>>Introduction to python

1. A program must be converted to _____ language to be executed by a computer.
a. Assembly
b. Machine
c. High level
d. Very high level

2. _____ is a Logical programming language.
a. PROLOG
b. Python
c. C#
d. Java

3. The program written only using 0's and 1's is
a. PHP
b. High level
c. Python
d. Machine

4. The founder of Python is
a. Charles Babbage
b. Guido van Rossum
c. Dennis Ritchie
d. Larry Wall

5. Python is a compiled language.
a. True
b. False
c. Can't say
d. None of these

6. This programming paradigm emerged to remove the reliance on the GOTO statements.
a. Structured
b. Object-oriented
c. Logical
d. Functional

7. Which Python library is popularly referred to as the HTTP library written for humans.
a. Receive
b. Requests
c. Sockets
d. Send

8. In which phase of SDLC does the software developer analyses whether software can be prepared to fulfill all the requirements of the end user?
a. Design
b. Development
c. Testing
d. Planning

9. This license allows a patent grant for derivative works.
a. BSD License
b. Apache License
c. MIT License

d. CC License

10. A group of people maintain exclusive control over the source code of a software. Such software is called
a. Freeware
b. Shareware
c. Proprietary
d. Adware

>>Python basics

1. Which of the following are invalid identifiers in Python?
a. Total-sum
b. Error
c. Error_count
d. None of these

2. A _____ is a sequence of one or more characters used to provide a name for a given program element.
a. Identifier
b. Variable
c. String
d. Character

3. Identify the invalid identifier below.
a. _2017discount
b. Profit
c. Total-discount
d. Totaldiscount

4. _____ are not allowed as part of an identifier.
a. Spaces
b. Numbers
c. Underscore
d. All of these

5. Identifiers may contain letters and digits, but cannot begin with a _____.
a. Character
b. Digit
c. Underscore
d. Special Symbols

6. Which is not a reserved keyword in Python?
a. insert
b. except
c. import
d. yield

7. Identify the invalid keyword below.
a. and
b. as
c. while
d. until

8. _____ is an identifier that has predefined meaning.
a. variable

b. identifier
c. keyword
d. None of these

9. Bitwise _____ operator gives 1 if one of the bit is zero and the other is 1.
a. or
b. and
c. xor
d. not

10. Guess the output of the following code.
1 > 2 and 9 > 6
a. True
b. False
c. Machine Dependent
d. Error

11. How many operands are there in the following arithmetic expression?
6 * 35 + 8 − 25
a. 4
b. 3
c. 5
d. 8

12. How many binary operators are there in the following arithmetic expression?
− 6 + 10 / (23 + 56)
a. 2
b. 3
c. 4
d. 5

13. Which operator returns the remainder of the operands?
a. /
b. //
c. %
d. **

14. A _____ is a name that is associated with a value.
a. identifier
b. keyword
c. variable
d. None of these

15. Guess the output of the following expression.
float(22//3+3/3)
a. 8
b. 8.0
c. −8.3
d. 8.333

16. What value does the following expression evaluate to?
2 + 9 * ((3 * 12) – 8) / 10
a. 27
b. 27.2
c. 30.8
d. None of these

17. _____ and _____ are two ways to comment in Python.
a. Single and Multilevel comments
b. Single line and Double line comments
c. One and Many line comments
d. Single line and Multiline comments

18. Single-line comments start with the _____ symbol.
a. *#
b. #
c. *
d. &

19. Multiline comments can be done by adding _____ on each end of the comment.
a. ''' '''(triple quote)
b. # (Hash)
c. $ (dollar)
d. % (modulus)

20. Python programs get structured through _____.
a. Alignment
b. Indentation
c. Justification
d. None

21. In Python, Indentation is a _____ and not a matter of style.
a. Requirement
b. Refinement
c. Not required
d. Not Refined

22. Which of the following is correct about Python?
a. Python is a high-level, interpreted, interactive and object-oriented language.
b. Python is designed to be highly readable.
c. It uses English keywords frequently and has fewer syntactical constructions.
d. All of the above.

23. Which of the following function is used to read data from the keyboard?
a. function()
b. str()
c. input()
d. print()

24. The one's complement of 60 is given by _____.
a. −61
b. −60
c. −59
d. +59

25. The operators *is* and *is not* are _____.
a. Identity Operators
b. Comparison Operators
c. Membership Operators
d. Unary Operators

26. In Python an identifier is _____.
a. Machine Dependent
b. Keyword
c. Case Sensitive
d. Constant

27. Which of the following operator is truncation division operator?
a. /
b. %
c. |
d. //

28. The expression that requires type conversion when evaluated is _____.
a. 4.7 * 6.3
b. 1.7 % 2
c. 3.4 + 4.6
d. 7.9 * 6.3

29. The operator that has the highest precedence is _____.
a. << and >>
b. **
c. +
d. %

30. The expression that results in an error is _____.
a. int('10.8')
b. float(10)
c. int(10)
d. float(10.8)

31. Which of the following expression is an example of type conversion?
a. 4.0 + float(3)
b. 5.3 + 6.3
c. 5.0 + 3
d. 3 + 7

32. What is the output when the following statement is executed?
>>>print('new' 'line')
a. Error
b. Output equivalent to print 'new\nline'
c. new line
d. newline

33. What is the output when the following statement is executed?
print(0xD + 0xE + 0xF)
a. Error
b. 0XD0XE0XF
c. 0X22
d. 42

