Day-4 Assignment Solution

1) What is the output of the following code?

```
import copy
a=[10,23,56,[78]]
b=copy.deepcopy(a)
a[3][0]=95
a[1]=34
print(b)
```

A.[10,34,56,[95]]

B.[10,23,56,[78]]

C.[10,23,56,[95]]

D.[10,34,56,[78]]

Ans. B. copy.deepcopy() function creates new object without creating references to old object/elements.

2) What is the output of the following piece of code?

```
a=list((45,)*4)
print((45)*4)
print(a)
```

A.180[(45),(45),(45),(45)]

B.(45,45,45,45)[45,45,45,45]

C.180[45,45,45,45]

D.Syntax error

Ans. C.

a = [45,45,45,45]

(45)*4 = 180

3) What is the output of the code shown below?

```
A = [[1, 2, 3],
     [4, 5, 6],
    [7, 8, 9]]
[A[i][len(A)-1-i] for i in range(len(A))]
```

A.[1, 5, 9]

B.[4, 5, 6]

C.[3, 5, 7]

D.[2, 5, 8]

Ans. C. [3,5,7]

[A[0][2]] = [3]

[A[1][1]] = [3,5]

[A[2][0]] = [3,5,7]

4) What is there in list_using_comp?

```
input_list = [1, 2, 3, 4, 4, 5, 6, 7, 7]
list_using_comp = [var for var in input_list if var % 2 == 0]
print("Output List using list comprehensions:",list_using_comp)
```

A.[2, 2, 4, 4]

B.[4, 4, 4, 6]

C.[2, 4, 4, 6]

D.[2, 4, 4, 4]

Ans. C. [2,4,4,6] # store even num form input_list.

5) What is there in odd_square?

```
odd_square = [x ** 2 for x in range(1, 11) if x % 2 == 1]
print odd_square
```

A.[1, 9, 25, 49, 81]

B.[11, 9, 25, 4, 81]

C.[1, 19, 25, 49, 81]

D.[1, 9, 36, 29, 9]

Ans. A. [1,9,25,49,81] # store square of odd num form 1 to 10.

6) What is there in power_of_2?

```
power_of_2 = [2 ** x for x in range(1, 9)]
print(power_of_2)
```

A.[2, 4, 8, 16, 32, 64, 126, 258]

B.[2, 4, 2, 4, 8, 16, 128, 256]

C.[2, 4, 8, 16, 2, 4, 8, 16]

D.[2, 4, 8, 16, 32, 64, 128, 256]

Ans. D. # stores 2^x where x=1 to x=8

7) What is there in primes?

```
noprimes = [j for i in range(2, 8) for j in range(i*2, 50, i)]
primes = [x for x in range(2, 50) if x not in noprimes]
print(primes)
```

A.[2, 3, 5, 7, 13, 15, 21, 19, 23, 29, 31, 37, 41, 43, 47]

B.[2, 3, 5, 7, 11, 13, 7, 19, 23, 29, 33, 37, 42, 43, 47]

C.[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47]

D.[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47]

Ans. C. and D. # contains prime no.

8) What gets printed?

```
names = ['Amir', 'Barry', 'Chales', 'Dao']
print(names[-1][-1])
```

A.A

A.r

A.Amir

A.Dao

A.o

Ans. names[-1][-1] = o

9) What gets printed?

```
names1 = ['Amir', 'Barry', 'Chales', 'Dao']
names2 = names1
names3 = names1[:]
names2[0] = 'Alice'
names3[1] = 'Bob'
sum = 0
for ls in (names1, names2, names3):
    if ls[0] == 'Alice':
        sum += 1
    if ls[1] == 'Bob':
        sum += 10
print(sum)
```

A.11

B.12

C.21

D.22

E.33

Ans. B. 12

names1, names2 => ['Amir', 'Barry', 'Chales', 'Dao']

names3 = ['Amir', 'Barry', 'Chales', 'Dao']

names2[0] = 'Alice' # names1, names2 => ['Alice', 'Barry', 'Chales', 'Dao']

names3[1] = 'Bob' # names3 = ['Amir', 'Bob', 'Chales', 'Dao']

loop iteration 1 : ls = names1 => ls[0] = Alice => sum=1, ls[1] = Barry

loop iteration 2 : ls = names2 => ls[0] = Alice => sum=2, ls[1] = Barry

loop iteration 3 : ls = names3 => ls[1] = Bob => sum=12, ls[0] = Amir

10) What gets printed?

```
names1 = ['Amir', 'Barry', 'Chales', 'Dao']
loc = names1.index("Edward")
print(loc)
```

A.-1

B.0

C.4

D. Edward

E. An exception is thrown

Ans. E. ‘Edward is not in names1’

11) What gets printed?

```
names1 = ['Amir', 'Barry', 'Chales', 'Dao']
if 'amir' in names1:
    print(1)
else:
    print(2)
```

A.1

B.2

C.An exception is thrown

Ans. B. 2

12) What gets printed?

```
names1 = ['Amir', 'Barry', 'Chales', 'Dao']
names2 = [name.lower() for name in names1]
```

print(names2[2][0])

A.i

B.a

C.c

D.C

E.An exception is thrown

Ans. C.c => names2 = ['amir', 'barry', 'chales', 'dao']

13) What gets printed?

numbers = [1, 2, 3, 4]

numbers.append([5,6,7,8])

print(len(numbers))

A.4

B.5

C.8

D.12

E.An exception is thrown
Ans. B. 5 => numbers = [1, 2, 3, 4, [5,6,7,8]]

14) Which of the following data structures can be used with the "in" operator to check if an item is in the data structure?

