Q1

def factorial(n):

if n == 0 or n == 1:

return 1

else:

return n \* factorial(n - 1)

Q2

def multiplication\_table(number, upto):

for i in range(1, upto + 1):

print(f"{number} x {i} = {number \* i}")

Q3

def fibonacci\_sequence(n):

fib\_sequence = [0, 1]

for i in range(2, n):

next\_term = fib\_sequence[i - 1] + fib\_sequence[i - 2]

fib\_sequence.append(next\_term)

return fib\_sequence

Q4

def is\_armstrong\_number(number):

num\_str = str(number)

num\_digits = len(num\_str)

digit\_sum = sum(int(digit)\*\*num\_digits for digit in num\_str)

return number == digit\_sum

Q5

def is\_armstrong\_number(number):

num\_str = str(number)

num\_digits = len(num\_str)

digit\_sum = sum(int(digit)\*\*num\_digits for digit in num\_str)

return number == digit\_sum

def find\_armstrong\_numbers\_in\_interval(start, end):

armstrong\_numbers = []

for num in range(start, end + 1):

if is\_armstrong\_number(num):

armstrong\_numbers.append(num)

return armstrong\_numbers

Q6

def sum\_of\_natural\_numbers(n):

return n \* (n + 1) // 2