

#1) Write a Python program to sort a dictionary by value.

Sample dictionary

```
my_dict = {'apple': 10, 'banana': 5, 'cherry': 20, 'date': 15}
```

```
print("Original Dictionary:", my_dict)
```

Sort dictionary by value (ascending)

```
sorted_dict = dict(sorted(my_dict.items(), key=lambda item: item[1]))
```

```
print("Sorted Dictionary by Value:", sorted_dict)
```

```
↻ Original Dictionary: {'apple': 10, 'banana': 5, 'cherry': 20, 'date': 15}
Sorted Dictionary by Value: {'banana': 5, 'apple': 10, 'date': 15, 'cherry': 20}
```

#2) Write a Python program to add a key to a dictionary.

#Sample Dictionary: {0: 100, 1: 200}

#Expected Result: {0: 100, 1: 200, 2: 300}

Sample dictionary

```
my_dict = {0: 100, 1: 200}
```

```
print("Original Dictionary:", my_dict)
```

Add new key-value pair

```
my_dict[2] = 300
```

```
print("Updated Dictionary:", my_dict)
```

```
↻ Original Dictionary: {0: 100, 1: 200}
Updated Dictionary: {0: 100, 1: 200, 2: 300}
```

#3) Write a Python program to print a dictionary where the keys are numbers

#between 1 and 5 (both included) and the values are square of keys.

#Sample Dictionary {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

Create empty dictionary

```
squares_dict = {}
```

Loop from 1 to 5

```
for i in range(1, 6):
    squares_dict[i] = i * i
```

```
print("Resulting Dictionary:", squares_dict)
```

```
↻ Resulting Dictionary: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
```

#4) Write a Python program to do the following:

#A. To Sort a dictionary by key.

#B. To get the maximum and minimum value in a dictionary.

#C. To remove duplicates from Dictionary.

Sample dictionary

```
my_dict = {3: 100, 1: 200, 4: 100, 2: 300, 5: 200}
```

```
print("Original Dictionary:", my_dict)
```

A. Sort dictionary by key

```
sorted_by_key = dict(sorted(my_dict.items()))
```

```
print("\nA. Dictionary sorted by key:", sorted_by_key)
```

B. Get maximum and minimum value

```
values = my_dict.values()
```

```
max_val = max(values)
```

```
min_val = min(values)
```

```
print("\nB. Maximum value in dictionary:", max_val)
```

```
print("B. Minimum value in dictionary:", min_val)
```

C. Remove duplicates (keep only the first occurrence of each value)

```
unique_values = {}
```

```
for key, value in my_dict.items():
```

```
    if value not in unique_values.values():
```

```
        unique_values[key] = value
```

```
print("\nC. Dictionary after removing duplicate values:", unique_values)
```



Original Dictionary: {3: 100, 1: 200, 4: 100, 2: 300, 5: 200}

A. Dictionary sorted by key: {1: 200, 2: 300, 3: 100, 4: 100, 5: 200}

B. Maximum value in dictionary: 300

B. Minimum value in dictionary: 100

C. Dictionary after removing duplicate values: {3: 100, 1: 200, 2: 300}