Exercises

1. Write a Python program to check whether two strings are anagrams of each other.
2. Write a Python program to find the most common character in a string.
3. Write a Python program to check whether a string is a substring of another string.
4. Write a Python program to remove all the spaces from a string.
5. Write a Python program to find the first non-repeating character in a string.
6. Write a Python program to check whether a string is a valid URL or not.
7. Write a Python program to remove all the duplicate characters from a string.
8. Write a Python program to find the second most common character in a string.
9. Write a Python program to convert a string to title case.
10. Write a Python program to find the longest palindrome in a string.

Exercises and Solution

1. Write a Python program to check whether two strings are anagrams of each other.

```python
str1 = "silent"

str2 = "listen"

if sorted(str1) == sorted(str2):

    print("The strings are anagrams")

else:

    print("The strings are not anagrams")
```

2. Write a Python program to find the most common character in a string.

```python
string = "Hello, world!"

char_count = {}

for char in string:

    if char in char_count:

        char_count[char] += 1

    else:

        char_count[char] = 1

most_common_char = max(char_count, key=char_count.get)
```

```python
print(f"The most common character is {most_common_char}")
```

3. Write a Python program to check whether a string is a substring of another string.

```python
string1 = "Hello, world!"
string2 = "world"
if string2 in string1:
    print("The second string is a substring of the first string")
else:
    print("The second string is not a substring of the first string")
```

4. Write a Python program to remove all the spaces from a string.

```python
string = "Hello, world!"
no_spaces = ""
for char in string:
    if char != " ":
        no_spaces += char
print(no_spaces)
```

5. Write a Python program to find the first non-repeating character in a string.

```python
string = "Hello, world!"
char_count = {}

for char in string:
    if char in char_count:
        char_count[char] += 1
    else:
        char_count[char] = 1

for char in string:
    if char_count[char] == 1:
        print(f"The first non-repeating character is {char}")
        break
```

6. Write a Python program to check whether a string is a valid URL or not.

```python
import re
url = "https://www.google.com"
pattern = re.compile(r"https?://(www\.)?\w+\.\w+")
if pattern.match(url):
    print("The URL is valid")
else:
    print("The URL is not valid")
```

7. Write a Python program to remove all the duplicate characters from a string.

```python
string = "Hello, world!"
no_duplicates = ""
for char in string:
    if char not in no_duplicates:
        no_duplicates += char
print(no_duplicates)
```

8. Write a Python program to find the second most common character in a string.

```python
string = "Hello, world!"
char_count = {}
for char in string:
    if char in char_count:
        char_count[char] += 1
    else:
        char_count[char] = 1
sorted_char_count = sorted(char_count.items(), key=lambda x: x[1], reverse=True)
second_most_common_char = sorted_char_count[1][0]
print(f"The second most common character is {second_most_common_char}")
```

9. Write a Python program to convert a string to title case.

```python
string = "the quick brown fox"
title_case = ""
```

```python
for word in string.split():
    title_case += word.capitalize() + " "
print(title_case)
```

10. Write a Python program to find the longest palindrome in a string.

```python
string = "babad"
longest_palindrome = ""
for i in range(len(string)):
    for j in range(i, len(string)):
        substring = string[i:j+1]
        if substring == substring[::-1] and len(substring) > len(longest
```