Python Dictionary Practice Questions

1)
```
d = {'a': 1, 'b': 2}
d['c'] = 3
print(d)
```

2)
```
d = {'x': 10, 'y': 20, 'z': 30}
print(len(d))
```

3)
```
d = {'a': 10, 'b': 20}
print(d['b'])
```

4)
```
d = {'a': 1}
print(d.get('b'))
```

5)
```
d = {'a': 1, 'b': 2}
d.pop('b')
print(d)
```

6)
```
d = {'a': 1, 'b': 2}
print(d.pop('b'))
```

7)
```
d = {'a': 10, 'b': 20}
print(d.keys())
```

8)
```
d = {'a': 10, 'b': 20}
print(d.values())
```

9)
```
d = {'a': 1, 'b': 2}
print(d.items())
```

10)
```
d1 = {'a': 1}
d2 = {'b': 2, 'c': 3}
d1.update(d2)
print(d1)
```

11)
```
d = {'a': 1, 'b': 2}
print(d.setdefault('b', 5))
```

12)
```
d = {'a': 1, 'b': 2}
print('a' in d)
```

13)
```
d = {'a': 1, 'b': 2}
print(3 in d.values())
```

14)
```
d = {'a': 1}
d.update({'b': 20})
print(d)
```

15)
```
d = dict(x=100)
print(d)
```

16)
```
d = {'a': 1, 'b': 2}
d.clear()
d['a'] = 1
print(d)
```

17)
```
d = {'a': 1, 'b': 2}
print(d.get('a'))
```

18)
```
d = {'a': 1}
d2 = d.copy()
d2['b'] = 2
print(d2)
```

19)
```
d = {'a': 1, 'b': 2, 'c': 3}
count = 0
for i in d:
    count += 1
print(count)
```

20)
```
d = {'a': 10, 'b': 20}
for k in d:
    d[k] = d[k] * 1
print(d)
```

21)
```
d = {'a': 10}
print(d.setdefault('a', 50))
```

22)
```
d = {'a': 1, 'b': 2}
d.popitem()
print(d)
```

23)
```
d = {'a': 1, 'b': 2}
print(d.popitem())
```

24)
```
d = {'a': 1}
d.setdefault('b', 2)
print(d)
```

25)
```
d = {'a': 1, 'b': 2}
d.update({'d': 4})
print(d)
```

Answers (Output Section)

1: {'a': 1, 'b': 2, 'c': 3}
2: 3
3: 20
4: None
5: {'a': 1, 'b': 2}
6: 2
7: dict_keys(['a', 'b'])
8: dict_values([10, 20])
9: dict_items([('a', 1), ('b', 2)])
10: {'a': 1, 'b': 2, 'c': 3}
11: 2
12: True
13: False
14: {'a': 1, 'b': 20}
15: {'x': 100}
16: {'a': 1}
17: 1
18: {'a': 1, 'b': 2, 'c': 3}
19: 3
20: {'a': 10, 'b': 20}
21: 10
22: {'a': 1, 'b': 2}
23: ('a', 1)
24: {'a': 1, 'b': 2}
25: {'a': 1, 'b': 2, 'd': 4}

Programming Questions (10)

1. Write a program to create a dictionary with 5 student names and their marks. Display the dictionary
2. Write a program to check whether a given key exists in a dictionary. If it exists, print its value; otherwise print "Key not found".
3. Write a program to count how many values in a dictionary are even numbers.
4. Write a program to create a dictionary with n student names and marks and display the average marks.
5. Write a program to find the highest value in a dictionary without using max().
6. Write a program to merge two dictionaries without using update().
7. Write a program to create a dictionary with character frequency of a string.
   Example:
   Input: "apple"
   Output: {'a':1, 'p':2, 'l':1, 'e':1}
8. Write a program to find the highest and lowest value in a dictionary without using max() or min() functions.
9. Write a program to create a dictionary with numbers from 1 to n as keys and their squares as values.
   Example (n=5):
   {1:1, 2:4, 3:9, 4:16, 5:25}
   Do this using comprehension method
10. Write a program to swap keys and values in a dictionary.
    (Assume values are unique.)
    Example:
    {'a':1, 'b':2}
    Output: {1:'a', 2:'b'}