A.list

B.set

C.dictionary

D.All of the above

E.None of the above
Ans. D. All of the above

15) What gets printed?

```
list1 = [1, 2, 3, 4]
list2 = [5, 6, 7, 8]
print(len(list1 + list2))
```

A.2

B.4

C.5

D.8

E.An exception is thrown

Ans. D.8 => len ([1,2,3,4,5,6,7,8]) => 8

16) What gets printed?

```
def addItem(listParam):
    listParam += [1]
mylist = [1, 2, 3, 4]
addItem(mylist)
print(len(mylist))
```

A.1

B.4

C.5

D.8

E.An exception is thrown

Ans. C.5 => mylist[1,2,3,4,1] => len(mylist) = 5

17) What gets printed?

my_tuple = (1, 2, 3, 4)

my_tuple.append((5, 6, 7))

print(len(my_tuple))

A.1

B.2

C.5

D.7

E.An exception is thrown

Ans. E. tuple object can't be appended

18) What will be the output of the following Python code snippet?

k = [print(i) for i in my_string if i not in "aeiou"]

a) prints all the vowels in my_string

b) prints all the consonants in my_string

c) prints all characters of my_string that aren't vowels

d) prints only on executing print(k)

Ans. C)

19) What is the output of print(k) in the following Python code snippet?

k = [print(i) for i in my_string if i not in "aeiou"]

print(k)

a) all characters of my_string that aren't vowels

b) a list of Nones

c) list of Trues

d) list of Falses

Ans. b) => print(i) not store the characters in the list => k[None,None,,,,]

20) 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)
```

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

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

c)[('HELLO WORLD', 11)]

d)none of the mentioned

Ans. b) => k = [('uppercase_char',len _of_char),(),(),,]

21) Which of the following is the correct expansion of
list_1 = [expr(i) for i in list_0 if func(i)]?

a)

```
list_1 = []
for i in list_0:
    if func(i):
        list_1.append(i)
```

b)

```
for i in list_0:
    if func(i):
        list_1.append(expr(i))
```

c)

```
list_1 = []
for i in list_0:
    if func(i):
        list_1.append(expr(i))
```

d)none of the mentioned

Ans. C)

22) What will be the output of the following Python code snippet?

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

a) [0, 1, 2]

b) [1, 2, 5]

c) error, **+ is not a valid operator

d) error, ';' is not allowed

Ans. a)

23) What will be the output of the following Python code snippet?

print([i.lower() for i in "HELLO"])

a) ['h', 'e', 'l', 'l', 'o']

b) 'hello'

c) ['hello']

d) Hello

Ans. a)

24) What will be the output of the following Python code snippet?

print([i+j for i in "abc" for j in "def"])

a)['da', 'ea', 'fa', 'db', 'eb', 'fb', 'dc', 'ec', 'fc']

b)[['ad', 'bd', 'cd'], ['ae', 'be', 'ce'], ['af', 'bf', 'cf']]

c)[['da', 'db', 'dc'], ['ea', 'eb', 'ec'], ['fa', 'fb', 'fc']]

d)['ad', 'ae', 'af', 'bd', 'be', 'bf', 'cd', 'ce', 'cf']

Ans. d)

```
l = []
for i in 'abc':
        for j in 'def':
                l.append(i+j)
print(l)
```

25) What will be the output of the following Python code snippet?

print([[i+j for i in "abc"] for j in "def"])

a)[‘da’, ‘ea’, ‘fa’, ‘db’, ‘eb’, ‘fb’, ‘dc’, ‘ec’, ‘fc’]

b)[[‘ad’, ‘bd’, ‘cd’], [‘ae’, ‘be’, ‘ce’], [‘af’, ‘bf’, ‘cf’]]

c)[[‘da’, ‘db’, ‘dc’], [‘ea’, ‘eb’, ‘ec’], [‘fa’, ‘fb’, ‘fc’]]

d)[‘ad’, ‘ae’, ‘af’, ‘bd’, ‘be’, ‘bf’, ‘cd’, ‘ce’, ‘cf’]

Ans. b)

26) What will be the output of the following Python code snippet?

print([if i%2==0: i; else: i+1; for i in range(4)])

a) [0, 2, 2, 4]

b) [1, 1, 3, 3]

c) error

d) none of the mentioned

Ans. c) Invalid Syntax

=> print([i if i%2==0 else i+1 for i in range(4)]) # [0,2,2,4]

27) Which of the following is the same as list(map(lambda x: x**-1, [1, 2, 3]))?

a)[x**-1 for x in [(1, 2, 3)]]

b)[1/x for x in [(1, 2, 3)]]

c)[1/x for x in (1, 2, 3)]

d)error

Ans. c) => for a and b can’t evaluate pow of tuple

28) What will be the output of the following Python code?

l=[1,2,3,4,5]

[x&1 for x in l]

a) [1, 1, 1, 1, 1]

b) [1, 0, 1, 0, 1]

c) [1, 0, 0, 0, 0]

d) [0, 1, 0, 1, 0]

Ans. d)

29) 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]
```