34. What is the output of print (0.1 + 0.2 == 0.3)?
a. True
b. False
c. Error
d. Machine dependent

35. Which of the following is not a complex number?
a. l = 4 + 5j
b. l = complex(4,5)
c. l = 4 + 5i
d. l = 4 + 5j

36. Guess the output of the expression.
x = 15
y = 12
x & y
a. 1101
b. b1101
c. 0b1101
d. 12

37. Incorrect Indentation results in _____.
a. IndentationError
b. NameError
c. TypeError
d. SyntaxError

38. The function that converts an integer to a string of one character whose ASCII code is same as the integer is _____.
a. chr(x)
b. ord(x)
c. eval(x)
d. input(x)

>>Control flow statements

1. _____ control statement repeatedly executes a set of statements.
a. Iterative
b. Conditional
c. Multi-way
d. All of these

2. Deduce the output of the following code.
if False and False:
print("And Operation")
elif True or False:
print("Or operation")
else:
print("Default case")
a. And Operation
b. Or Operation
c. Default Case
d. B and C option

3. Predict the output of the following code.
i = 1
while True:
if i%2 == 0:
break
print(i)
i += 1
a. 1

b. 12
c. 123
d. None of these

4. Which keyword is used to take the control to the beginning of the loop?
a. exit
b. break
c. continue
d. None of these

5. The step argument in range() function _____.
a. indicates the beginning of the sequence
b. indicates the end of the sequence
c. indicates the difference between every two consecutive numbers in the sequence
d. generates numbers up to a specified value

6. The symbol that is placed at the end of if condition is
a. ;
b. :
c. &
d. ~

7. What is the keyword that is used to come out of a loop only for that iteration?
a. break
b. return
c. continue
d. if

8. Judge the output of the following code snippet.
for i in range(10):
if i == 5:
break
else:
print(i)
a. 0 1 2 3 4
b. 0 1 2 3 4 5
c. 0 1 2 3
d. 1 2 3 4 5

9. Predict the output of the following code snippet.
while True:
print(True)
break
a. True
b. False
c. None
d. Syntax error

10. The output of the below expression is
>>>10 * (1/0).
a. OverflowError
b. ZeroDivisionError
c. NameError
d. TypeError

11. How many except statements can a try-except block have?
a. Zero
b. One
c. More than one
d. More than zero

12. When will the else part of the try-except-else be executed?
a. Always
b. When an exception occurs
c. When no exception occurs
d. When an exception occurs in a try block

13. When is the finally block executed?
a. When an exception occurs
b. When there is no exception
c. Only if some condition that has been specified is satisfied
d. always

14. The keyword that is not used as an exception handling in Python?
a. try
b. except
c. accept
d. finally

15. An exception is
a. A object
b. A special function
c. A special module
d. A module

16. The set of statements that will be executed whether an exception is thrown or not?
a. except
b. else
c. finally
d. assert

17. Predict the output of the following code snippet.
while True
print(“Hello World”)
a. Syntax Error
b. Logical Error
c. Run-time error
d. None of these

18. Gauge the output of the following statement?
int("65.43")
a. Import error
b. Value error
c. Type error
d. Name error

19. The error that is not a standard exception in Python.
a. Name Error
b. Assignment Error
c. IO Error
d. Value Error

20. The function that generates a sequence of numbers which can be iterated through using *for* loop.
a. input()
b. range()
c. list()
d. raw_input()

21. What is the output of the following code snippet?
x = 'abcd'
for i in x:
print(i)
a. abcd
b. 0 1 2 3
c. iiiii
d. Traceback

22. The function of while loop is
a. Repeat a chunk of code a given number of times.
b. Repeat a chunk of code until a condition is true.
c. Repeat a chunk of code until a condition is false.
d. Repeat a chunk of code indefinitely.

>>Functions

1. A local variable in Python is a variable that is,
a. Defined inside every function
b. Local to the given program
c. Accessible from within the function
d. All of these

2. Which of the following statements are the advantages of using functions?
a. Reduce duplication of code
b. Clarity of code
c. Reuse of code
d. All of these

3. The keyword that is used to define the block of statements in function?
a. function
b. func
c. def
d. pi

4. The characteristics of docstrings are
a. suitable way of using documentation
b. Function should have a docstring
c. Can be accessed by __doc()__
d. All of these

5. The two types of functions used in Python are
a. Built-in and user-defined
b. Custom function and user function
c. User function and system call
d. System function

6. _____ refers to built-in mathematical function.
a. sqrt

b. rhombus
c. add
d. sub

7. The variable defined outside the function is referred as
a. static
b. global
c. automatic
d. register

8. Functions without a return statement do return a value and it is
a. int
b. null
c. None
d. error

9. The data type of the elements in sys.argv?
a. set
b. list
c. tuple
d. string

10. The length of sys.argv is?
a. Total number of arguments excluding the filename
b. Total number of arguments including the filename
c. Only filename
d. Total number of arguments including Python Command

11. The syntax of keyword arguments specified in the function header?
a. * followed by an identifier
b. _ followed by an identifier
c. ** followed by an identifier
d. _ _ followed by an identifier

12. The number of arguments that can be passed to a function is
a. 0
b. 1
c. 0 or more
d. 1 or more

13. The library that is used to create, manipulate, format and convert dates, times and timestamps in Python is
a. Arrow
b. Pandas
c. Scipy
d. NumPy

