

Csl4341

St2 SetC

Q1 What error (if any) is raised when the following code snippets is executed?

```
mylist = [10, 20, 30]
```

```
mylist.index(11)
```

ValueError

TypeError

NameError

No error is raised

Q2 To read the entire contents of the file as a string from a file object infile, use _____.

```
infile.read(2)
```

```
infile.read()
```

```
infile.readline()
```

```
infile.readlines()
```

Q3 Predict the output when you execute the following code snippet

```
def add(item, s=[]):  
    s.append(item)  
    print( len(s),end=" ")
```

```
add(1)
```

```
add(1)
```

```
add(1, [])
```

```
add(1, [])
```

```
add(1)
```

1 2 1 1 3

1 2 1 1 1

1 1 2 3 1

1 2 1 2 3

Q4. _____ is a template, blueprint, or contract that defines objects of the same type.

A class

A object

A method

A datafield

Q5. Predict the output when you execute the following program

```
a = 1
```

```

def f():
    a=10
def g():
    a = 2
def h():
    global a
    a = 3

f()
print (a,end="")
g()
print (a,end="")
h()
print (a,end="")

```

111
 101
 123
 113

Q6.

What will be the output when the following given code is executed and the contents of the test.txt is this is file handling

```

f=open("d:\\test.txt","r")
print(f.read(4),end=" ")
f.seek(8)
print(f.read(4),end=" ")
print(f.tell(),end=" ")

```

This is 8
 This file 12
 This is 12
 This file 8

Q7.

What will be the output when you execute the following program

```

class A:
    def __init__(self, i):
        self.i = i
    def __str__(self):
        return "A"
class B(A):

```

```

def __init__(self, i, j):
    super().__init__(i)
    self.j = j
def main():
    b = B(1, 2)
    a = A(1)
    print(a)
    print(b)

main() # Call the main function

```

B
B

A
B

A
A

B
A

Q8.What will be output when you execute the following program

```

import re
result=re.split('a','AcadGlid')
print(result)

```

['Aca','dGlid']
 ['Ac', 'dGlid']
 ['Ac','Ac']
 ['Aca','Glid']

Q9.
Which of the following options will display current time
Choose the appropriate option

```

import datetime
print(datetime.datetime.now().time())

```

```

import datetime
print(datetime.now().time())

```

```

import datetime
print(datetime.time())

```

```
import datetime
print(datetime.now())
```

Q10.

What will be the output when you execute the following code

```
value = [0, 2, 3, 4, 5]
```

```
try:
```

```
    value = value[4]/value[1]
```

```
    print('H ',end="")
```

```
except (IndexError):
```

```
    print('A ',end="")
```

```
except:
```

```
    print('D ',end="")
```

```
else:
```

```
    print('B ',end="")
```

```
finally:
```

```
    print('C ',end="")
```

HBC

ADB

HCB

DBC

Q11.

Analyze the following code: and choose appropriate option

```
class A:
```

```
    def __init__(self, s):
```

```
        self.s = s
```

```
    def print(self):
```

```
        print(s)
```

```
obj = A("Help")
```

```
obj.print()
```

The program has an error because class A does not have a constructor.

The program has an error because class A should have a print method with signature print(self, s)

The program has an error because class A should have a print method with signature print(s)

The program would run if you change print(s) to print(self.s)

Q12.

What will be the output when you execute the following program

```
def main():
```

```
    myCount = Count()
```

```
times = 0
for i in range(0, 3):
    f(myCount, times)
print(myCount.count, " ", times)
```

```
def f(c, times):
    c.count += 1
    times += 1
```

```
class Count:
    def __init__(self):
        self.count = 0
```

```
main()
```

```
1 0
3 3
3 0
1 1
```

Q13. What will be the output when you execute the following program

```
class A:
```

```
    def __init__(self, i = 1):
        self.i = i
```

```
class B(A):
```

```
    def __init__(self, j = 2):
        super().__init__()
        self.j = self.i
```

```
def main():
```

```
    b = B()
    print(b.i,b.j)
```

```
main()
```

```
1 1
1 2
2 2
2 1
```

Q14. Predict the output when you execute the following program

```
import re
```

```
sentence = 'we are humans'
```

```
matched = re.match(r'(.*) (.*) (.*)', sentence)
print(matched.group(2))
```

```
we
are
humans
we are humans
```

Q15.

