1.Which of the following is not a type of inheritance?

**Choose the correct answer(s) from the following:**

Double-level

Multi-level

Single-level

Multiple

2.What will be the output of the following Python code?

class A:

def \_\_init\_\_(self, x= 1):

self.x = x

class der(A):

def \_\_init\_\_(self,y = 2):

super().\_\_init\_\_()

self.y = y

def main():

obj = der()

print(obj.x, obj.y)

main()

**Choose the correct answer(s) from the following:**

Error, the syntax of the invoking method is wrong

The program runs fine but nothing is printed

1 0

1 2

3. What will be the output of the following Python code?

class Test:

def \_\_init\_\_(self):

self.x = 0

class Derived\_Test(Test):

def \_\_init\_\_(self):

Test.\_\_init\_\_(self)

self.y = 1

def main():

b = Derived\_Test()

print(b.x,b.y)

main()

4. Suppose B is a subclass of A, to invoke the \_\_init\_\_ method in A from B, what is the line of code you should write?

**Choose the correct answer(s) from the following:**

A.\_\_init\_\_(self)

B.\_\_init\_\_(self)

A.\_\_init\_\_(B)

B.\_\_init\_\_(A)

5. When defining a subclass in Python that is meant to serve as a subtype, the subtype Python keyword is used.

**Choose the correct answer(s) from the following:**

True

Fakse

6.All subclasses are a subtype in object-oriented programming.

**Choose the correct answer(s) from the following:**

True

False

7. What will be the output of the following Python code?

class A():

def disp(self):

print("A disp()")

class B(A):

pass

obj = B()

obj.disp()

**Choose the correct answer(s) from the following:**

Invalid syntax for inheritance

Error because when object is created, argument must be passed

Nothing is printed

A disp()

8. What will be the output of the following Python code?

class Test:

def \_\_init\_\_(self):

self.x = 0

class Derived\_Test(Test):

def \_\_init\_\_(self):

self.y = 1

def main():

b = Derived\_Test()

print(b.x,b.y)

main()

**Choose the correct answer(s) from the following:**

0 1

0 0

Error because class B inherits A but variable x isn’t inherited

Error because when object is created, argument must be passed like Derived\_Test(1)

9. What will be the output of the following Python code?

class Demo:

def \_\_new\_\_(self):

self.\_\_init\_\_(self)

print("Demo's \_\_new\_\_() invoked")

def \_\_init\_\_(self):

print("Demo's \_\_init\_\_() invoked")

class Derived\_Demo(Demo):

def \_\_new\_\_(self):

print("Derived\_Demo's \_\_new\_\_() invoked")

def \_\_init\_\_(self):

print("Derived\_Demo's \_\_init\_\_() invoked")

def main():

obj1 = Derived\_Demo()

obj2 = Demo()

main()

Choose the correct answer(s) from the following:

✓

Derived\_Demo’s \_\_init\_\_() invoked

Derived\_Demo's \_\_new\_\_() invoked

Demo's \_\_init\_\_() invoked

Demo's \_\_new\_\_() invoked

✓

Derived\_Demo's \_\_new\_\_() invoked

Demo's \_\_init\_\_() invoked

Demo's \_\_new\_\_() invoked

✓

Derived\_Demo's \_\_new\_\_() invoked

Demo's \_\_new\_\_() invoked

✓

Derived\_Demo’s \_\_init\_\_() invoked

Demo's \_\_init\_\_() invoked

10. Which of the following best describes inheritance?

**Choose the correct answer(s) from the following:**

✓

Ability of a class to derive members of another class as a part of its own definition

✓

Means of bundling instance variables and methods in order to restrict access to certain class members

✓

Focuses on variables and passing of variables to functions

✓

Allows for implementation of elegant software that is well designed and easily modified

1.What will be the output of the following Python code?

**Choose the correct answer(s) from the following:**

1. A A
2. A B
3. B B
4. An exception is thrown

2. What type of inheritance is illustrated in the following Python code?

class A():

pass

class B():

pass

class C(A,B):

pass

**Choose the correct answer(s) from the following:**

Multi-level inheritance

Multiple inheritance

Hierarchical inheritance

Single-level inheritance

3. What type of inheritance is illustrated in the following Python code?

class A():

pass

class B(A):

pass

class C(B):

pass

**Choose the correct answer(s) from the following:**

Multi-level inheritance

Multiple inheritance

Hierarchical inheritance

Single-level inheritance

4. What does single-level inheritance mean?

**Choose the correct answer(s) from the following:**

A subclass derives from a class which in turn derives from another class

A single superclass inherits from multiple subclasses

A single subclass derives from a single superclass

Multiple base classes inherit a single derived class

5. What will be the output of the following Python code?

class A:

def \_\_init\_\_(self):

self.\_\_i = 1

self.j = 5

def display(self):

print(self.\_\_i, self.j)

class B(A):

def \_\_init\_\_(self):

super().\_\_init\_\_()

self.\_\_i = 2

self.j = 7

c = B()

c.display()

**Choose the correct answer(s) from the following:**

2 7

1 5

1 7

2 5

6. What will be the output of the following Python code?

class A:

def \_\_init\_\_(self,x):

self.x = x

def count(self,x):

self.x = self.x+1

class B(A):

def \_\_init\_\_(self, y=0):

A.\_\_init\_\_(self, 3)

self.y = y

def count(self):

self.y += 1

def main():

obj = B()

obj.count()

print(obj.x, obj.y)

main()

**Choose the correct answer(s) from the following:**

3 0

3 1

0 1

An exception in thrown

7. What will be the output of the following Python code?

>>> class A:

pass

>>> class B(A):

pass

>>> obj=B()

