in place of statement 2:

- i. upper() ii. isupper iii. isupper() iv. is_upper()

134 What will come in place of statement 3:

- i. [digits] ii. ["digits"] iii. d["digits"] iv. d["Digits"]

135 What will come in place of statement 4:

- i. ["Special_chr"] iii. "Special_chr"
- ii. D["Special_chr"] iv. d("Special_chr")

136 What will come in place of statement 5:

- i. s ii. S iii. d["s"] iv. d[s]

137 What will come in place of statement 6:

- i. d["Upper_case"] iii. ["Upper_case"]
- ii. d["s"] iv. d[s]

138 What will come in place of statement 7:

- i. d["Digits"] iii. d["digits"]
- ii. d["Digit"] iv. d[s]

139 The built-in function sin() belongs to which module:

- i. random ii. pandas iii. math iv. numpy

140function returns the smallest integer greater than the given floating point number.

- i. floor() ii. ceil() iii. sqrt() iv CEIL()

- 141function will return the largest integer less than the given floating point number.
 i. floor() ii. ceil() iii. sqrt() iv. CEIL()
- 142function returns the length of the object being passed.
 i. Length() ii. Len() iii. len() iv. count()
- 143function returns the absolute value.
 i. Abs() ii. abs() iii. absolute() iv. None of these
- 144 The range(x) function will generate the series of numbers from :
 i. Min to max ii. 0 to x-1 iii. 0 to x iv. x
- 145function can identify the whitespace in a given string.
 i. Space() ii. isspace() iii. Iisspace() iv. is_space()
- 146 Consider the statement given below and answer the question:
 >>>S='My name is Ravindra'
 Which statement will print "True" out of the given :
 i. print(S.isspace())
 ii. print(s.isspace())
 iii. print(S[2].isspace())
 iv. print(S[2].isspace())
- 147 A variable declared outside all the functions in a python program, then mention the statements which are **True** in the context of the variable.
 1. This variable will have global scope.
 2. This variable will not be accessible from anywhere in the prog.
 3. This variable will have a large lifetime than local variable.
 4. This variable will be referred as Local variable.
 i. Only 1&2 ii. Only 1 iii. Only 1&3 iv. Only 3

Answers:

1	ii	2	i	3	iii	4	iii	5	iv	6	ii	7	iii
8	i	9	i	10	i	11	ii	12	iii	13	ii	14	i
15	iii	16	i	17	i	18	iii	19	i	20	i	21	ii
22	iii	23	iii	24	iv	25	iv	26	i	27	iii	28	i
29	i	30	iv	31	iii	32	iv	33	iv	34	i	35	iii
36	i	37	ii	38	i	39	i	40	ii	41	i	42	iii
43	iv	44	iv	45	i	46	iv	47	iii	48	i	49	iii
50	i	51	iii	52	i	53	i	54	iii	55	iv	56	iv
57	iv	58	ii	59	ii	60	i	61	iii	62	i	63	iii
64	iii	65	iv	66	ii	67	iii	68	ii	69	iii	70	iii
71	iv	72	ii	73	ii	74	ii	75	i	76	ii	77	ii
78	iii	79	iii	80	i	81	i	82	iii	83	iii	84	iii
85	ii	86	iv	87	i	88	iii	89	ii	90	i	91	iii
92	i	93	iii	94	i	95	ii	96	i	97	ii	98	iii
99	ii	100	i	101	iv	102	iii	103	i	104	i	105	iii
106	ii	107	iv	108	ii	109	iii	110	ii	111	i	112	iii
113	iii	114	i	115	ii	116	i	117	iv	118	ii	119	ii

120	ii	121	ii	122	i	123	ii	124	iii	125	ii	126	ii
127	iii	128	ii	129	iii	130	i	131	iii	132	iv	133	iii
134	iv	135	iii	136	i	137	i	138	i	139	iii	140	ii
141	i	142	iii	143	ii	144	ii	145	ii	146	iv	147	iii

Data File Handling

Key Points of Data File Handling

File:- A file is a collection of related data stored in computer storage for future data retrieval.