Analyze the following code: and choose appropriate option

class A:

```
    def __init__(self):
        self.x = 1
        self.__y = 1
```

```
    def getY(self):
        return self.__y
```

```
a = A()
a.__y = 45
print(a.getY())
```

The program has an error because you cannot name a variable using __y

The program runs fine and prints 1

The program has an error because y is private and cannot be access outside of the class.

The program runs fine and prints 45.

Coding Questions

Q1 Given an array of integers where $1 \leq a[i] \leq n$ (n = size of array), some elements appear twice and others appear once.

Find all the elements of $[1, n]$ inclusive that do not appear in this array.

Sample Input:

5

1

1

1

2

2

Sample Output:

[3, 4, 5]

Explanation

5 is number of elements in a list

```
class DissCheck(object):

    def findCheck(self, nums):

        """

        for i in range(len(nums)):

            index = abs(nums[i]) - 1

            nums[index] = - abs(nums[index])

        return [i + 1 for i in range(len(nums)) if nums[i] > 0]

        """

        return list(set(range(1, len(nums) + 1)) - set(nums))

def main():

    l=[]

    n = int(input())

    for i in range(n):

        l.append(int(input()))

    s = DissCheck()

    ans=s.findCheck(l)

    print(ans)

main()
```

Q2 Given a string, you need to reverse the order of characters in each word within a sentence.

Sample Input

Let's contest

Sample Output

s'teL tsetnoc

constraints

$5 \leq l \leq 100$

where l is length of string

```
class ReverseWords(object):
    def rWords(self, s):
        """
        :type s: str
        :rtype: str
        """
        l = s.split()
        k = []
        for i in l:
            k.append(i[::-1])
        t = ' '.join(k)
        return t

def main():
    s=input()
    print(ReverseWords().rWords(s))
```

main()

Q3.

Design a base class Car having

a)class variable status initialized to "new"

b)the constructor **init** will initialize private data members model,color,milesperliter

c)getCarInfo() will return private data members model,color,and milesperliter

Design a derived class ElectricCar derived from Car with following specification

a)it contains private instance data member batteryType which is initialized in constructor

a)Design a function getCarInfo() will return model,color,and milesperliter along with batteryType

Sample Input

mahindra

red

12

MoltenSalt

Sample Output

This is a new red mahindra with 12 MPL.It has a MoltenSalt battery.

Explanation

"This is a new red mahindra with 12 MPL." is returned by getCarInfo() of the base class Car

"It has a MoltenSalt battery." is returned by getCarInfo() of the derived class ElectricCar

```
class Car(object):
    condition = "new"
    def __init__(self, model, color, mpl):
        self.__model = model
        self.__color = color
        self.__mpl = mpl

    def display_car(self):
        return "This is a {} {} {} with {} MPL.".format( Car.condition, self.__color, self.__model,
str(self.__mpl))

class ElectricCar(Car):
    def __init__(self, model, color, mpl, battery_type):
        super(ElectricCar, self).__init__(model, color, mpl)
        self.__battery_type = battery_type

    def display_car(self):
        inherit_Str = super(ElectricCar, self).display_car()
        return inherit_Str + "It has a {} battery. ".format(self.__battery_type)
```

```
def main():  
    name=input()  
    color=input()  
    mpl=int(input())  
    batteryType=input()  
    my_car = ElectricCar(name, color, mpl,batteryType)  
    print (my_car.display_car())  
  
main()
```