>>> isinstance(obj,A)

**Choose the correct answer(s) from the following:**

True

False

Wrong syntax for isinstance() method

Invalid method for classes

8. Method issubclass() checks if a class is a subclass of another class.

**Choose the correct answer(s) from the following:**

True

False

9. What will be the output of the following Python code?

class A:

def test1(self):

print(" test of A called ")

class B(A):

def test(self):

print(" test of B called ")

class C(A):

def test(self):

print(" test of C called ")

class D(B,C):

def test2(self):

print(" test of D called ")

obj=D()

obj.test()

**Choose the correct answer(s) from the following:**

test of B called  
test of C called

test of C called  
test of B called

test of B called

Error, both the classes from which D derives has same method test()

10. What will be the output of the following Python code?

class A:

def test(self):

print("test of A called")

class B(A):

def test(self):

print("test of B called")

super().test()

class C(A):

def test(self):

print("test of C called")

super().test()

class D(B,C):

def test2(self):

print("test of D called")

obj=D()

obj.test()

**Choose the correct answer(s) from the following:**

test of B called  
test of C called  
test of A called

test of C called  
test of B called

test of B called  
test of C called

Error, all the three classes from which D derives has same method test()

**Trees**

1. Suppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree?

**Choose the correct answer(s) from the following:**

7 5 1 0 3 2 4 6 8 9

0 2 4 3 1 6 5 9 8 7

0 1 2 3 4 5 6 7 8 9

9 8 6 4 2 3 0 1 5 7

2. The preorder traversal sequence of a binary search tree is 30, 20, 10, 15, 25, 23, 39, 35, 42. Which one of the following is the postorder traversal sequence of the same tree?

**Choose the correct answer(s) from the following:**

10, 20, 15, 23, 25, 35, 42, 39, 30

15, 10, 25, 23, 20, 42, 35, 39, 30

15, 20, 10, 23, 25, 42, 35, 39, 30

15, 10, 23, 25, 20, 35, 42, 39, 30

3. Which of the following traversals is sufficient to construct BST from given traversals 1) Inorder 2) Preorder 3) Postorder

**Choose the correct answer(s) from the following:**

Any one of the given three traversals is sufficient

Either 2 or 3 is sufficient

2 and 3

1 and 3

4. While inserting the elements 71, 65, 84, 69, 67, 83 in an empty binary search tree (BST) in the sequence shown, the element in the lowest level is

**Choose the correct answer(s) from the following:**

65

67

69

83

5. Suppose that we have numbers between 1 and 100 in a binary search tree and want to search for the number 55. Which of the following sequences CANNOT be the sequence of nodes examined?

**Choose the correct answer(s) from the following:**

{10, 75, 64, 43, 60, 57, 55}

{90, 12, 68, 34, 62, 45, 55}

{9, 85, 47, 68, 43, 57, 55}

{79, 14, 72, 56, 16, 53, 55}

6. A Binary Search Tree (BST) stores values in the range 37 to 573. Consider the following sequence of keys.

I. 81, 537, 102, 439, 285, 376, 305

II. 52, 97, 121, 195, 242, 381, 472

III. 142, 248, 520, 386, 345, 270, 307

IV. 550, 149, 507, 395, 463, 402, 270

Suppose the BST has been unsuccessfully searched for key 273. Which all of the above sequences list nodes in the order in which we could have encountered them in the search?

**Choose the correct answer(s) from the following:**

II and III only

I and III only

III and IV only

III only

7. How many distinct BSTs can be constructed with 3 distinct keys?

**Choose the correct answer(s) from the following:**

4

5

6

9

8. A binary search tree is generated by inserting in order the following integers:

50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24

The number of nodes in the left subtree and right subtree of the root respectively is

**Choose the correct answer(s) from the following:**

(4, 7)

(7, 4)

(8, 3)

(3, 8)

9. A full binary tree with n leaves contains

**Choose the correct answer(s) from the following:**

n nodes

log2n nodes

2n - 1 nodes

2n+1 nodes

10. Traversing a binary tree first root and then left and right subtrees called \_\_\_\_\_\_\_\_\_\_\_\_ traversal.

**Choose the correct answer(s) from the following:**

postorder

preorder

inorder

none of these

### infyTQ MCQ #1

1. What will be the data type of n after the following statements if the user entered thenumber 45?

m = input('Enter a number: ')

n = int(m)

**Choose the correct answer(s) from the following:**

Float

String

List

Integer

2. What will be the output after the following statements?

m = 9 \* (3 + 12)

print(m)

**Choose the correct answer(s) from the following:**

45

159

95

135

3. What will be the output after the following statements?

m = 92

n = 35

print(m > n)

**Choose the correct answer(s) from the following:**

True

False

Yes

No

4. What will be the output of the following Python code?

>>> class A:

pass

>>> class B(A):

pass

>>> obj=B()

>>> isinstance(obj,A)

**Choose the correct answer(s) from the following:**

True

False

Wrong syntax for isinstance() method

Invalid method for classes

5. What will be the output of the following Python code?

class A:

def \_\_init\_\_(self):

self.\_\_i = 1

self.j = 5

def display(self):

print(self.\_\_i, self.j)

class B(A):

def \_\_init\_\_(self):

super().\_\_init\_\_()

self.\_\_i = 2

self.j = 7

c = B()

c.display()