14. The command line arguments is stored in
a. os.argv
b. sys.argv
c. argv
d. None

15. The command that is used to install a third-party module in Python is
a. pip
b. pipe

c. install_module
d. pypy

16. Judge the output of the following code.
import math
math.sqrt(36)
a. Error
b. −6
c. 6
d. 6.0

17. The function divmod(10,20) is evaluated as
a. (10%20,10//20)
b. (10//20,10%20)
c. (10//20,10*20)
d. (10/20,10%20)

18. Predict the output of the following code?
def tweet():
print("Python Programming!")
tweet()
a. Python Programming!
b. Indentation Error
c. Syntax Error
d. Name Error

19. The output of the following code is
def displaymessage(message, times = 1):
print(message * times)
displaymessage("Data")
displaymessage("Science", 5)
a. Data Science Science Science Science Science
b. Data Science 5
c. DataDataDataDataDataScience
d. DataDataDataDataDataData

20. Guess the output of the following code
def quad(x):
return x * x * x * x
x = quad(3)
print(x)
a. 27
b. 9
c. 3
d. 81

21. The output of the following code is
def add(*args):
x = 0
for i in args:
x += i
return x
print(add(1, 2, 3))
print(add(1, 2, 3, 4, 5))
a. 16 15
b. 6 15

c. 1 2 3
d. 1 2 3 45

22. Gauge the output of the following code.
def foo():
return total + 1
total = 0
print(foo())
a. 1
b. 0
c. 11
d. 00

23. The default arguments specified in the function header is an
a. Identifier followed by an = and the default value
b. Identifier followed by the default value within back-ticks
c. Identifier followed by the default value within []
d. Identifier followed by an #.

>>String

1. The arithmetic operator that cannot be used with strings is
a. +
b. *
c. −
d. All of these

2. Judge the output of the following code,
print(r"\nWelcome")
a. New line and welcome
b. \nWelcome
c. The letter r and then welcome
d. Error

3. What is the output of the following code snippet?
print("Sunday".find("day"))
a. 6
b. 5
c. 3
d. 1

4. The output of the following code is,
print("apple is a fruit".split("is")
a. ['is a fruit']
b. [fruit]
c. ['apple', 'a fruit']
d. ['apple']

5. For the given string s = "nostradamus", which of the following statement is used to retrieve the character *t*?
a. s[3]
b. s.getitem(3)
c. s.__getitem__(3)
d. s.getItem(3)

6. The output of the following:

print("\tapple".lstrip())
a. \tapple
b. apple'"
c. apple
d. '"\tapple

7. Deduce the output of the following code:
print('hello' 'newline')
a. Hello
b. hellonewline
c. Error
d. Newline

8. What is the output of the following code?
"tweet"[2:]
a. We
b. wee
c. eet
d. Twee

9. What is the output of the following code?
"apple is a fruit"[7:10]
a. Apple
b. s a
c. Fruit
d. None of the above

10. Identify the output of the following code:
print("My name is %s" % ('Charles Darwin'))
a. My name is Charles Darwin
b. Charles
c. %Charles
d. %

11. The prefix that is used to create a Unicode string is
a. u
b. h
c. o
d. c

12. The function that is used to find the length of the string is
a. len(string)
b. length(string)
c. len[string]
d. length[string]

13. What is the output of the following code?
string = "Lion is the king of jungle"
print("%s" %string[4:7])
a. of
b. king
c. The
d. is

14. For the statement given below
example = "\t\ntweet\n"

The output for the expression example.strip() is
a. \t\ntweet\n
b. \t\ntweet
c. tweet\n
d. 'tweet'

15. Deduce the output of the following code:
print('Data Science'.istitle())
a. True
b. False
c. Error
d. None

16. Predict the output of the following code:
print('200.123'.isnumeric())
a. True
b. False
c. Error
d. None

>>Lists

1. The statement that creates the list is
a. superstore = list()
b. superstore = []
c. superstore = list([1,2,3])
d. All of the above

2. Suppose continents = [1,2,3,4,5], what is the output of len(continents)?
a. 5
b. 4
c. None
d. error

3. What is the output of the following code snippet?
islands = [111,222,300,411,546]
max(islands)
a. 300
b. 222
c. 546
d. 111

4. Assume the list superstore is [1,2,3,4,5], which of the following is correct syntax for slicing operation?
a. print(superstore[0:])
b. print(superstore[:2])
c. print(superstore[:-2])
d. All of these

5. If zoo = ["lion", "tiger"], what will be zoo * 2?
a. ['lion']
b. ['lion', 'lion', 'tiger', 'tiger']
c. ['lion', 'tiger', 'lion', 'tiger']
d. ['tiger']

6. To add a new element to a list the statement used is?

a. zoo. add(5)
b. zoo.append("snake")
c. zoo.addLast(5)
d. zoo.addend(4)

7. To insert the string "snake" to the third position in zoo, which of the following statement is used?
a. zoo.insert(3, "snake")
b. zoo. insert(2, "snake")
c. zoo.add(3, "snake")
d. zoo.append(3, "snake")

8. Consider laptops = [3, 4, 5, 20, 5, 25, 1, 3], what will be the output of laptops.reverse()?
a. [3, 4, 5, 20, 5, 25, 1, 3]
b. [1, 3, 3, 4, 5, 5, 20, 25]
c. [25, 20, 5, 5, 4, 3, 3, 1]
d. [3, 1, 25, 5, 20, 5, 4, 3]

