Question 1:

You have to create four threads other than main thread.

1. Input thread

2. Reverse thread

3. Capital thread

4. Shift thread

Input thread will take string input from user, reverse thread will reverse the string and output it, capital thread will capitalize the characters of string and output it and shift thread will shift each characters of the string two time (e.g. a will become c) and output it. All the threads wait for input thread when input thread finishes his task all the waiting thread start their work simultaneously. You also have to handle the exceptions of input thread. Also take care the state of each thread. Do not waste your memory resources.

Code:

```
import threading

def get_input():
  global input_string
  input_string = input("Enter the input string: ")

def Reverse_String_Thread(input_string):
  print("Reversed String : ",input_string[::-1])

def Capital_String_Thread(input_string):
  print("Capitalized String : ", input_string.upper())

def Shift_string_Thread(input_string, a):
  shifted_string = ""
  for c in input_string:

    shifted_char = chr(ord(c) + a)

    shifted_string += shifted_char
  print("Shifted String : ",shifted_string)

input_thread = threading.Thread(target=get_input)

input_thread.start()

input_thread.join()

reverse_thread = threading.Thread(target=Reverse_String_Thread, args=(input_string, ))
capital_thread = threading.Thread(target=Capital_String_Thread, args=(input_string, ))
shift_thread = threading.Thread(target=Shift_string_Thread, args=(input_string, 1))
```

```
reverse_thread.start()
capital_thread.start()
shift_thread.start()


reverse_thread.join()
capital_thread.join()
shift_thread.join()
```