

Exercises

1. Write a Python program to calculate the sum and average of a list of numbers.
2. Write a Python program to find the second largest element in a list.
3. Write a Python program to check whether a given year is a leap year or not.
4. Write a Python program to check whether a given number is a prime number or not.
5. Write a Python program to sort a list of integers in ascending order.
6. Write a Python program to check whether a given string is a pangram or not.
7. Write a Python program to find the length of the longest word in a sentence.
8. Write a Python program to calculate the sum of the digits in a number.
9. Write a Python program to generate a Fibonacci series up to n.
10. Write a Python program to remove duplicates from a list.

Exercises and Solution

1. Write a Python program to calculate the sum and average of a list of numbers.

```
numbers = [3, 5, 7, 9, 11]
sum = 0
for i in numbers:
    sum += i
average = sum / len(numbers)
print("The sum of the numbers is:", sum)
print("The average of the numbers is:", average)
```

2. Write a Python program to find the second largest element in a list.

```
n = 10
sum = 0
for i in range(1, n+1):
    sum += i
print("The sum of the first 10 natural numbers is:", sum)
print("The sum of the first 10 natural numbers is:", sum)
```

3. Write a Python program to check whether a given year is a leap year or not.

```
year = int(input("Enter a year: "))
if year % 4 == 0:
    if year % 100 == 0:
        if year % 400 == 0:
            print(year, "is a leap year")
        else:
            print(year, "is not a leap year")
    else:
        print(year, "is a leap year")
else:
    print(year, "is not a leap year")
```

```
print(year, "is not a leap year")
```

4. Write a Python program to check whether a given number is a prime number or not.

```
num = int(input("Enter a number: "))
prime = True
for i in range(2, num):
    if num % i == 0:
        prime = False
        break
if prime:
    print(num, "is a prime number")
else:
    print(num, "is not a prime number")
```

5. Write a Python program to sort a list of integers in ascending order.

```
numbers = [3, 5, 2, 9, 8, 10]
numbers.sort()
print("The sorted list is:", numbers)
```

6. Write a Python program to check whether a given string is a pangram or not.

```
string = input("Enter a string: ")
alphabet = 'abcdefghijklmnopqrstuvwxyz'
pangram = True
for char in alphabet:
    if char not in string.lower():
        pangram = False
        break
if pangram:
    print(string, "is a pangram")
else:
    print(string, "is not a pangram")
```

7. Write a Python program to find the length of the longest word in a sentence.

```
sentence = "The quick brown fox jumps over the lazy dog"
words = sentence.split()
lengths = []
for word in words:
    lengths.append(len(word))
print("The length of the longest word in the sentence is:", max(lengths))
```

8. Write a Python program to calculate the sum of the digits in a number.

```
num = int(input("Enter a number: "))
sum = 0
while num > 0:
    digit = num % 10
    sum += digit
    num //= 10
print("The sum of the digits in the number is:", sum)
```

9. Write a Python program to generate a Fibonacci series up to n.

```
n = int(input("Enter the number of terms: "))
fibonacci = [0, 1]
for i in range(2, n):
    next = fibonacci[i-1] + fibonacci[i-2]
    fibonacci.append(next)
print("The Fibonacci series is:", fibonacci)
```

10. Write a Python program to remove duplicates from a list.

```
numbers = [3, 5, 2, 9, 8, 10, 5, 2]
unique = []
for i in numbers:
    if i not in unique:
        unique.append(i)
print("The list with duplicates removed is:", unique)
```