9. Assume quantity = [3, 4, 5, 20, 5, 25, 1, 3], then what will be the items of quantity list after quantity.pop(1)?
a. [3, 4, 5, 20, 5, 25, 1, 3]
b. [1, 3, 3, 4, 5, 5, 20, 25]
c. [3, 5, 20, 5, 25, 1, 3]
d. [1, 3, 4, 5, 20, 5, 25]

10. What is the output of the following code snippet?
letters = ['a', 'b', 'c', 'd', 'e']
letters[::-2]
a. ['d', 'c', 'b']
b. ['a', 'c', 'e']
c. ['a', 'b', 'd']
d. ['e', 'c', 'a']

11. Suppose list_items is [3, 4, 5, 20, 5, 25, 1, 3], then what is the result of list_items. remove(4)?
a. 3, 5, 29, 5
b. 3, 5, 20, 5, 25, 1, 3
c. 5, 20, 1, 3
d. 1, 3, 25

12. Find the output of the following code.
matrix= [[1,2,3],[4,5,6]]
v = matrix[0][0]
for row in range(0, len(matrix)):
for column in range(0, len(matrix[row])):
if v < matrix[row][column]:
v = matrix[row][column]
print(v)
a. 3
b. 5
c. 6
d. 33

13. Gauge the output of the following.
matrix = [[1, 2, 3, 4],
[4, 5, 6, 7],

[8, 9, 10, 11],
[12, 13, 14, 15]]
for i in range(0, 4):
print(matrix[i][1])
a. 1 2 3 4
b. 4 5 6 7
c. 1 3 8 12
d. 2 5 9 13

14. What will be the output of the following?
data = [[[1, 2], [3, 4]], [[5, 6], [7, 8]]]
print(data[1][0][0])
a. 1
b. 2
c. 4
d. 5

15. The list function that inserts the item at the given index after shifting the items to the right is
a. sort()
b. index()
c. insert()
d. append()

16. The method that is used to count the number of times an item has occurred in the list is
a. count()
b. len()
c. length()
d. extend()

>>Dictionary

1. Which of the following statements create a dictionary?
a. dic = {}
b. dic = {"charles":40, "peterson":45}
c. dic = {40: "charles", 45: "peterson"}
d. All of the above

2. Read the code shown below carefully and pick out the keys.
dic = {"game":40, "thrones":45}
a. "game", 40, 45, and "thrones"
b. "game" and "thrones"
c. 40 and 45
d. dic = (40: "game", 45: "thrones")

3. Gauge the output of the following code snippet.
fruit = {"apple":"red", "guava":"green"}
"apple" in fruit
a. True
b. False
c. None
d. Error

4. Consider phone_book = {"Kalpana":7766554433, "Steffi":4499551100}. To delete the key "Kalpana" the code used is

a. phone_book.delete("Kalpana":7766554433)
b. phone_book.delete("Kalpana")
c. del phone_book["Kalpana"]
d. del phone_book("Kalpana":7766554433)

5. Assume d = {"Guido":"Python", "Dennis":"C"}. To obtain the number of entries in dictionary the statement used is
a. d.size()
b. len(d)
c. size(d)
d. d.len()

6. Consider stock_prices = {"IBM":220, "FB":800}. What happens when you try to retrieve a value using the statement stock_prices["IBM"]?
a. Since "IBM" is not a value in the set, Python raises a KeyError exception.
b. It executes fine and no exception is raised
c. Since "IBM" is not a key in the set, Python raises a KeyError exception.
d. Since "IBM" is not a key in the set, Python raises a syntax error.

7. Which of the following statement is false about the dictionary?
a. The values of a dictionary can be accessed using keys.
b. The keys of a dictionary can be accessed using values.
c. Dictionaries are not ordered.
d. Dictionaries are mutable

8. What is the output of the following code?
stuff = {"book":"Java", "price":45}
stuff.get("book")
a. 45
b. True
c. Java
d. price

9. Predict the output of the following code.
fish = {"g": "Goldfish", "s": "Shark"}
fish.pop(s)
print(fish)
a. {'g': 'Goldfish', 's': 'Shark'}
b. {'s': 'Shark'}
c. {'g': 'Goldfish'}
d. Error

10. The method that returns the value for the key present in the dictionary and if the key is not present then it inserts the key with default value into the dictionary.
a. update()
b. fromkeys()
c. setdefault()
d. get()

11. Guess the output of the following code.
grades = {90: "S", 80: "A"}
del grades
a. Method *del* doesn't exist for the dictionary.
b. *del* deletes the values in the dictionary.
c. *del* deletes the entire dictionary.

d. *del* deletes the keys in the dictionary.

12. Assume *dic* is a dictionary with some *key:value* pairs. What does *dic.popitem()* do?
a. Removes an arbitrary *key:value* pair
b. Removes all the *key:value* pairs
c. Removes the *key:value* pair for the key given as an argument
d. Invalid method

13. What will be the output of the following code snippet?
```
numbers = {}
letters = {}
comb = {}
numbers[1] = 56
numbers[3] = 7
letters[4] = "B"
comb["Numbers"] = numbers
comb["Letters"] = letters
print(comb)
```
a. Nested dictionary cannot occur
b. 'Numbers': {1: 56, 3: 7}
c. {'Numbers': {1: 56}, 'Letters': {4: 'B'}}
d. {'Numbers': {1: 56, 3: 7}, 'Letters': {4: 'B'}}

14. Gauge the output of the following code.
```
demo = {1: 'A', 2: 'B', 3: 'C'}
del demo[1]
demo[1] = 'D'
del demo[2]
print(len(demo))
```
a. 0
b. 2
c. Error
d. 1

15. Assuming *b* to be a dictionary, what does *any(b)* do?
a. Returns True if any key of the dictionary is True.
b. Returns False if dictionary is empty.
c. Returns True if all keys of the dictionary are True.
d. Method *any()* doesn't exist for dictionary.

