BT1 :

def cleanup\_data(data, default\_name="Unknown"):  
 for i in range(len(data)):  
 # Xử lý tên  
 if data[i][0] == "":  
 data[i][0] = default\_name  
 elif len(data[i][0]) > 25:  
 data[i][0] = data[i][0][:25]  
  
 # Xử lý điện thoại  
 # data[i][1] = ''.join([char if char.isdigit() else '0' for char in data[i][1]])  
  
 if data[i][1] == "":  
 data[i][1] = "0"  
 else:  
 cleaned\_phone = ""  
 previous\_digit = '0'  
 for char in data[i][1]:  
 if char.isdigit():  
 cleaned\_phone += char  
 previous\_digit = char  
 else:  
 cleaned\_phone += previous\_digit  
 data[i][1] = cleaned\_phone  
  
 # Xử lý mức lương  
 if not 200 <= data[i][2] <= 2000:  
 data[i][2] = min(max(data[i][2], 200), 2000)  
  
 return data  
data = [  
 ["Xuan Truong", "123-456-789", 1600],  
 ["Duc Luong", "abc-555", 2345],  
 ["Nguyen Hoang Bao Anhhhhhhhhhhhhhhhhh", "", 1234],  
 ["Duc Tin", "345-555", 180],  
 ["", "234-456-678", 2100],  
]  
  
cleaned\_data = cleanup\_data(data, default\_name="John Doe")  
  
for row in cleaned\_data:  
 print(row)

BT2 :

import math  
  
def make\_negative\_positive(numbers):  
 return [abs(num) if num < 0 else num for num in numbers]  
  
def is\_prime(number):  
 if number < 2:  
 return False  
 for i in range(2, int(math.sqrt(number)) + 1):  
 if number % i == 0:  
 return False  
 return True  
  
def extract\_primes(numbers):  
 return [num for num in numbers if is\_prime(num)]  
  
def find\_divisible\_numbers(numbers, prime):  
 return [num for num in numbers if num % prime == 0]  
  
# Example list of random integers (100 elements)  
import random  
  
random\_integers = [random.randint(-100, 100) for \_ in range(100)]  
print("Random integers:", random\_integers)  
  
  
# a) Make negative numbers positive with the same absolute value  
modified\_numbers = make\_negative\_positive(random\_integers)  
print("Modified numbers:", modified\_numbers)  
  
# b) Extract prime numbers from the list  
prime\_numbers = extract\_primes(modified\_numbers)  
print("Prime numbers:", prime\_numbers)  
  
# c) Find numbers divisible by each prime number  
for prime in prime\_numbers:  
 divisible\_numbers = find\_divisible\_numbers(modified\_numbers, prime)  
 print(f"Numbers divisible by {prime}: {divisible\_numbers}")