30 Python Dictionary Programs

# 1. Create and print a dictionary

Code:

d = {'name': 'Alice', 'age': 20}  
print(d)

Output:

{'name': 'Alice', 'age': 20}

# 2. Access value using key

Code:

d = {'name': 'Alice', 'age': 20}  
print(d['name'])

Output:

Alice

# 3. Access value using get()

Code:

d = {'name': 'Alice'}  
print(d.get('age', 'Not Found'))

Output:

Not Found

# 4. Add new key-value pair

Code:

d = {'name': 'Alice'}  
d['age'] = 21  
print(d)

Output:

{'name': 'Alice', 'age': 21}

# 5. Update existing value

Code:

d = {'name': 'Alice', 'age': 20}  
d['age'] = 22  
print(d)

Output:

{'name': 'Alice', 'age': 22}

# 6. Delete a key using del

Code:

d = {'name': 'Alice', 'age': 20}  
del d['age']  
print(d)

Output:

{'name': 'Alice'}

# 7. Remove key using pop()

Code:

d = {'name': 'Alice', 'age': 20}  
d.pop('age')  
print(d)

Output:

{'name': 'Alice'}

# 8. Remove last inserted item using popitem()

Code:

d = {'name': 'Alice', 'age': 20}  
d.popitem()  
print(d)

Output:

{'name': 'Alice'}

# 9. Clear dictionary

Code:

d = {'name': 'Alice', 'age': 20}  
d.clear()  
print(d)

Output:

{}

# 10. Copy dictionary

Code:

d1 = {'a': 1, 'b': 2}  
d2 = d1.copy()  
print(d2)

Output:

{'a': 1, 'b': 2}

# 11. Length of dictionary

Code:

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

Output:

3

# 12. Dictionary keys

Code:

d = {'a': 1, 'b': 2}  
print(d.keys())

Output:

dict\_keys(['a', 'b'])

# 13. Dictionary values

Code:

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

Output:

dict\_values([1, 2])

# 14. Dictionary items

Code:

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

Output:

dict\_items([('a', 1), ('b', 2)])

# 15. Using update()

Code:

d = {'a': 1}  
d.update({'b': 2})  
print(d)

Output:

{'a': 1, 'b': 2}

# 16. Create dictionary using dict() constructor

Code:

d = dict(x=10, y=20)  
print(d)

Output:

{'x': 10, 'y': 20}

# 17. Loop through dictionary

Code:

d = {'name': 'Alice', 'age': 20}  
for k, v in d.items():  
 print(k, v)

Output:

name Alice  
age 20

# 18. Check if key exists

Code:

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

Output:

True

# 19. Nested dictionary

Code:

students = {'s1': {'name': 'Alice', 'age': 20}, 's2': {'name': 'Bob', 'age': 22}}  
print(students['s2']['age'])

Output:

22

# 20. Create dictionary from two lists

Code:

keys = ['a', 'b', 'c']  
values = [1, 2, 3]  
d = dict(zip(keys, values))  
print(d)

Output:

{'a': 1, 'b': 2, 'c': 3}

# 21. Dictionary comprehension

Code:

squares = {x: x\*x for x in range(5)}  
print(squares)

Output:

{0: 0, 1: 1, 2: 4, 3: 9, 4: 16}

# 22. Count frequency of characters

Code:

text = 'hello'  
freq = {}  
for ch in text:  
 freq[ch] = freq.get(ch, 0) + 1  
print(freq)

Output:

{'h': 1, 'e': 1, 'l': 2, 'o': 1}

# 23. Merge two dictionaries

Code:

a = {'x': 1, 'y': 2}  
b = {'y': 3, 'z': 4}  
a.update(b)  
print(a)

Output:

{'x': 1, 'y': 3, 'z': 4}

# 24. Dictionary with tuple as key

Code:

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

Output:

point

# 25. Set default value

Code:

d = {}  
d.setdefault('a', 100)  
print(d)

Output:

{'a': 100}

# 26. Sort dictionary by keys

Code:

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

Output:

{'a': 1, 'b': 2}

# 27. Sort dictionary by values

Code:

d = {'a': 3, 'b': 1}  
print(dict(sorted(d.items(), key=lambda x: x[1])))

Output:

{'b': 1, 'a': 3}

# 28. Invert dictionary

Code:

d = {'a': 1, 'b': 2}  
inv = {v: k for k, v in d.items()}  
print(inv)

Output:

{1: 'a', 2: 'b'}

# 29. Check if value exists

Code:

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

Output:

True

# 30. Minimum and maximum key

Code:

d = {'x': 10, 'a': 5, 'm': 15}  
print(min(d), max(d))

Output:

a x