16. Infer the output of the following code.
```
count = {}
count[(1, 2, 4)] = 5
count[(4, 2, 1)] = 7
count[(1, 2)] = 6
count[(4, 2, 1)] = 2
tot = 0
for i in count:
tot = tot + count[i]
print(len(count)+tot)
```
a. 25
b. 17
c. 16
d. Error

17. The _____ function returns Boolean True value if all the keys in the dictionary are True else returns False.
a. all()
b. sorted()
c. len()
d. any()

18. Predict the output of the following code.
>>> dic = {}
>>> dic.fromkeys([1,2,3], "check")
a. Syntax error
b. {1: 'check', 2: 'check', 3: 'check'}
c. 'check'
d. {1:None, 2:None, 3:None}

19. For dictionary d = { "plum ":0.66, "pears ":1.25,"oranges ":0.49}, which of the following statement correctly updates the price of oranges to 0.52?
a. d[2] = 0.52
b. d[0.49] = 0.52
c. d["oranges "] = 0.52
d. d["plum "] = 0.52

20. The syntax that is used to modify or add a new key: value pair to a dictionary is:
a. dictionary_name[key] = value
b. dictionary_name[value] = key
c. dictionary_name(key) = value
d. dictionary_name{key} = value

21. Which of the following cannot be used as a key in Python dictionaries?
a. Strings
b. Lists
c. Tuples
d. Numerical values

22. Guess the output of the following code.
week = {1:"sunday", 2:"monday", 3:"tuesday"}
for i,j in week.items():
print(i, j)
a. 1 sunday 2 monday 3 Tuesday
b. 1 2 3
c. sunday monday tuesday
d. 1:"sunday" 2:"monday" 3:"tuesday"

23. Predict the output of the following code.
a = {1: "A", 2: "B", 3: "C"}
b = {4: "D", 5: "E"}
a.update(b)
print(a)
a. {1: 'A', 2: 'B', 3: 'C'}
b. Error
c. {4: 'D', 5: 'E'}
d. {1: 'A', 2: 'B', 3: 'C', 4: 'D', 5: 'E'}

>>Tuples and Sets

1. Which of the following is a mutable type?

a. Strings
b. Lists
c. Tuples
d. Frozenset

2. What will be the output of the following code?
t1 = (1, 2, 3, 4)
t1.append((5, 6, 7))
print(len(t1))
a. Error
b. 2
c. 1
d. 5

3. What is the correct syntax for creating a tuple?
a. ["a","b","c"]
b. ("a","b","c")
c. {"a","b","c"}
d. {}

4. Assume air_force = ("f15", "f22a", "f35a"). Which of the following is incorrect?
a. print(air_force[2])
b. air_force[2] = 42
c. print(max(air_force))
d. print(len(air_force))

5. Gauge the output of the following code snippet.
bike = ('d','u','c','a','t','i')
bike [1:3]
a. ('u', 'c')
b. ('u', 'c', 'c')
c. ('d', 'u', 'c')
d. ('a', 't', 'i')

6. What is the output of the following code?
colors = ("v", "i", "b", "g", "y", "o", "r")
for i in range(0, len(colors),2):
print(colors[i])
a. ('i', 'b')
b. ('v', 'i', 'b')
c. ['v', 'b', 'y', 'r']
d. ('i', 'g', 'o')

7. What is the output of the following code snippet?
colors = ("v", "i", "b", "g", "y", "o", "r")
2 * colors
a. ['v', 'i', 'b', 'g', 'y', 'o', 'r']
b. ('v', 'i', 'b', 'g', 'y', 'o', 'r')
c. ('v', 'v', 'i', 'i', 'b', 'b', 'g', 'g', 'y', 'y', 'o', 'o', 'r', 'r')
d. ('v', 'i', 'b', 'g', 'y', 'o', 'r', 'v', 'i', 'b', 'g', 'y', 'o', 'r')

8. Predict the output of the following code.
os = ('w', 'i', 'n', 'd', 'o', 'w', 's')
os1 = ('w', 'i', 'n', 'd', 'w', 's', 'o')
os < os1
a. True

b. False
c. 1
d. 0

9. What is the data type of (3)?
a. Tuple
b. List
c. None
d. Integer

10. Assume tuple_1 = (7,8,9,10,11,12,13) then the output of tuple_1[1:-1] is.
a. Error
b. (8,9,10,11,12)
c. [8,9,10,11,12]
d. None

11. What might be the output of the following code:
A = ("hello") * 3
print(A)
a. Operator Error
b. ('hello','hello','hello')
c. 'hellohellohello'
d. None of these

12. What is the output of the following code:
number_1 = {1,2,3,4,5}
number_2 = {1,2,3}
number_1.difference(number_2)
a. {4, 5}
b. {1, 2, 3}
c. (4, 5)
d. [4, 5]