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

b)[4, 10, 18]

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

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

Ans. c)

30) Write the list comprehension to pick out only negative integers from a given list 'l'.

a)[x<0 in l]

b)[x for x<0 in l]

c)[x in l for x<0]

d)[x for x in l if x<0]

Ans. d)

31) What will be the output of the following Python code?

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

a)Error

b)['PUNE', 4, 'MUMBAI', 6, 'DELHI', 5]

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

d)[('PUNE', 4), ('MUMBAI', 6), ('DELHI', 5)]

Ans. d)

32) What will be the output of the following Python code?

```
l1=[2,4,6]
l2=[-2,-4,-6]
for i in zip(l1, l2):
        print(i)
```

a)

2, -2

4, -4

6, -6

b)[(2, -2), (4, -4), (6, -6)]

c)

(2, -2)

(4, -4)

(6, -6)

d)[-4, -16, -36]

Ans. d) => i = 2,-2 => (2,-2)….

33) What will be the output of the following Python code?

```
l1=[10, 20, 30]
l2=[-10, -20, -30]
l3=[x+y for x, y in zip(l1, l2)]
l3
```

a)Error

b)0

c)[-20, -60, -80]

d)[0, 0, 0]

Ans. d) [0,0,0] => [10 + -10, 20 + -20, 30 + -30]

34) Write a list comprehension for number and its cube for l=[1, 2, 3, 4, 5, 6, 7, 8, 9].

a)[x**3 for x in l]

b)[x^3 for x in l]

c)[x**3 in l]

d)[x^3 in l]

Ans. a)

35) What will be the output of the following Python code?

l=[[1 ,2, 3], [4, 5, 6], [7, 8, 9]]

[[row[i] for row in l] for i in range(3)]

a)Error

b)[[1, 4, 7], [2, 5, 8], [3, 6, 9]]

c)

1 4 7

2 5 8

3 6 9

d)

(1 4 7)

(2 5 8)

(3 6 9)

Ans. b)

36) What will be the output of the following Python code?

```
import math
[str(round(math.pi)) for i in range (1, 6)]
```

a)[‘3’, ‘3’, ‘3’, ‘3’, ‘3’, ‘3’]

b)[‘3.1’, ‘3.14’, ‘3.142’, ‘3.1416’, ‘3.14159’, ‘3.141582’]

c)[‘3’, ‘3’, ‘3’, ‘3’, ‘3’]

d)[‘3.1’, ‘3.14’, ‘3.142’, ‘3.1416’, ‘3.14159’]

Ans. c)

37) What will be the output of the following Python code?

```
l1=[1,2,3]
l2=[4,5,6]
l3=[7,8,9]
for x, y, z in zip(l1, l2, l3):
        print(x, y, z)
```

a)

1 4 7

2 5 8

3 6 9

b)

(1 4 7)

(2 5 8)

(3 6 9)

c)[(1, 4, 7), (2, 5, 8), (3, 6, 9)]

d)Error

Ans. a)

38) What is the output of the following program?

```
str1 = '{2}, {1} and {0}'.format('a', 'b', 'c')
str2 = '{0}{1}{0}'.format('abra', 'cad')
print(str1, str2)
```

a) c, b and a abracad0

b) a, b and c abracadabra

c) a, b and c abracadcad

d) c, b and a abracadabra

Ans. d)

39) What is the output of the following program?

```
a = 2
b = '3.77'
c = -8
str1 = '{0:.4f} {0:3d} {2} {1}'.format(a, b, c)
print(str1)
```

a) 2.0000 2 -8 3.77

b) 2 3.77 -8 3.77

c) 2.000 3 -8 3.77

d) 2.000 2 8 3.77

Ans. a)

40) What is the output of the following program?

```
line = "I'll come by then."
eline = ""
for i in line:
    eline += chr(ord(i)+3)
print(eline)
```

a) L*oo frph e| wkhq1

b) L*oo#frph#e|#wkhq1

c) l*oo@frph@e|$wkhq1

d) O*oo#Frph#E|#wKhq1

Ans. b) => shift each char by 3 and concatenate