EXERCISE 3:

BROKEN CODE:

import numpy as np

import pandas as pd

import random

def generate\_random\_number(min\_num, max\_num):

num = random.randint(min\_num, max\_num)

print("Random number is: " + num)

def calc\_average(num\_list):

total = sum(num\_list)

return total / lenght(num\_list)

def check\_prime(start, end):

prime\_list = []

for i in range(start, end):

if i % 2 == 0:

prime\_list.append(i)

return prime\_list

def load\_data(filepath):

data = pd.read\_csv(filepath)

return data

def main():

num\_list = [10, 20, 30, "forty", 50]

print("The average is: ", calc\_average(num\_list))

print("Prime numbers: ", check\_prime(1, 10))

file\_path = "C:\Users\Reddy\Downloads\data.csv"

data = load\_data(file\_path)

print("Data loaded: ", data)

random\_num = generate\_random\_number(1, 100)

print("Generated Random Number: ", random\_num)

try:

print("Result of division: ", 10 / 0)

except ZeroDivisionError:

print("Can't divide by zero")

numbers = [x for x in range(100) if x % 3 == 0 and x % 5 == 0]

print("Numbers divisible by 3 and 5 are: ", numbers)

undefined\_function\_call()

main()

SUGGESTIONS AND FIXES BY CHAT-GPT

Here are the necessary changes:

1. **Convert num to a string** before concatenating in generate\_random\_number.
2. **Fix typo**: Change lenght(num\_list) to len(num\_list) in calc\_average.
3. **Correct check\_prime logic**: It should check for prime numbers instead of even numbers.
4. **Return num** from generate\_random\_number instead of just printing it.
5. **Filter non-numeric values** from num\_list before calculating the average in calc\_average.
6. **Handle file errors** in load\_data, such as missing or unreadable files.

CORRECTED CODE

import numpy as np

import pandas as pd

import random

def generate\_random\_number(min\_num, max\_num):

num = random.randint(min\_num, max\_num)

print("Random number is:", num)

return num

def calc\_average(num\_list):

cleaned\_list = [num for num in num\_list if isinstance(num, (int, float))]

if not cleaned\_list:

return "No valid numbers to calculate average"

total = sum(cleaned\_list)

return total / len(cleaned\_list)

def check\_prime(start, end):

prime\_list = []

for num in range(start, end):

if num > 1: # Prime numbers start from 2

for i in range(2, int(num\*\*0.5) + 1):

if num % i == 0:

break

else:

prime\_list.append(num)

return prime\_list

def load\_data(filepath):

try:

data = pd.read\_csv(filepath)

return data

except FileNotFoundError:

print("Error: File not found.")

return None

except pd.errors.EmptyDataError:

print("Error: File is empty.")

return None

except pd.errors.ParserError:

print("Error: File could not be parsed.")

return None

def main():

num\_list = [10, 20, 30, "forty", 50]

print("The average is:", calc\_average(num\_list))

print("Prime numbers:", check\_prime(1, 10))

file\_path = "data.csv"

data = load\_data(file\_path)

if data is not None:

print("Data loaded:", data.head())

random\_num = generate\_random\_number(1, 100)

print("Generated Random Number:", random\_num)

try:

print("Result of division:", 10 / 0)

except ZeroDivisionError:

print("Can't divide by zero")

numbers = [x for x in range(100) if x % 3 == 0 and x % 5 == 0]

print("Numbers divisible by 3 and 5 are:", numbers)

if \_\_name\_\_ == "\_\_main\_\_":

main()

OUTPUT:

The average is: 27.5

Prime numbers: [2, 3, 5, 7]

Error: File not found.

Random number is: 61

Generated Random Number: 61

Can't divide by zero

Numbers divisible by 3 and 5 are: [0, 15, 30, 45, 60, 75, 90]