13. Judge the output of the following code:
tuples = (7,8,9)
sum(tuples, 2)
a. 26
b. 20
c. 12
d. 3

14. tennis = ('steffi', 'monica', 'serena', 'monica', 'navratilova')
tennis.count('monica')
a. 3
b. 0
c. 2
d. 1

15. A set is an _____ collection with no _____ items.
a. unordered, duplicate
b. ordered, unique
c. unordered, unique
d. ordered, duplicate

16. Judge the output of the following:
sets_1 = set(['a','b','b','c','c','c','d'])

len(sets_1)
a. 1
b. 4
c. 5
d. 7

17. What is the output of the code shown below?
s = {1,2,3}
s.update(4)
print(s)
a. {1,2,3,4}
b. {1,2}
c. {1,2,3}
d. Error

18. Tuple unpacking requires
a. an equal number of variables on the left side to the number of items in the tuple.
b. greater number of variables on the left side to the number of items in the tuple.
c. less number of variables on the left side to the number of items in the tuple.
d. Does not require any variables.

19. The statement that is used to create an empty set is
a. {}
b. set()
c. []
d. ()

20. The _____ functions removes the first element of the set
a. remove()
b. delete()
c. pop()
d. truncate()

21. The method that returns a new set with items common to two sets is
a. isdisjoint()
b. intersection()
c. symmetric_difference()
d. union()

22. What is the output of the following code snippet?
s1 = {'a','b','c'}
s2 = {'d'}
print(s1.union(s2))
a. {'c', 'd', 'b', 'a'}
b. {'a', 'b', 'c', 'd'}
c. {'b', 'c', 'd', 'a'}
d. {'d', 'a', 'b', 'c'}

23. The function that makes a sequence by aggregating the elements from each of the iterables is
a. remove()
b. update()
c. frozenset()
d. zip()

24. Predict the output of the following code:
even = {'2', '4', '6'}
odd = {'1', '5', '7 '}
even.isdisjoint(odd)
odd.isdisjoint(even)
a. True False
b. False True
c. True True
d. False False

25. Which of the following code snippet returns symmetric difference between two sets
a. x ^ y
b. x & y
c. x | y
d. x – y

>>Files

1. Consider a file named rome.txt, then the statement used to open a file for reading, we use
a. infile = open("c:\rome.txt", "r")
b. infile = open("c:\\rome.txt", "r")
c. infile = open(file = "c:\rome.txt", "r")
d. infile = open(file = "c:\\rome.txt", "r")

2. Suppose there is a file named rome.txt, then the statement used to open a file for writing, we use
a. outfile = open("c:\rome.txt", "w")
b. outfile = open("c:\\rome.txt", "w")
c. outfile = open(file = "c:\rome.txt", "w")
d. outfile = open(file = "c:\\rome.txt", "w")

3. Presume a file named rome.txt, then the statement used for appending data is
a. outfile = open("c:\rome.txt", "a")
b. outfile = open("c:\\rome.txt", "rw")
c. outfile = open(file = "c:\rome.txt", "w")
d. outfile = open(file = "c:\\rome.txt", "w")

4. Which of the following statements are true?
a. When you open a file for reading in 'r' mode, if the file does not exist, an error occurs
b. When you open a file for writing in 'w' mode, if the file does not exist, a new file is created
c. When you open a file for writing in 'w' mode, if the file exists, the existing file is overwritten with the new file
d. All of the mentioned

5. The code snippet to read two characters from a file object infile is
a. infile.read(2)
b. infile.read()
c. infile.readline()
d. infile.readlines()

6. If you want to read the entire contents of the file using file object *infile* then
a. infile.read(2)

b. infile.read()
c. infile.readline()
d. infile.readlines()

7. Predict the output of the following code:
for i in range(5):
with open("data.txt", "w") as f:
if i > 0:
break
print(f.closed)
a. True
b. False
c. None
d. Error

8. The syntax to write to a CSV file is
a. CSV.DictWriter(filehandler)
b. CSV.reader(filehandler)
c. CSV.writer(filehandler)
d. CSV.write(filehandler)

9. Which of the following is not a valid mode to open a file
a. ab
b. r+
c. w+
d. rw

10. The *readline()* method returns
a. str
b. a list of lines
c. a list of single characters
d. a list of integers

11. Which of the following is not a valid attribute of the file object file_handler
a. file_handler.size
b. file_handler.name
c. file_handler.closed
d. file_handler.mode

12. Chose a keyword that is not an attribute of a file.
a. closed
b. softspace
c. rename
d. mode

13. The functionality of tell() method in Python is
a. tells you the current position within the file
b. tells you the end position within the file
c. tells you the file is opened or not
d. None of the above

14. The syntax for renaming of a file is
a. rename(current_file_name, new_file_name)
b. rename(new_file_name, current_file_name,)
c. rename(()(current_file_name, new_file_name))
d. None of the above

15. To remove a file, the syntax used is,
a. remove(file_name)
b. (new_file_name, current_file_name,)
c. remove((), file_name))
d. None of the above

16. An absolute path name begins at the
a. leaf
b. stem
c. root
d. current directory

17. The functionality of *seek()* function is
a. sets the file's current position at the offset
b. sets the file's previous position at the offset
c. sets the file's current position within the file
d. None of the above

18. What is unpickling?
a. It is used for object de- serialization
b. It is used for object serialization
c. It is used for synchronization
d. It is used for converting an object to its string representation