**Choose the correct answer(s) from the following:**

2 7

1 5

1 7

2 5

6. What type of inheritance is illustrated in the following Python code?

class A():

pass

class B(A):

pass

class C(B):

pass

**Choose the correct answer(s) from the following:**

Multi-level inheritance

Multiple inheritance

Hierarchical inheritance

Single-level inheritance

7. What will be the output of the following Python code?

class A():

def disp(self):

print("A disp()")

class B(A):

pass

obj = B()

obj.disp()

**Choose the correct answer(s) from the following:**

Invalid syntax for inheritance

Error because when object is created, argument must be passed

Nothing is printed

A disp()

8. What will be the output of the following Python code?

class A:

def \_\_init\_\_(self, x= 1):

self.x = x

class der(A):

def \_\_init\_\_(self,y = 2):

super().\_\_init\_\_()

self.y = y

def main():

obj = der()

print(obj.x, obj.y)

main()

**Choose the correct answer(s) from the following:**

Error, the syntax of the invoking method is wrong

The program runs fine but nothing is printed

1 0

1 2

9. Suppose B is a subclass of A, to invoke the \_\_init\_\_ method in A from B, what is the line of code you should write?

**Choose the correct answer(s) from the following:**

A.\_\_init\_\_(self)

B.\_\_init\_\_(self)

A.\_\_init\_\_(B)

B.\_\_init\_\_(A)

10. Which of the following is not a type of inheritance?

**Choose the correct answer(s) from the following:**

Double-level

Multi-level

Single-level

Multiple

### InfyTQ MCQ #2

1. What will be the output of the following Python code?

>>> a={3,4,5}

>>> a.update([1,2,3])

>>> a

**Choose the correct answer(s) from the following:**

Error, no method called update for set data type

{1, 2, 3, 4, 5}

Error, list can’t be added to set

Error, duplicate item present in list

2. If a={5,6,7,8}, which of the following statements is false?

**Choose the correct answer(s) from the following:**

print(len(a))

print(min(a))

a.remove(5)

a[2]=45

3. What will be the output of the following Python code?

>>> a=(2,3,1,5)

>>> a.sort()

>>> a

**Choose the correct answer(s) from the following:**

(1,2,3,5)

(2,3,1,5)

None

Error, tuple has no attribute sort

4. Is the following Python code valid?

>>> a,b,c=1,2,3

>>> a,b,c

**Choose the correct answer(s) from the following:**

Yes, [1,2,3] is printed

No, invalid syntax

Yes, (1,2,3) is printed

1 is printed

5. What will be the output of the following Python code?

l1=[1,2,3]

l2=[4,5,6]

[x\*y for x in l1 for y in l2]

**Choose the correct answer(s) from the following:**

[4, 8, 12, 5, 10, 15, 6, 12, 18]

[4, 10, 18]

[4, 5, 6, 8, 10, 12, 12, 15, 18]

[18, 12, 6, 15, 10, 5, 12, 8, 4]

6. What will be the output of the following Python code snippet?

my\_string = "hello world"

k = [(i.upper(), len(i)) for i in my\_string]

print(k)

**Choose the correct answer(s) from the following:**

[('HELLO', 5), ('WORLD', 5)]

[('H', 1), ('E', 1), ('L', 1), ('L', 1), ('O', 1), (' ', 1), ('W', 1), ('O', 1), ('R', 1), ('L', 1), ('D', 1)]

[('HELLO WORLD', 11)]

none of the mentioned

7. Suppose list1 = [0.5 \* x for x in range(0, 4)], list1 is:

**Choose the correct answer(s) from the following:**

[0, 1, 2, 3]

[0, 1, 2, 3, 4]

[0.0, 0.5, 1.0, 1.5]

[0.0, 0.5, 1.0, 1.5, 2.0]

8. Suppose list1 is [3, 5, 25, 1, 3], what is min(list1)?

**Choose the correct answer(s) from the following:**

3

5

25

1

9. What will be the output of the following Python code?

print("ccdcddcd".find("c"))

**Choose the correct answer(s) from the following:**

4

0

Error

True

10. What will be the output of the following Python code?

print("abcdef".find("cd"))

**Choose the correct answer(s) from the following:**

True

2

3

none of the mentioned

11. What will be the output of the following Python code?

print("xyyzxyzxzxyy".count('xyy', 0, 100))

**Choose the correct answer(s) from the following:**

2

0

1

error

12. To return the length of string s what command do we execute?

**Choose the correct answer(s) from the following:**

s.length()

len(s)

size(s)

s.size()

13. Which of the following statement prints hello\example\test.txt?

**Choose the correct answer(s) from the following:**

print("hello\example\test.txt")

print("hello\\example\\test.txt")

print("hello\"example\"test.txt")

print("hello"\example"\test.txt")

14. What will be the output of the following Python code?

|  | >>>example = "snow world" |
| --- | --- |
|  | >>>example[3] = 's' |
|  | >>>print example |

**Choose the correct answer(s) from the following:**

snow

snow world

Error

snos world

15. What will be the output of the following Python code?

'The {} side {1} {2}'.format('bright', 'of', 'life')

**Choose the correct answer(s) from the following:**

Error

'The bright side of life'

'The {bright} side {of} {life}'

No output

16. The following is displayed by a print function call. Select all of the function calls that result in this output.

tom

dick

harry

**Choose the correct answer(s) from the following:**

✓

|  | print('''tom |
| --- | --- |
|  | \ndick |
|  | \nharry''') |

✓

print("'tomdickharry"')

✓

|  | print('tom |
| --- | --- |
|  | dick |
|  | harry') |

✓

print('tom\ndick\nharry')

17. Given a function that does not return any value, What value is thrown by default when executed in shell.

**Choose the correct answer(s) from the following:**

int

bool

void

None

18. Is Python case sensitive when dealing with identifiers?

**Choose the correct answer(s) from the following:**

yes

no

machine dependent

none of the mentioned

19. Which of the following is not a complex number?

**Choose the correct answer(s) from the following:**

k = 2 + 3j

k = complex(2, 3)

k = 2 + 3l

k = 2 + 3J

20. Evaluate the expression given below if A = 16 and B = 15.

A % B // A

**Choose the correct answer(s) from the following:**

0.0

0

1.0

1

### InfyTQ SQL #1

1. SELECT name

FROM instructor

WHERE dept name = ’Physics’

ORDER BY name;

By default, the order by clause lists items in\_\_\_\_\_\_ order.