Data files can be stored in two ways:

1. Text Files: Text files are structured as a sequence of lines, where each line includes a sequence of characters.

2. Binary Files: A binary file is any type of file that is not a text file. WORKING WITH TEXT FILES:

Basic operations with files:

a. Read the data from a file

b. Write the data to a file

c. Append the data to a file

d. Delete a file a. Read the data from a file:

There are 3 types of functions to read data from a file. –read(), readline(), readlines()

Binary files are used to store binary data such as images, video files, audio files etc. They store data in the binary format (0's and 1's).

In Binary files there is no delimiter for a line. To open files in binary mode, when specifying a mode, add 'b' to it. Pickle module can be imported to write or read data in a binary file.

CSV (Comma Separated Values) is a file format for data storage which looks like a text file. The information is organized with one record on each line and each field is separated by comma.

CSV File Characteristics

- One line for each record
- Comma separated fields
- Space-characters adjacent to commas are ignored
- Fields with in-built commas are separated by double quote characters.

Compare text files, binary files and csv files and write pros and cons of each of them.

	Text Files	Binary Files	CSV Files
1	It is capable to handle textual data.	It is capable to handle large file.	It is very common format and platform independent.
2	It consists of series of lines of a set of letters, numbers or symbols (String)	It consists of data with a specific pattern without any delimiter.	It consists of plain text with a list of data with a delimiter.
3	Any text editors like notepad can be used to read them.	No specific programs can be used to read them, python provides functions to read data.	It can be read using text editors like notepads and spreadsheet software.
4	Every line ends with EOL.	There is no specific EOL character.	It terminates a line automatically when the delimiter is not used after data.

MCQs on Data File Handling

1 Every file has its own identity associated with it. Which is known as –

- a. icon
- b. extension
- c. format
- d. file type

2 Which of the following is not a known file type?

- a. .pdf
- b. jpg
- c. mp3
- d. txp

3. In f=open("data.txt", "r"), r refers to _____.

- a. File handle
- b. File object
- c. File Mode
- d Buffer

4. EOL stands for

- a. End Of Line
- b. End Of List
- c. End of Lines
- d. End Of Location

5. Which of the following file types allows to store large data files in the computer memory?

- a. Text Files
- b. Binary Files
- c. CSV Files
- d. None of these

6. Which of the following file types can be opened with notepad as well as ms excel?

- a. Text Files
- b. Binary Files
- c. CSV Files
- d. None of these

7. Which of the following is nor a proper file access mode?

- a. close
- b. read
- c. write
- d. append

8. To read 4th line from text file, which of the following statement is true?

- a. dt = f.readlines();print(dt[3])
- b. dt=f.read(4) ;print(dt[3])
- c. dt=f.readline(4);print(dt[3])
- d. All of these

9 Which of the following function flushes the files implicitly?

- a. flush()
- b. close()
- c. open()
- d. fflush()

10. Which of the following functions flushes the data before closing the file?

- a. flush()**
- b. close()
- c. open()
- d. fflush()

11. In F=open("MyFile.txt") , name of file object is

- a.open
- b.MyFile.txt
- c.F
- d.F=open()

12. Default EOL character in Python.

- a. '\n'
- b. '\r'
- c. ''
- d. '\t'

13. Which of the following is not a file extension for text files?

- a. .txt
- b. .ini
- c. .rtf
- d. .DAT

14. What is the first thing to do before performing any functions on a text file?

- a. Import modules
- b. Open file
- c. Read file
- d. Print the name of the file

15. What is a file object?

- a. It serves as a link to the file.
- b. It is a file present in a computer.
- c. A keyword
- d. A module in python

16. Which is not a correct file mode for text files?

- a. a
- b. ar
- c. a+
- d. r+

17. What does the prefix r in front of a string do?

- a. It makes the string a raw string
- b. It opens the file in read mode
- c. It converts the file into text file
- d. It creates the file if it doesn't exist

18. A file object is also known as

- a. File handle
- b. File copy
- c. File directory
- d. File link

19. How to open a text file in read mode only?

- a. r
- b. r+
- c. rb+
- d. rw+

20. How to open a text file in write and read mode?

- a. r+
- b. a+
- c. wr
- d. wb

21. Syntax for closing a file:

- a. closefile(<file object>)
- b. <fileobject>.close()
- c. <filename>.closer()
- d. closefile.<fileobject>