19. Which of the following are basic I/O connections in the file?
a. Standard Input
b. Standard Output
c. Standard errors
d. All of the above

20. The mode that is used to refer to binary data is
a. r
b. w
c. +
d. b

21. File type is represented by its
a. file name
b. file extension
c. file identifier
d. file variable

22. The method that returns the time of last modification of the file is
a. getmtime()
b. gettime()
c. time()
d. localtime()

23. Pickling is used for?
a. object deserialization
b. object serialization
c. synchronization
d. converting string representation to object

>>Regular Expression

1. The module that supports regular expressions is
a. re
b. regex
c. pyregex
d. strings

2. The function that creates the pattern object is
a. re.create(str)
b. re.regex(str)
c. re.compile(str)
d. re.assemble(str)

3. The metacharacter period(.) matches any character other than __.
a. &
b. ^
c. \b
d. \n

4. The functionality of the regex_pattern.match()
a. matches a pattern at the end of the string
b. matches a pattern at the start of the string
c. matches a pattern at any position of the string
d. None of these

5. The functionality of the regex_pattern.search()
a. matches a pattern at the end of the string
b. matches a pattern at the start of the string
c. matches a pattern at any position of the string
d. None of these

6. The expression wood{5,8} will match how many characters with the regular expression?
a. Matches the pattern from five to eight times
b. Matches the pattern from four to seven times
c. Matches the pattern from zero to five times
d. None of these

7. Which special character matches one or more specific characters?
a. *
b. +
c. ?
d. None of these

8. Which regular expression will match the string April-4-18?
a. [a-z]+W[0-9]+W[0-9]+
b. ([a-zA-Z]+)\W([0-9]+)\W([0-9]+)
c. JUL-w-w
d. (d+|[a-zA-Z]+)[/-](d+)[/-](d+)

9. Consider the following code.
pattern = re.compile(r'crying')
replaced_string = pattern.sub('smiling', 'you are crying')
The output for above code is
a. Crying

b. Smiling
c. You are crying
d. You are smiling

10. In the match_object.start(group) and match_object.end(group) methods, if the argument *group* is not specified then it defaults to
a. 1
b. 0
c. 2
d. 3

11. The metacharacter \s matches __ characters
a. Word boundary
b. Decimal digit
c. White space
d. Alphabets

12. The __meta character matches zero or more repetitions of the string
a. +
b. ?
c. .
d. *

13. The characters __ and __ matches the start and end of the string, respectively.
a. ^and.
b. * and &
c. ^ and $
d. $ and $

14. Consider the statement pattern = re.compile('inspiring years'). Guess the output of the following code pattern.findall('inspiring').
a. [years]
b. []
c. years
d. [inspiring years]

15. For the statement pattern = re.compile(r'12*'), which of the below lines of code does not show a match?
a. pattern.match('1')
b. pattern.match('12')
c. pattern.match('122')
d. pattern.match('21')

16. The code below validates IP address:
pattern = re.compile(r'\b(\d{1,3})\b.\b(\d{1,3})\b.\b(\d{1,3})\b.\b(\d{1,3})\b')
Which of the following code matches the pattern?
a. pattern.search("123.111.123.145")
b. pattern.search("193.123.2013.45")
c. pattern.search("231.56.123")
d. pattern.search("123.46.13.3454")

17. Below code pattern validates a user name:
pattern = re.compile(r'^[a-z0-9_-]{6,14}$')
Which of the following code matches the pattern?
a. pattern.search("Python.3.superb")
b. pattern.search("Python.3_superb")

c. pattern.search("python3superb")
d. pattern.search("Python_3-superb")

18. To remove extra spaces from the string "Lion is King of Jungle", the code used is
a. pattern = re.compile(r'\s')
pattern.sub(" ", "Lion is King of Jungle")
b. pattern = re.compile(r'\s+')
pattern.sub(" ", "Lion is King of Jungle")
c. pattern = re.compile(r'\S+')
pattern.sub(" ", "Lion is King of Jungle")
d. pattern = re.compile(r'\S)
pattern.sub(" ", "Lion is King of Jungle")

19. Consider a file 21-12-2016.zip. The regular expression pattern to extract date from filename is
a. ([0-9]{1}\-[0-9]{2}\-[0-9]{4})
b. ([0-9]{2}\-[0-9]{2}\-[0-9]{4})
c. ([0-9]{2}\-[0-9]{2}\-[0-9]{2})
d. ([0-9]{2}\-[0-9]{1}\-[0-9]{4})

20. Consider the string "October 31". The pattern to extract only the month in the string is
a. ([a-zA-Z])
b. [a-zA-Z]+ \d+
c. ([a-z]+) \d+
d. ([a-zA-Z]+) \d+

21. The Indian Aadhar number is a 12-digit unique identification number that is assigned to an individual. The first digit should not be either 0 or 1 while the remaining digits can be between 0 to 9 with no space or hyphen between any of the digits. Pattern matching this criterion is
a. [1-9]{1}[0-9]{11}
b. [0-9]{1}[0-9]{11}
c. [2-9]{2}[0-9]{11}
d. [2-9]{1}[0-9]{11}

22. When *findall()* method is used to apply the pattern r'\d{2, 4}' for the string '01, Jan 2015', it results in
a. ['01', '2015']
b. ['2015']
c. ['01']
d. ['012015']

>>Object Oriented Programming

1. The distinctly identifiable entity in the real world is called as _____
a. An object
b. A class
c. Data attribute
d. Method attribute