**Choose the correct answer(s) from the following:**

Descending

Any

Same

Ascending

2. SELECT emp\_name

FROM department

WHERE dept\_name LIKE ’ \_\_\_\_\_ Computer Science’;

Which one of the following has to be added into the blank to select the dept\_name which has Computer Science as its ending string?

**Choose the correct answer(s) from the following:**

%

\_

||

$

3. SELECT \* FROM employee WHERE dept\_name="Comp Sci";

In the SQL given above there is an error . Identify the error.

**Choose the correct answer(s) from the following:**

Dept\_name

Employee

“Comp Sci”

From

4. SELECT name \_\_\_\_ instructor name, course id

FROM instructor, teaches

WHERE instructor.ID= teaches.ID;

Which keyword must be used here to rename the field name?

**hoose the correct answer(s) from the following:**

from

rename

as

join

5. Which of the following statements contains an error?

**Choose the correct answer(s) from the following:**

Select \* from emp where empid = 10003;

Select empid from emp where empid = 10006;

Select empid from emp;

Select empid where empid = 1009 and lastname = ‘GELLER’;

6. SELECT \* FROM employee WHERE salary>10000 AND dept\_id=101;

Which of the following fields are displayed as output?

**Choose the correct answer(s) from the following:**

Salary, dept\_id

Employee

Salary

All the field of employee relation

7. This Query can be replaced by which one of the following?

SELECT name, course\_id

FROM instructor, teaches

WHERE instructor\_ID= teaches\_ID;

**Choose the correct answer(s) from the following:**

Select name,course\_id from teaches,instructor where instructor\_id=course\_id;

Select name, course\_id from instructor natural join teaches;

Select name, course\_id from instructor;

Select course\_id from instructor join teaches;

8. The \_\_\_\_\_\_\_\_ clause is used to list the attributes desired in the result of a query.

**Choose the correct answer(s) from the following:**

Where

Select

from

distinct

9. The \_\_\_\_\_\_ clause allows us to select only those rows in the result relation of the \_\_\_\_ clause that satisfy a specified predicate.

**Choose the correct answer(s) from the following:**

Where, from

From, select

Select, from

From, where

10. Here which of the following displays the unique values of the column?

SELECT \_\_\_\_\_\_\_\_ dept\_name

FROM instructor;

**Choose the correct answer(s) from the following:**

All

from

distinct

name

### InfyTQ SQL #2

1. Find all the cities with temperature, condition and humidity whose humidity is in the range of 63 to 79.

**Choose the correct answer(s) from the following:**

SELECT \* FROM weather WHERE humidity IN (63 to 79)

SELECT \* FROM weather WHERE humidity NOT IN (63 AND 79)

SELECT \* FROM weather WHERE humidity BETWEEN 63 AND 79

SELECT \* FROM weather WHERE humidity NOT BETWEEN 63 AND 79

2. What is the meaning of LIKE ‘%0%0%’?

**Choose the correct answer(s) from the following:**

Feature begins with two 0’s

Feature ends with two 0’s

Feature has more than two 0’s

Feature has two 0’s in it, at any position

3. SQL query to find the temperature in increasing order of all cities.

**Choose the correct answer(s) from the following:**

SELECT city FROM weather ORDER BY temperature

SELECT city, temperature FROM weather

SELECT city, temperature FROM weather ORDER BY temperature

SELECT city, temperature FROM weather ORDER BY city

4. SQL query to find all the cities whose humidity is 95.

**Choose the correct answer(s) from the following:**

SELECT city WHERE humidity = 95

SELECT city FROM weather WHERE humidity = 95

SELECT humidity = 89 FROM weather

SELECT city FROM weather

5. Which SQL keyword is used to sort the result-set?

**Choose the correct answer(s) from the following:**

ORDER BY

SORT

ORDER

SORT BY

6. Which SQL statement is used to return only different values?

**Choose the correct answer(s) from the following:**

SELECT DIFFERENT

SELECT UNIQUE

SELECT DISTINCT

SELECT ALL

7. With SQL, how can you return the number of not null records in the “Persons” table?

**Choose the correct answer(s) from the following:**

SELECT COUNT() FROM Persons

SELECT COLUMNS() FROM Persons

SELECT COLUMNS(\*) FROM Persons

SELECT COUNT(\*) FROM Persons

8. With SQL, how can you return all the records from a table named “Persons” sorted descending by “FirstName”?

**Choose the correct answer(s) from the following:**

SELECT \* FROM Persons SORT BY ‘FirstName’ DESC

SELECT \* FROM Persons ORDER FirstName DESC

SELECT \* FROM Persons SORT ‘FirstName’ DESC

SELECT \* FROM Persons ORDER BY FirstName DESC

9. With SQL, how do you select all the records from a table named “Persons” where the value of the column “FirstName” ends with an “a”?