22. Which method can not be used to read from files?

- a. read()
- b. readlines()
- c. readlines(<filename>)
- d. readline()

23. What does strip() function do?

- a. Removes the trailing or leading spaces, if any.
- b. Deletes the file
- c. Remove the file object
- d. Removes all the spaces between words

24. `readlines()` gives the output as

- a. List
- b. Tuple
- c. String
- d. Sets

25. When reading a file using the `file` object, what method is best for reading the entire file into a single string?

- a. `readline()`
- b. `read_file_to_str()`
- c. `read()`
- d. `readlines()`

26. Which file can open in any text editor and is in human readable form?

- a. Binary files
- b. Text files
- c. Data files
- d. Video files

27. Which function breaks the link of `file-object` and the file on the disk?

- a. `close()`
- b. `open()`
- c. `tell()`
- d. `readline()`

28. Which function reads the leading and trailing spaces along with trailing newline character ('\n') also while reading the line?

- a. `readlines()`
- b. `readline()`
- c. `read()`
- d. `flush()`

29. Which mode is used to retain its previous data and allowing to add new data?

- a. write mode
- b. read mode
- c. open mode
- d. append mode

30. Which function forces the writing of data on disc still pending in output buffer?

- a. `seek()`
- b. `tell()`
- c. `flush()`
- d. `write()`

31. Syntax for `flush()` function is:

- a. <fileObject>(`flush()`)
- b. `flush()`.<fileobject>
- c. <fileObject>.flush()
- d. flush().<file-object>

32. Which function returns the entire file content in a list where each line is one item of the list?

- a. `readlines()`

- b. readline()
- c. output()
- d. Input()

33. Which function is used to remove the given character from trailing end i.e. right end?

- a. strip()
- b. remove()
- c. lstrip()
- d. rstrip()

34. Sometimes the last lap of data remains in buffer and is not pushed onto disk until a _____ operation is performed.

- a. dump()
- b. close()
- c. load()
- d. open()

35. The position of a file-pointer is governed by the_____.

- a. File mode
- b. append mode
- c. write mode
- d. open mode

36. In which mode the file must exist already, otherwise python raises an error? a. read mode
b. write mode
c. binary mode
d. None of these

37. What is the prefix r stands for in file path?

- a. raw string
- b. read
- c. write
- d. append

38. In which mode _____ if the file does not exist, then the file is created?

- a. read write mode
- b. read mode
- c. write mode
- d. All of these

39. Which option is correct about this program?

```
f=open("ss.txt","wb")
```

```
print("Name of the file:",f.name)
```

```
f.flush()
```

```
f.close()
```

- a. Compilation error
- b. Runtime error
- c. No output
- d. Flushes the file when closing them

40. What is the output of the following?

```
import sys  
sys.stdout.write('Hello\n')
```

sys.stdout.write('Python\n')

- a. error
- b. Runtime error
- c. Hello Python
- d. Hello
 Python

41. Which function is used to read all the characters in text files?

- a. read()
- b. readcharacters()
- c. readall()
- d. readchar()

42. Which function is used to read all the lines?

- a. read()
- b. readall()
- c. readlines()
- d. readline()

43. In which format does the readlines() function give the output?

- a. Integer type
- b. list type
- c. string type
- d. tuple type

44. In which format does the read() function give the output?

- a. Integer type
- b. string type
- c. list type
- d. tuple type

45. Which function is used to write a list of strings in a file?

- a. writestatement()
- b. writelines()
- c. writefulline()
- d. writeline()

46. Which function is used to write all the characters?

- a. writechar()
- b. writecharacters()
- c. write()
- d. writeall()

47. What is the correct syntax of open() function?

- a. file=open(file_name[,access_mode][,buffering])
- b. fileobject=open(file_name[,access_model][,buffering])
- c. fileobject=filename.open()
- d. none of the mentioned

