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PIAIC Batch 3 - 12:30 to 3:30

Python Mega Assignment # 1

1. Which of the following terms are related to dictionaries?
    a. value
    b. item
    c. index
    d. key
2. Just like lists, + operator is used to extend dictionaries?
    a. True
    b. False
3. To access items from a dictionary, we specify the index of that item within [] like myDict[0]?
    a. True
    b. False
4. When we use [] to access the value from a dictionary which does not exist in that dictionary….?
    a. Value within [] is added to the dictionary
    b. Value None is returned
    c. New dictionary is created
    d. None of above
5. What does return the pop method of a dictionary?
    a. list
    b. tuple containing the pair of last item of the dictionary
    c. dictionary
    d. value of the key, if it exists in the dictionary
6. What does return popitem method return?
    a. dictionary
    b. tupple containing the pair of last item of the dictionary
    c. list
    d. value of key, if it exists in the dictionary
7. Which of the following 2 methods can be used to iterate through the items of a dictionary?
    a. items()
    b. values()
    c. indexes()
    d. keys()
8. Which one of the following is used to enclose a dictionary?
    a. () parenthesis
    b. {} curly brackets
    c. [] square brackets
    d. “” quotation marks
9. Write Python Program add key-value pair in dictionary and check if a Given Key or Value or Both Exists in a Dictionary or Not.
10. Write a Python Program to Count the Frequency of Words Appearing in a String Using a Dictionary and print only the words having Even (divisible by 2) frequency.
11. X = ["Feb", Apr, Mar, May, Jun, Jul, Aug, Jan]. What will be output of following? **output will be error**
    X[0:3]
    X[2:8]

X[4:9]
X[1:7:2]
X[-1:-7]
X[-7:7]
X[-1:-8:-2]
X[:4]

12. Remove the correct number from the list X

X = [9,2,8,4,5]

X__?__

print (X)

Output: [2,8,4,5]

1) .delete(9)
2) .rm(9)
3) .remove(9)

13. p = 3

q = 'hello! '

print(q __?__ p)

hello! hello! hello!

1) *
2) **
3) +

14. y = "this is a random sentence"

print (y__?__)

Output: THIS IS A RANDOM SENTENCE

1) .upper()
2) .upcase()
3) .capitalize()

15. p = True

q = ‘True’

r = 2

r = 2.0

print(type(p))

print(type(q))

print(type(r))

print(type(s))

16. What are the optional arguments to the function?

function_1(R1, q, p=None, R2= None)

1) q and R2

2) p and R2

3) p and R1

4) R1 and q

17. Which command invokes method X() of the object p?

1) X(p)

2) p$x()

3) X().p

4) p.x()

18. X=4 , Y= 2

print(X % Y) = 0

print(X / Y) = 2

print(X // Y) = 2

print(Y % X) =2

19. x = [[4, 1, 1], [5, 9, 0]]

for i in __?__:

```
    for j in  __?__:
        ?
Output:         4
                1
                1
                5
                9
                0
```

```
x = [[4, 1, 1], [5, 9, 0]]
    for i in __?__:
      for j in  __?__:
        ?
Output:         4       5
                1       9
                1       0
```

```
x = [[4, 1, 1], [5, 9, 0]]
    for i in __?__:
      for j in  __?__:
        ?
Output:         4       1       1       5       9       0
```

```
x = [[4, 1, 1], [5, 9, 0]]
    for i in __?__:
      for j in  __?__:
        ?
Output:         4       1       1
                5       9       0
```

20.
```
q = [10.62, 16.14, 6.45, 17.11]
    for __?__, z in enumerate (q) :
```

```
print( 'Item ' + str( j ) + '  - ', str ( z ))
```

Output: Item 0 – 10.62

Item 1 – 16.14

Item 2 – 6.45

Item 3 – 17.11

1) z
2) i
3) j
4) x
5) k
6) y

21. Which of these about a dictionary is false?

a) The values of a dictionary can be accessed using keys

b) The keys of a dictionary can be accessed using values

c) Dictionaries aren't ordered

d) Dictionaries are mutable

22. What is the output of the following:

```
D = dict()
for i in range (3):
   for j in range(2):
      D[i] = j
```

a. {0: 1, 1: 1, 2: 1}

b. {1: 0, 1: 1, 1: 2}

c. {0: 1, 1: 2, 2: 3}

d. {1: 2, 1: 1, 1: 0}

23. You are writing a function that increments player score in a soccer game

If no value is specified for points, then point must start with 1

If no value is specified for bonus, then bonus should be True

01 def increment_score (bonus , score , points):

To meet the first requirement line 01 must be change to

- ❑ def increment_score (bonus , score , points = 1): (True or False)

To meet the second requirement line 01 must be change to

- ❑ def increment_score (bonus = True , score , points = 1): (True or False)
- ❑ Once a parameter is defined with default value, any parameter to the right must also be defined with default values (True or False)