**Choose the correct answer(s) from the following:**

SELECT \* FROM Persons WHERE FirstName=’a’

SELECT \* FROM Persons WHERE FirstName LIKE ‘a%’

SELECT \* FROM Persons WHERE FirstName LIKE ‘%a’

SELECT \* FROM Persons WHERE FirstName=’%a%’

10. What does DML stand for?

**Choose the correct answer(s) from the following:**

Different Mode Level

Data Model Language

Data Mode Lane

Data Manipulation language

### InfyTQ SQL #3

**1.** Sql supports single line comment, which of the following is single line comment?

**Choose the correct answer(s) from the following:**

'

''

//

--

2. Select \* from employee where salary>10000 and dept\_id=101;

Which of the following fields are displayed as output?

**Choose the correct answer(s) from the following:**

Salary, dept\_id

Employee

Salary

All the field of employee relation

3. Which operator is used to match text while search?

**Choose the correct answer(s) from the following:**

IN

LIKE

BETWEEN

IS

4. Which data manipulation command is used to combines the records from one or more tables?

**Choose the correct answer(s) from the following:**

SELECT

PROJECT

JOIN

PRODUCT

5. SQL provides the AS keyword, which can be used to assign meaningful column names to the results of queries using the SQL built-in functions.

**Choose the correct answer(s) from the following:**

True

False

6. Find the SQL statement below that is equal to the following: SELECT NAME FROM CUSTOMER WHERE STATE = 'VA';

**Choose the correct answer(s) from the following:**

SELECT NAME IN CUSTOMER WHERE STATE IN ('VA');

SELECT NAME IN CUSTOMER WHERE STATE = 'VA';

SELECT NAME IN CUSTOMER WHERE STATE = 'V';

SELECT NAME FROM CUSTOMER WHERE STATE IN ('VA');

7. Which of the following are the five built-in functions provided by SQL?

**Choose the correct answer(s) from the following:**

COUNT, SUM, AVG, MAX, MIN

SUM, AVG, MIN, MAX, MULT

SUM, AVG, MULT, DIV, MIN

SUM, AVG, MIN, MAX, NAME

8. Which of the following is the correct order of keywords for SQL SELECT statements?

**Choose the correct answer(s) from the following:**

SELECT, FROM, WHERE

FROM, WHERE, SELECT

WHERE, FROM,SELECT

SELECT,WHERE,FROM

9. The SQL keyword(s) \_\_\_\_\_\_\_\_ is used with wildcards.

**Choose the correct answer(s) from the following:**

LIKE only

IN only

NOT IN only

IN and NOT IN

10. The SQL WHERE clause:

**Choose the correct answer(s) from the following:**

limits the column data that are returned.

limits the row data are returned.

Both A and B are correct.

Neither A nor B are correct.

### InfyTQ SQL #4

1. SQL Query to delete all rows in a table without deleting the table (structure, attributes, and indexes)

**Choose the correct answer(s) from the following:**

DELETE FROM table\_name;

DELETE TABLE table\_name;

DROP TABLE table\_name;

NONE

DELETE FROM table\_name; will be used to delete all rows in a table and not the table itself. To delete table itself, DROP command is used.

2. In a table, a column contains duplicate value, if you want to list all different value only, then which SQL clause is used?

**Choose the correct answer(s) from the following:**

DISTINCT

UNIQUE

BETWEEN

Exists

3. If you want to allow age of a person > 18 in the column Age of table Person, then which constraint will be applied to AGE column.

**Choose the correct answer(s) from the following:**

Default

Check

NOT NULL

None

4. To specify the number of records to return, which keyword is used

**Choose the correct answer(s) from the following:**

FIRST

TOP

START

ROW

5. Logical operators used in SQL are

**Choose the correct answer(s) from the following:**

AND, OR , NOT

&&, ||, !

$,|,!

None of the above

6. What does below SQL statement describe?

SELECT CustomerName, Address + ‘, ‘ + City + ‘, ‘ + Country AS Address

FROM Customers;

**Choose the correct answer(s) from the following:**

Alias named Address column will be created and under this Address, City and Country will be printed as combined statement.

Alias named Address will be created for Country columns

Alias named Address column will be created and under this all CustomerName, address, city and country will be printed as combined statement

All above options are wrong

7. Wrong statement about ORDER BY keyword is

**Choose the correct answer(s) from the following:**

Used to sort the result-set in ascending or descending order

The ORDER BY keyword sorts the records in ascending order by default.

To sort the records in ascending order, use the ASC keyword.

To sort the records in descending order, use the DECENDING keyword.

8. COUNT(field\_name) tallies only those rows that contain a value; it ignores all null values.

**Choose the correct answer(s) from the following:**

True

False

9. The HAVING clause acts like a WHERE clause, but it identifies groups that meet a criterion, rather than rows.

**Choose the correct answer(s) from the following:**

True

False

10. The rows of the result relation produced by a SELECT statement can be sorted, but only by one column.

**Choose the correct answer(s) from the following:**

True

False

### InfyTQ Python MCQ #3

1. Which of the following statements create a dictionary?

**Choose the correct answer(s) from the following:**

d = {}

d = {"john":40, "peter":45}

d = {40:"john", 45:"peter"}

All of the mentioned

2. What will be the output of the following Python code?

>>> a={1,2,3}

>>> b=a

>>> b.remove(3)

>>> a

**Choose the correct answer(s) from the following:**

{1,2,3}

Error, copying of sets isn’t allowed

{1,2}

Error, invalid syntax for remove

3. If a={5,6,7}, what happens when a.add(5) is executed?

**Choose the correct answer(s) from the following:**

a={5,5,6,7}

a={5,6,7}

Error as there is no add function for set data type

Error as 5 already exists in the set

4. Is the following Python code valid?

>>> a=(1,2,3)