48. In file handling, what does means “r”, “a”?

- a. append, read

- b. read, append
- c. read, add
- d. None of the mentioned

49. The default file open mode is....

- a. w
- b. r+
- c. w+
- d. r

50. What is the difference between r+ and w+ modes?

- a. In r+ mode, file length truncates to zero.
- b. In w+ mode, file length truncates to zero either file exists or not.
- c. No difference
- d. Depends on the operating system

51. A file maintains a _____ which tells the current position in the file where writing or reading will take place.

- a. line
- b. file pointer
- c. list
- d. order

52. Which of the following statements is true regarding the opening modes of a file? a. While opening a file for reading, if the file does not exist, an error occurs. b. While opening a file for writing ,if the file does not exist, an error occurs. c. While opening a file for reading, if the file does not exist, a new file is created. d. None of the above.

53. To force python to write the contents of file buffer on to storage file,.....method may be used.

- a. buffer()
- b. flush()
- c. close()
- d. write()

54. Which of the following statements are true?

- a) When you open a file for reading, if the file does not exist, an error occurs.
- b) When you open a file for writing, if the file does not exist, a new file is created.
- c) When you open a file for writing, if the file exists, the existing file content is overwritten with the new content.
- d) All of the these

55. To read the next line of the file from a file object f1, we use:

- a) f1.read(2)
- b) f1.read()
- c) f1.readline()
- d) f1.readlines()

ANSWER KEY

1.B	2.D	3.C	4.A	5.B	6.C	7.A	8.A	9.B	10.A
11.C	12.A	13.D	14.B	15.A	16.B	17.A	18.A	19.A	20.A
21.B	22.C	23.A	24.A	25.C	26.B	27.A	28.B	29.D	30.C
31.C	32.A	33.D	34.B	35.A	36.A	37.A	38.C	39.D	40.D
41.A	42.C	43.B	44.B	45.B	46.C	47.B	48.B	49.D	50.B
51.B	52.A	53.B	54.D	55.C					

BINARY FILES MCQs

Q1. Which of the following commands is used to open a file “c:\temp.txt” in append-mode?

- a. outfile - open("c:/temp.txt", "a")
- b. outfile - open("c:\\temp.txt", "rw")
- c. outfile - open("c:\\temp.txt", "w+")
- d. outfile - open("c:\\temp.txt", "r+")

Q2 What are the binary files used for?

- a. It is used to store data in the form of bytes.
- b. To store data
- c. To look folder good
- d. None of these

Q3. What is the function of `rb` mode in binary?

- a. Both reading and writing operations can take place.
- b. File is in only write mode.
- c. File is created if it does not exist.
- d. File must exist otherwise error will be shown.

Q4. What is the description of `r+b` in binary mode?

- a. read and write
- b. write and read
- c. read only
- d. none of these

5. What is binary file mode for append?

- a. `rb`
- b. `wb`
- c. `ab`
- d. None of these

Q6. What is the binary file mode associated with “ file must exist, otherwise error will be raised and reading and writing can take place”.

- a. read and write
- b. write and read
- c. read only
- d. append

Q7. What is the process of converting a byte stream back to the original structure called?

- a. append
- b. txt.file
- c. Unpickling
- d. None of these.

Q8. Which module is used to store data into python objects with their structure?

- a. pickle
- b. binary files
- c. unpickle
- d. None of these

Q9. What is pickle.dump()?

- a. dump() function is used to store the object data to the file.
- b. It is used to read
- c. append
- d. None of these

Q10. Which one of the following is the correct statement?

- a. pickle import
- b. import - pickle
- c. import pickle
- d. None of the above

Q11. Which is the valid syntax to write an object onto a binary file opened in the write mode?

- a. pickle.dump(<object to be written>, <file handle of open file>)
- b. pickle.dump(<file handle of open file>, <object to be written>)
- c. dump.pickle(<object>, <file handle>)
- d. None of the above

Q12. Which method is used for object serialization?

- a. Pickling
- b. Unpickling
- c. None of the above
- d. All of the above

Q13. Which method of pickle module is used to read from a binary file?

- a. dump()
- b. load()
- c. All of the above
- d. None of the above

Q14.Which method is used for object deserialization?

- a. Pickling
- b. Unpickling
- c. All of the above
- d. None of the above

Q15.Which of the following is the correct syntax to read from a file using load function?