24. What will be output?

```
def avg ( x , y , z = 50 ):
    adding = x + y + z
    avg_value = adding / 3
    return avg_value
y = avg ( x = 5 , y = 9 , z = 20 )
print(y)
```

returned value = 16.33

11.33 (average)

25. What will be output? Describe it with reason and logic behind. Do multiple experiments with arguments / parameters to remove error, if occurs.

```
def avg ( *opt_values , name ):
    avg_value = sum (opt_values) / len(opt_values)
    print('name is: ' + name + 'Marks: ' + str(avg_value))
avg ( 5 , 9 , 20, 34, 87, 112 , 'Ali' )
```

output = name is: Ali Marks: 44.5

26. Final output is not required. Just take copy pencil, think and write the output of each line, write down the link between parameters and arguments. Remove one or two ** from other_info and observe the ouput.

```
def display_result(winner, score, **other_info):
    print("The winner was " + winner)
    print("The score was " + score)
display_result(winner="Manchester", score="1-0", overtime ="yes", injuries="none")
```

output : The winner was Manchester
The score was 1-0
other_info yes
none

27. The position of parameters and arguments is re-arranged. Just think and find the logic behind output or error.

```
def display_result(winner, **other_info, score):
    print("The winner was " + winner)
    print("The score was " + score)
    display_result(winner="Manchester", overtime ="yes", injuries="none" , score="1-0" )
```

output : The winner was Manchester
The score was 1-0
other_info yes
none

28. What will be the output of the following Python expression if X=123?

```
print("%06d"%X)
```

a) 123000

b) 000123

c) 000000123

d) 123000000

29. What will be the output of the following Python expression if x=22.19?

a) 22.1900

b) 22.00000

c) 22.19

d) 22.20

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

```
'{0:f}, {1:2f}, {2:05.2f}'.format(1.23456, 1.23456, 1.23456)
```

a) Error
b) '1.234560, 1.22345, 1.23'
c) No output
d) '1.234560, 1.234560, 01.23'

31. Write down the output of each line after each iterations. Do multiple experiments to change values

```
i = 1
while False:
    if i%2 == 0:
        break
    print(i)
    i += 2
```

output : 2
when i=2, output : break
when i=3, output : 1
when i = 4, output : break

32. Write down the output of each line after each iterations. Do multiple experiments to change values

```
x = "abcdef"
i = "a"
while i in x:
   x = x[:-1]
   print(i, end = " ")
```

33. Write down the output of each line after each iterations. Do multiple experiments to change values

```
for i in ''.join(reversed(list('abcd'))):
   print (i)
```

34. Flow of the program. Write the output of each line after every iteration of 'i'

```
for i in range(10):
   if i == 5:
      break
   else:
      print(i)
else:
   print("Here")
```

Output: #(loop will run till 5 or 5 times)
Here
Here
Here
Here
Here

35. What is the output? And understand the functionality of lambda function

```
y = 6
z = lambda x: x * y
print z(8)
```

Output : 48

36. Write output and give proper logic of whatever the output comes.

```
i=0
def change(i):
  i=i+1
  return i
change(1)
print(i)
```

0 +1

1

Output : 1

40. What will be output? Define this output clearly

```
def change(one, *two):
  print(type(two))
  print(two)
change(1,2,3,4)
```

int

1 2 3 4

output:
one
1
2
3
4

41. What will be output? Define this output clearly

```
def find(a, **b):
  print(type(b))
find('letters',A='1',B='2')
```

int

output:
letters
1
2

42. Write output and define each line's output for each iteration of 'i'

```
def foo(i, x=[]):
  x.append(i)
  return x
for i in range(3):
  print(foo(i))
```

43. Evaluate the following Python arithmetic expression: and write which segment will execute first? (Brackets, Exponents, Multiplication, Addition / Subtraction, Left to right rule)

```
(3*(1+2)**2 - (2**2)*3)
```

44.You are creating a function that manipulates a number. The function has the following requirements:

- A float is passed into the function
- The function must take the absolute value of the float
- Any decimal points after the integer must be removed

A. math.fmod(x)

B. math.frexp(x)

C. math.floor(x)

D. math.ceil(x)

E. math.fabs(x)

45. You are writing code that generates a random integer with a minimum value of 5 and a maximum value of 11.

Which two functions should you use? Each correct answer presents a complete solution. (Choose two.)

A. random.randint(5, 12)

B. random.randint(5, 11)

C. random.randrange(5, 12, 1)

D. random.randrange(5, 11, 1)

46. Write a program that receives marks from user and check the grade.

Marks greater than equal to 90 then A grade

Marks between 80 to 90, B grade

Marks between 70 to 80, C grade

Marks between 60 to 70, D grade

Marks less than equal to 60 then E grade