>>> b=a.update(4,)

**Choose the correct answer(s) from the following:**

Yes, a=(1,2,3,4) and b=(1,2,3,4)

Yes, a=(1,2,3) and b=(1,2,3,4)

No because tuples are immutable

No because wrong syntax for update() method

5. What will be the output of the following Python code?

a = ('check',)

n = 2

for i in range(int(n)):

a = (a,)

print(a)

**Choose the correct answer(s) from the following:**

✓

Error, tuples are immutable

✓

|  | (('check',),) |
| --- | --- |
|  | ((('check',),),) |

✓

((‘check',)'check',)

✓

|  | (('check',)'check',) |
| --- | --- |
|  | ((('check',)'check',)'check',) |

6. Write the list comprehension to pick out only negative integers from a given list ‘l’.

**Choose the correct answer(s) from the following:**

[x<0 in l]

[x for x<0 in l]

[x in l for x<0]

[x for x in l if x<0]

7. Which of the following is the correct expansion of list\_1 = [expr(i) for i in list\_0 if func(i)]?

**Choose the correct answer(s) from the following:**

✓

|  | list\_1 = [] |
| --- | --- |
|  | for i in list\_0: |
|  | if func(i): |
|  | list\_1.append(i) |

✓

|  | for i in list\_0: |
| --- | --- |
|  | if func(i): |
|  | list\_1.append(expr(i)) |

✓

|  | list\_1 = [] |
| --- | --- |
|  | for i in list\_0: |
|  | if func(i): |
|  | list\_1.append(expr(i)) |

✓

none of the mentioned

8. Which of the following operators has its associativity from right to left?

**Choose the correct answer(s) from the following:**

+

//

%

\*\*

**9.** What is the type of inf?

**Choose the correct answer(s) from the following:**

Boolean

Integer

Float

Complex

**10.** What is the maximum possible length of an identifier?

**Choose the correct answer(s) from the following:**

31 characters

63 characters

79 characters

none of the mentioned

**11.** What will be the output of the following Python code?

**>>>str="hello"**

**>>>str[:2]**

**>>>**

**Choose the correct answer(s) from the following:**

he

lo

olleh

hello

**12.** What is the average value of the following Python code snippet?

**>>>grade1 = 80**

**>>>grade2 = 90**

**>>>average = (grade1 + grade2) / 2**

**Choose the correct answer(s) from the following:**

85.0

85.1

95.0

95.1

13. What will be the output of the following Python statement?

>>>"a"+"bc"

**Choose the correct answer(s) from the following:**

a

bc

bca

abc

14. Suppose s is "\t\tWorld\n", what is s.strip()?

**Choose the correct answer(s) from the following:**

\t\tWorld\n

\t\tWorld\n

\t\tWORLD\n

World

15. What will be the output of the following Python code?

>>>max("what are you")

**Choose the correct answer(s) from the following:**

error

u

t

y

16. Suppose i is 5 and j is 4, i + j is same as \_\_\_\_\_\_\_\_

**Choose the correct answer(s) from the following:**

i.\_\_add(j)

i.\_\_add\_\_(j)

i.\_\_Add(j)

i.\_\_ADD(j)

17. What will be the output of the following Python code?

print("xyyzxyzxzxyy".count('xyy', 2, 11))

**Choose the correct answer(s) from the following:**

2

0

1

error

18. What will be the output of the following Python code?

print("Hello {0} and {1}".format('foo', 'bin'))

**Choose the correct answer(s) from the following:**

Hello foo and bin

Hello {0} and {1} foo bin

Error

Hello 0 and 1

19. Suppose list1 is [1, 5, 9], what is sum(list1)?

**Choose the correct answer(s) from the following:**

1

9

15

Error

20. What will be the output of the following Python code?

>>>list1 = [11, 2, 23]

>>>list2 = [11, 2, 2]

>>>list1 < list2 is

**Choose the correct answer(s) from the following:**

True

False

Error

None

### InfyTQ Python MCQ #4

1. What will be the value of x in the following Python expression?

x = int(43.55+2/2)

**Choose the correct answer(s) from the following:**

43

44

22

23

2. The format function, when applied on a string returns \_\_\_\_\_\_\_\_\_\_\_

**Choose the correct answer(s) from the following:**

Error

int

bool

str

3. Given a string example=“loops” what is the output of example.count('o')?

**Choose the correct answer(s) from the following:**

2

1

None

0

4. What will be the output of the following Python statement?

>>>"abcd"[2:]

**Choose the correct answer(s) from the following:**

a

ab

cd

dc

5. Select all options that print

hello-how-are-you

**Choose the correct answer(s) from the following:**

print('hello', 'how', 'are', 'you')

print('hello', 'how', 'are', 'you' + '-' \* 4)

print('hello-' + 'how-are-you')

print('hello' + '-' + 'how' + '-' + 'are' + 'you')

6. Which of the following will run without errors?

**Choose the correct answer(s) from the following:**

round(45.8)

round(6352.898,2,5)

round()

round(7463.123,2,1)

