Quiz 1

for number in range(1, 101):

if number % 3 == 0 and number % 5 == 0:

print("FizzBuzz")

elif number % 3 == 0:

print("Fizz")

elif number % 5 == 0:

print("Buzz")

else:

print(number)

Quiz 2

# Function to generate Fibonacci sequence up to a given limit

def generate\_fibonacci(limit):

fibonacci\_sequence = [0, 1]

while fibonacci\_sequence[-1] + fibonacci\_sequence[-2] <= limit:

next\_number = fibonacci\_sequence[-1] + fibonacci\_sequence[-2]

fibonacci\_sequence.append(next\_number)

return fibonacci\_sequence

# Set the limit to 100

limit = 100

# Generate and print Fibonacci sequence up to the limit

fibonacci\_result = generate\_fibonacci(limit)

print(f"Fibonacci sequence up to {limit}: {fibonacci\_result}")

Quiz 3

def is\_power\_of\_two(n):

# Ensure that the input is a positive integer

if type(n) != int or n <= 0:

return False

# Check if the number is a power of two

return (n & (n - 1)) == 0

# Example usage:

input\_number\_1 = 8

input\_number\_2 = 6

result\_1 = is\_power\_of\_two(input\_number\_1)

result\_2 = is\_power\_of\_two(input\_number\_2)

print(f"{input\_number\_1} => {result\_1}")

print(f"{input\_number\_2} => {result\_2}")

Quiz 4

def capitalize\_first\_letter(sentence):

# Split the sentence into words

words = sentence.split()

# Capitalize the first letter of each word

capitalized\_words = [word.capitalize() for word in words]

# Join the capitalized words to form the result string

result = ' '.join(capitalized\_words)

return result

# Example usage:

input\_string\_1 = "hi"

input\_string\_2 = "i love programming"

result\_1 = capitalize\_first\_letter(input\_string\_1)

result\_2 = capitalize\_first\_letter(input\_string\_2)

print(f'"{input\_string\_1}" => "{result\_1}"')

print(f'"{input\_string\_2}" => "{result\_2}"')

Quiz 5

def reverse\_digits(number):

# Check if the number is negative

is\_negative = False

if number < 0:

is\_negative = True

number = abs(number)

# Convert the number to a string, reverse it, and convert it back to an integer

reversed\_number = int(str(number)[::-1])

# Restore the negative sign if the original number was negative

if is\_negative:

reversed\_number \*= -1

return reversed\_number

# Example usage:

input\_number\_1 = 500

input\_number\_2 = -56

input\_number\_3 = -90

input\_number\_4 = 91

result\_1 = reverse\_digits(input\_number\_1)

result\_2 = reverse\_digits(input\_number\_2)

result\_3 = reverse\_digits(input\_number\_3)

result\_4 = reverse\_digits(input\_number\_4)

print(f"For input {input\_number\_1}, the program should return {result\_1}.")

print(f"For input {input\_number\_2}, the program should return {result\_2}.")

print(f"For input {input\_number\_3}, the program should return {result\_3}.")

print(f"For input {input\_number\_4}, the program should return {result\_4}.")

Quiz 6

def count\_vowels(sentence):

# Convert the sentence to lowercase to make the counting case-insensitive

lower\_sentence = sentence.lower()

# Define a set of vowels

vowels = set("aeiou")

# Count the number of vowels in the sentence

vowel\_count = sum(1 for char in lower\_sentence if char in vowels)

return vowel\_count

# Example usage:

input\_sentence = "Hello World"

result = count\_vowels(input\_sentence)

print(f'"{input\_sentence}" => returns {result}')