- a. pickle.load(<filehandle>)
- b. <object> - load.pickle(<filehandle>)
- c. <object> - pickle.load(<filehandle>)
- d. All of the above

Q16. Which method of pickle module is used to write onto a binary file?

- a. dump()
- b. load()
- c. All of the above
- d. None of the above

Q17. Which of the following file modes open a file for reading and writing both in the binary file?

- a. r
- b. rb
- c. rwb
- d. rb+

Q18.Which of the following file modes that opens a file for reading and writing both and overwrites the existing file if the file exists otherwise creates a new file ?

- a. w
- b. wb+
- c. rwb
- d. rb

Q19. Which of the following file modes opens a file for appending and reading in a binary file and moves the files pointer at the end of the file if the file already exists or creates a new file?

- a. .a
- b. .a+
- c. .ab+
- d. .ab

Q20.Which of the following file modes will not delete the existing data in binary file?

- a. .wb
- b. .w
- c. .a
- d. .ab

ANSWER KEY

1-A	6-A	11-A	16-A
2-A	7-C	12-A	17-D
3-D	8-A	13-B	18-B
4-A	9-A	14-B	19-C
5-C	10-C	15-C	20-D

CSV FILES

Q1 _____ is a file format which stores records separated by comma.

- a. .tsv
- b. .csv
- c. .py
- d. .bin

Q2. The CSV files can be operated by _____ software.

- a. Spreadsheet
- b. Notepad
- c. MS Excel
- d. All of the above

Q3. When you read csv file using csv.reader() function it returns the values in _____ object.

- a. dictionary
- b. tuple
- c. nested list
- d. sets

Q4. CSV module allows to write multiple rows using _____ function.

- a. writerows()
- b. writerow()
- c. writer()
- d. None of the above

Q5. Which of the following parameter needs to be added with open function to avoid blank row followed file each row in CSV file?

- a. delimiter
- b. newline
- c. writer, delimiter
- d. file object

Q6. which is the correct way to import a csv module?

- a. import csv
- b. from csv import *
- c. None of the above
- d. Both A & B

Q7. Observe the following code and fill the blank in statement1

```
import csv  
with _____ as f: #statement1  
r = csv._____ (f) #statement2  
for row in _____: #statement3  
print(_____) #statement4
```

- a. open("data.csv")
- b. f=open("data.csv")
- c. Both A & B are Correct
- d. Both A & B are incorrect

Q8. Observe the following code and fill the blank in statement2

```
import csv  
  
with _____ as f: #statement1  
  
r = csv._____ (f) #statement2  
  
for row in _____: #statement3  
  
print(_____) #statement4
```

- a. load
- b. read()
- c. reader()
- d. readlines()

Q9. Observe the following code and fill the blank in statement3

```
import csv  
  
with _____ as f: #statement1  
  
r = csv._____ (f) #statement2  
  
for row in _____: #statement3  
  
print(_____) #statement4
```

- a. f
- b. r
- c. r,f
- d. None of the above

Q10.Observe the following code and fill the blank in statement4

```
import csv  
  
with _____ as f: #statement1  
  
r = csv._____ (f) #statement2  
  
for row in _____: #statement3  
  
print(_____) #statement4
```

- a. r
- b. row
- c. f
- d. csv

ANSWER KEY

1.B	2.D	3.C	4.A	5.B
6.D	7.A	8.C	9.B	10.B

Key Point on Data Structure

Data structure: -The logical or mathematical model of a particular organization of data is called data structure. It is a way of storing, accessing,

Manipulating data. **List:** An array or list is the collection of elements in ordered way.

Stack: It is a linear data structure.

May be inserted or deleted only at one end, called the TOP of the stack.

It follows the principle Last In First Out (**LIFO**).

There are two basic operation with stack:

Push() : Insert the element in stack

Pop : Delete the element from stack4.

Data Structure

1. _____ is a way to represent data in memory.

- a. Data Handling
- b. Data Structure
- c. Data Dumping
- d. Data Collection

2. Python built-in data structures are

- a. integer,float,string
- b. list,tuple,dictionary,sets
- c. math,pyplot