7. Which of the following is invalid?

**Choose the correct answer(s) from the following:**

\_a = 1

\_\_a = 1

\_\_str\_\_ = 1

none of the mentioned

8. What does ~4 evaluate to?

**Choose the correct answer(s) from the following:**

-5

-4

-3

3

9. What will be the output of the following Python code snippet?

|  | d = {"john":40, "peter":45} |
| --- | --- |
|  | "john" in d |

**Choose the correct answer(s) from the following:**

True

False

None

Error

10. What will be the output of the following Python code?

|  | >>> a={4,5,6} |
| --- | --- |
|  | >>> b={2,8,6} |
|  | >>> a+b |

**Choose the correct answer(s) from the following:**

{4,5,6,2,8}

{4,5,6,2,8,6}

Error as unsupported operand type for sets

Error as the duplicate item 6 is present in both sets

11. What will be the output of the following Python code?

|  | >>> a=[(2,4),(1,2),(3,9)] |
| --- | --- |
|  | >>> a.sort() |
|  | >>> a |

**Choose the correct answer(s) from the following:**

[(1, 2), (2, 4), (3, 9)]

[(2,4),(1,2),(3,9)]

Error because tuples are immutable

Error, tuple has no sort attribute

12. What will be the output of the following Python code?

|  | >>> a={1,2,3} |
| --- | --- |
|  | >>> b=a.copy() |
|  | >>> b.add(4) |
|  | >>> a |

**Choose the correct answer(s) from the following:**

{1,2,3}

Error, invalid syntax for add

{1,2,3,4}

Error, copying of sets isn’t allowed

13. Is the following Python code valid?

>>> a,b=1,2,3

**Choose the correct answer(s) from the following:**

Yes, this is an example of tuple unpacking. a=1 and b=2

Yes, this is an example of tuple unpacking. a=(1,2) and b=3

No, too many values to unpack

Yes, this is an example of tuple unpacking. a=1 and b=(2,3)

14. What will be the output of the following Python code snippet?

x = [i\*\*+1 for i in range(3)]; print(x);

**Choose the correct answer(s) from the following:**

[0, 1, 2]

[1, 2, 5]

error, \*\*+ is not a valid operator

error, ';' is not allowed

15. What will be the output of the following Python code?

|  | s=["pune", "mumbai", "delhi"] |
| --- | --- |
|  | [(w.upper(), len(w)) for w in s] |

**Choose the correct answer(s) from the following:**

Error

[‘PUNE’, 4, ‘MUMBAI’, 6, ‘DELHI’, 5]

[PUNE, 4, MUMBAI, 6, DELHI, 5]

[(‘PUNE’, 4), (‘MUMBAI’, 6), (‘DELHI’, 5)]

16. To add a new element to a list we use which command?

**Choose the correct answer(s) from the following:**

list1.add(5)

list1.append(5)

list1.addLast(5)

list1.addEnd(5)

17. What will be the output of the following Python code?

print("xyyzxyzxzxyy".count('xyy', -10, -1))

**Choose the correct answer(s) from the following:**

2

0

1

error

18. What will be the output of the following Python code?

print("Hello {1} and {0}".format('bin', 'foo'))

**Choose the correct answer(s) from the following:**

Hello foo and bin

Hello bin and foo

Error

None of the mentioned

19. To shuffle the list(say list1) what function do we use?

**Choose the correct answer(s) from the following:**

list1.shuffle()

shuffle(list1)

random.shuffle(list1)

random.shuffleList(list1)

20. What will be the output of the following Python code?

class Name:

def \_\_init\_\_(self, firstName, mi, lastName):

self.firstName = firstName

self.mi = mi

self.lastName = lastName

firstName = "John"

name = Name(firstName, 'F', "Smith")

firstName = "Peter"

name.lastName = "Pan"

print(name.firstName, name.lastName)

**Choose the correct answer(s) from the following:**

Peter Pan

John Pan

Peter Smith

John Smith

**CODING QUESTIONS**

**1. Unique substring of given string (python)**

Given a string, we have to find the longest substring which is unique (that has no repetition) and whose size is at least 3.

If more than one substring is found with max length then we have to print the one which appeared first in the string

If no substring is present that matches the condition then we have to print -1

Example input: A@bcd1abx

Output: A@bcd1a

**2. Largest palindromic substring (python)**

Take as input a string. Find the longest possible substring from this string which is also a palindrome.

**Example Input**

dcodocir

**Output**

codoc

**3. String rotation based on squares**

You are given a list of strings each having 2 components to it - word and integer. These 2 components are separated by :.

* If the square of digits in the number component is even, then you must rotate the word to the right by 1
* If the square of digits in the number component is odd, then you must rotate the word to the left by 2

Finally, print the rotated word.

**Example Input**

rhdt:246,ghftd:1246

**Output**

|  | trhd |
| --- | --- |
|  | ftdgh |

**Explanation**

2\*2+4\*4+6\*6 = 56 which is even so rotate rhdt --> trhd

1\*1+2\*2+4\*4+6\*6 = 57 which is odd so rotate ghftd --> ftdgh

**4. Consecutive numbers in matrix**

You are given an m\*n matrix such that n = m+1. In the given matrix, find if any number is consecutive for 3 times either in row, column, diagonals print the num.

If there are multiple such numbers then print minimum of those numbers.

**Input format**

* First line contains m, the number of rows
* Following m lines contain n numbers

**Example Input**

6

2 3 4 5 6 2 4

2 3 4 7 6 7 6

2 3 5 5 5 5 2

2 3 1 1 2 1 3

1 1 1 1 9 0 3

2 3 1 1 5 1 2

**Output**

1

**5. Largest even number from string**

Take as input a string. This string is a mixture of letters, integers and special char. From this string, find the largest even number that can be possibly formed after removing the duplicates.

If an even is not formed then return -1.

**Example Input**

infosys@337

**Output**

-1

**Explanation**

No even number can be formed

**Example Input**

Hello#81@21349

**Output**

984312

**6. Parantheses Matching**

You are given as input a string instr, which contains only parentheses: ( ) { } [ ]. instr will have many such brackets, nested in each other. Your task is to find out if they are balanced or not.

