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DSA Practice Problems C C++ Java

Question 1

Find the output of the following program:

```
d = dict()
for x in enumerate(range(2)):
    d[x[0]] = x[1]
    d[x[1]+7] = x[0]
print(d)
```

☐ A {0: 1, 7: 0, 1: 1, 8: 0}

☐ B {1: 1, 7: 2, 0: 1, 8: 1}

☒ C {0: 0, 7: 0, 1: 1, 8: 1}

☐ D KeyError

Discuss it

Explanation

enumerate() will return a tuple, the loop will have x = (0, 0), (1, 1). Thus D[0] = 0, D[1] = 1, D[0 + 7] = D[7] = 0, D[1 + 7] = D[8] = 1.

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Question 2

Find the output of the following program:

```
d = {1 : 1, 2 : '2', '1' : 2}
d['1'] = 2
print(d[d[d[str(d[1])]]])
```

☐ A 2

☒ B 3

☐ C '\2'

☐ D KeyError

Discuss it

Explanation

Simple key-value pair is used recursively. D[1] = 1, D[2] = '2', D['1'] = 2.

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Question 3

Find the output of the following program:

```
d = {1 : {'A' : {1 : "A"}, "B": "B"}, 3 : "C", 'B' : "D", "D": "E"}
print(d[d[d[1][2]]], end = "\n")
print(d[d[1]["A"]][2])
```

☐ A C B

☒ B E Key Error

☐ C B D

☐ D D B

Discuss it

Explanation

Key-Value Indexing is used in the example above. D[1] = {'A': {1 : "A"}, "B": "B"}, D[1][2] = "B", D[D[1]] = "E".

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Question 4

Find the output of the following program:

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

☐ A {0: 0, 1: 0, 2: 0}

☒ B {0: 1, 1: 1, 2: 1}

☐ C {0: 0, 1: 0, 2: 0, 0: 1, 1: 1, 2: 1}

☐ D TypeError: Immutable object

Discuss it

Explanation

1st loop will give 3 values to i 0, 1 and 2. In the empty dictionary, values are added and overwritten in j loop. for ea. D[0] = 0 becomes D[0] = 1.

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Question 5

Question 5: Find the output of the following program:

```
d = {1 : [1, 2, 3], 2: (4, 8)}
d[1].append(4)
print(d[1], end = " ")
li = [d[2]]
li.append(10)
d[2] = tuple(L)
print(d[2])
```

☒ A [1, 2, 3, 4] ((4, 6, 8), 10)

☐ B [1, 2, 3, 4] (4, 6, 8, 10)

☐ C [1, 2, 3, 4] TypeError: tuples are immutable

☐ D [1, 2, 3, 4] [4, 6, 8, 10]

Discuss it

Explanation

d[1] is a list, so it can be modified. d[2] is a tuple, so it cannot be modified.

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Question 6

What will be the output of the following code?

```
s = "GeeksforGeeks"
print(s[0], s[-1])
```

☐ A G G

☒ B G s

☐ C G k

☐ D e k

Discuss it

Explanation

s[0] accesses the first character 'G' and s[-1] accesses the last character 's'.

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Question 7

Find the output of the following program:

```
a = {}
a.fromkeys(['a', 'b', 'c', 'd'], 98)
print(a)
```

☐ A Syntax error
☒ B {'a':98, 'b':98, 'c':98, 'd':98}
☐ C {'a':None, 'b':None, 'c':None, 'd':None}
☐ D {}

Discuss it

Explanation

fromkeys() method returns a new dictionary but does not modify the original dictionary a, so print(a) outputs {} (empty dictionary).

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Question 8

Find the output of the following program:

```
dict = {}
print(all(dict))
```

☐ A {}
☐ B False
☒ C True
☐ D An exception is thrown

Discuss it

Explanation

The all() method returns:

True – If all elements in an iterable are true of iterable is empty.
 False – If any element in an iterable is false.

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Question 9

Find the output of the following program:

```
a = {'geeks' : 1, 'gfg' : 2}
b = {'geeks' : 2, 'gfg' : 1}
print(a == b)
```

☐ A True
☒ B False
☐ C Error
☐ D None

Discuss it

Explanation

If two dictionaries are the same it returns true, otherwise it returns false.

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Question 10

Which of the following is FALSE about dictionary?

☐ A The values of a dictionary can be accessed using keys
☒ B The keys of a dictionary can be accessed using values
☐ C Both of the above
☐ D None of the above

Discuss it

Explanation

The values of a dictionary can be accessed using keys but the keys of a dictionary can't be accessed using values.

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Question 11

Find the output of the following program:

```
d = {'GFG' : 'geeksforgeeks.org', 'google' : 'google.com', 'facebook' : 'facebook.com'}
del d['google'];
for key, values in d.items():
    print(key, end=" ")
d.clear();
for key, values in d.items():
    print(key)
del d;
for key, values in d.items():
    print(key)
```

☒ A Both B and D
☐ B GFG facebook
☐ C facebook GFG
☐ D NameError: name 'dictionary' is not defined

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Question 12

Find the output of the following program:

```
d1 = {'Google' : 1, 'Facebook' : 2, 'Microsoft' : 3}
d2 = {'GFG' : 1, 'Microsoft' : 2, 'Youtube' : 3}
d1.update(d2);
for key, values in d1.items():
    print(key, values, end=" ")
```

☒ A Google 1 Facebook 2 Microsoft 2 GFG 1 Youtube 3
☐ B Runtime error
☐ C Compilation error
☐ D None of these

Discuss it