2. A blueprint that defines the objects of the same type is called as _____
a. An object
b. A class
c. function
d. constructor

3. The beginning of the class definition is marked by the keyword _____
a. def
b. return
c. class
d. None of the above

4. What is Polymorphism?
a. You can have multiple classes where each class implements the same variables or methods in different ways
b. Ability of a class to derive members of another as a part of its own definition
c. Focuses on variables and passing of variables to functions
d. Encapsulating variables and methods to certain classes

5. The correct way of inheriting a derived class from the base class is
a. class (Base) Derived:
b. class Derived (Base):
c. class (Base) Derived:
d. class Base (Derived):

6. Identify the function that checks for class inheritance.
a. issubclass()
b. isobject()
c. issuperclass()
d. isinstance()

7. Duck-typing in Python is
a. Makes the program code smaller
b. More restriction on the type values that can be passed to a given method.
c. No restriction on the type values that can be passed to a given method.
d. An object's suitability is determined by the presence of methods and variables rather than the actual type of the object.

8. In Python single inheritance can be defined as
a. A single class inherits from multiple classes.
b. A multiple base class inherits from a single derived class.
c. A subclass derives from a class which in turn derives from another class.
d. A single subclass derives from a single super class.

9. Which of the following are the fundamental features of OOP?
a. Inheritance
b. Encapsulation
c. Polymorphism
d. All of the above

10. The + operator is overloaded using the method
a. __add__()
b. __plus__()
c. __sum__()
d. __total__()

11. The operator overloaded by __invert__() method is
a. !
b. ~
c. ^
d. –

12. The syntax for using super() in derived class __init__() method definition looks like
a. super().__init__(baseclassparameters)
b. init__.super()
c. super().__init__(derivedclassparameters)
d. super()

13. MRO stands for
a. Member Resolution Order
b. Member Reverse Order
c. Member Resolution Office
d. Method Resolute Order

14. Diamond problem in Python is
a. It is term used for overloading
b. It is term used for an ambiguity that arises when multiple classes of same level are inherited
c. It is a term used for polymorphism
d. There is no such problem

15. The syntax that is used to get information about Method Resolution Order is
a. mro().class
b. mro().tuple
c. <class>.mro()
d. <class>.diamond()

16. The function of instantiation is
a. Modifying an instance of a class
b. Copying an instance of a class
c. Deleting an instance of a class
d. Creating an instance of a class

17. Identify the type of inheritance that is illustrated in this piece of code?
class A()
pass
class B()
pass
class C(A,B)
pass
a. Single inheritance
b. Multilevel inheritance
c. Multiple inheritance
d. Hierarchical inheritance

>>Introduction to data science

1. The full form of abbreviation XML is
a. Extensible Markup Language
b. Excisable Markup Language
c. Executive Markup Language
d. Extensible Managing Language

2. Guess the correct syntax of the declaration which defines the XML version.
a. <xml version="1.0"/>
b. <?xml version="1.0"/>
c. <?xml version="1.0"?>

d. </xml version="1.0"/>

3. Comments in XML is identified by
a. <?------- >
b. </------- />
c. <!------- >
d. </------- >

4. Consider the following XML code and identify the root node.
<?xml version= "1.0" encoding ="UTF-8"?>
<fullname>
<firstname>Alex</firstname>
<lastname>Stanley</lastname>
<employeecode>EC123</employeecode>
</fullname>
a. <fullname>
b. <firstname>
c. <lastname>
d. <employeecode

5. JSON stands for _____.
a. JavaScript Object Notation
b. Java Object Notation
c. JSON Object Notation
d. All of these

6. The extension for JSON files is
a. .json
b. .js
c. .jn
d. .jsn

7. JSON string value pair is written as
a. string = 'value'
b. "string": "value"
c. name = "value"
d. name: 'value'

8. Which of the following syntax is correct for a JSON array?
a. {"digits": ["1", "2", "3";]}
b. {"digits': {"1", "2", "3"}}
c. {"digits": [1, 2, 3]}
d. {"digits": ["1", "2", "3"]}

9. JSON elements are separated by
a. semi-colon
b. line break
c. comma
d. white space

10. Which of the following can be data in panda?
a. dictionary
b. An ndarray
c. A scalar value
d. All of these

11. Identify the correct syntax to import the pandas library.
a. import pandas as pd
b. import panda as py
c. import pandaspy as py
d. None of the above

12. Which of the following is the standard data missing marker used in pandas?
a. NaN
b. Null
c. None
d. All of the above

13. The object that is returned after reading CSV file in pandas is _____
a. Character Vector
b. DataFrame
c. Panel
d. None of the above

14. Point out the correct statement.
a. NumPy's main object is the homogeneous multidimensional array
b. In NumPy, dimensions are called axes
c. NumPy's array class is called ndarray
d. All of these

15. The function that returns its arguments with a modified shape and the method that modifies the array itself respectively in NumPy are
a. resize, reshape
b. reshape, resize
c. reshape2, resize
d. reshape2, resize2

16. The declarative statistical visualization library available in Python is
a. Altair
b. Matplotlib
c. Seaborn
d. Bokeh

17. Input Data in Altair is primarily based on
a. Pandas DataFrame
b. Strings
c. Lists
d. Dictionaries

18. If the type of Data is not specified in Altair, then nominal data defaults to
a. Tuple
b. Dictionary
c. String
d. List