* If instr is properly balanced print 0
* If instr is not properly balanced, then print the initial index where it is unbalanced
* Note that indexes start from 1

**Example Input**  
{([])}[]

**Output**  
0  
  
**Explanation**  
String is balanced

**Example Input**  
([)()]  
  
**Output**  
3

**Explanation**  
First unbalanced bracket occurs at position 3

**Example Input**  
[[()]  
  
**Output**  
6  
  
**Explanation**  
String is balanced except for last position. We need to add a closing bracket at position 6.

**7. Concatenate and Add numbers**

You are given as input a string. The string contains comma separated numbers. It is guaranteed that the numbers 5 and 8 are present in this string.

Also, the number 8 always comes after 5.

You have to generate 2 numbers num1 and num2, such that:

* num1 contains the sum of all numbers which do not lie between 5 and 8 in the input (exclusive of both)
* num2 contains the concatenation of all numbers between 5 and 8 (inclusive of both)

Your task is to print the sum of num1 and num2.

Example Input

3,2,6,5,1,4,8,9

Output

5168

### Explanation

num1 : 3+2+6+9 = 20

num2 : 5148

Output : 5248 + 20  = 5168

**8. Reverse a string except for special characters**

Your task here is to take input a string and reverse it. However, you should reverse only the normal alphabets. The special characters should be in their original positions.

|  | Example Input |
| --- | --- |
|  |  |
|  | sd&hg#j |
|  |  |
|  | Output |
|  | jg&hd#s |

**9. Number of sub-arrays with an odd sum**

Given an array, find the number of sub-arrays whose sum is odd.

**Input Format**

* First line contains the size of the array.
* second line the list of elements, separated by space

**Output Format:**

* print the number of sub arrays who sum is odd

**Example Input**

5 4 4 5 1 3

**Output**

12

**Explanation**

These are possible subarrays with odd sum:

1. 5 Sum = 5 (At index 0)
2. 5, 4  Sum = 9
3. 5, 4, 4  Sum = 13
4. 5, 4, 4, 5, 1 Sum = 19
5. 4, 4, 5  Sum = 13
6. 4, 4, 5, 1, 3  Sum = 17
7. 4, 5  Sum = 9
8. 4, 5, 1, 3 Sum = 13
9. 5  Sum = 5 (At index 3)
10. 5, 1, 3  Sum = 9
11. 1 Sum = 1
12. 3 Sum = 3

**10. Pronic Number**

Pronic number is a number which is the product of two consecutive integers, that is, a number n is a product of x and (x+1).

Take a string in which random numbers are present and we have to find the product and the number(one is lesser and one is greater) which is already present in the string.   Let’s see the example:

E.g. Given a string contains **1203456**. The multiplication of 3 and 4(one is lesser and one is greater) product become 12 and it’s present in the string. Like 4 and 5 (one is lesser and one is greater) the product is 20 and it’s present in the string and so on.

In such a way, We have to find all the numbers and in the output, we have to display the pronic numbers on a single line. Display only distinct numbers and make sure they are in sorted order.

If we haven’t found any product then print **-1.**

Example Input

1203456789

Output

0 2 6 12 20 56

**11. Prefix which is also a Suffix**

Given a string, find the longest length of a prefix which is also a suffix.

**Example Input**

aaa

**Output**

1

**Example Input**

abcdab

**Output**

2

**12. Rotation Instructions**

You are given a string, in the format:

string:num1:num2:num3

The string can contain characters, specials characters and also numbers. num1, num2 and num3 are instructions to rotate the string.

* You have to rotate the string to the right side by num1 positions
* then rotate the string to the left side by num2 positions
* finally, remove all the elements that are present at the indexes that are a multiple of num3

Example Input

hello1welcome2@python:5:2:3

Output

onelo1elom2@yt

**13. Rectangle Area Frequency**

You are given a list of tuples, called list1. Each tuple has 2 elements, signifying the length and the breadth of a rectangle.

Some rectangles may be of same area, while other may result in a different area.

Your task is to list down all possible areas, and the frequency of each area. Print in ascending order of ares.

|  | Example Input |
| --- | --- |
|  | [(1, 4), (2, 3), (2, 2), (10, 2), (4, 5)] |
|  | Output |
|  | 4: 2 |
|  | 6: 1 |
|  | 20: 2 |

Complete the given method solve which takes as parameter a list called list. You don't have to take any input. Just print the output as per the given format.

def solve(list1):

# complete the method solve

**14. Inverted hollow full pyramid**

Write a Program to take Integer as an Input.And to print the full  inverted hollow  pyramid using stars according to given Input.

**Input Format:**

Take Integer input from stdin

**Output Format:**

Print the desired pattern

**Example Input:**  
6

**Output:**

\* \* \* \* \* \*

\* \*

\* \*

\* \*

\* \*

\*

15.

Coin denominations

Write a program to take value V and  we want to make change for V Rs, and we have infinite supply of each of the denominations in Indian currency, i.e., we have infinite supply of { 1, 2, 5, 10, 20, 50, 100, 500, 1000} valued coins/notes, what is the minimum number of coins and/or notes needed to make the change.

**Input Format:**  
Take an integer from stdin.

**Output Format:**  
print the integer which is change of the  number.

**Example Input :**  
64

**Output:**  
4

**Explinaton:**  
We need a 50 Rs note and a 10 Rs note and two 2 rupee coins.

**Example Input:**  
49

**Output:**  
5

**Explination:**  
We need a  two 20 Rs notes and a 5 Rs coins and two 2 rupee coins.