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## OPERATING SYSTEMS

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JANUARY 4, 2023

## TASK\_1

### CODE:

```
from threading import Thread

input_str=""
def input_string_thread():
    global input_str
    print("ENTER YOUR STRING")
    input_str = str(input())

def reverse_string_thread():
    print("THIS IS WILL SHOW THE RESULT OF THE STRING IN A REVERSED FORM")
    txt = input_str[::-1]
    print(txt)

def capital_string_thread():
    print("THIS WILL SHOW THE STRING IN UPPER CASE LETTERS ")
    y = input_str.upper()
    print(y)

def shift_string_thread():
    print("THIS WOULD SHIFT THE STRING")
    s = input_str
    shifted_s = ''
    for c in s:
        c_ascii = ord(c) # get the ASCII value of the character
        c_ascii += 2 # shift the ASCII value by 2 positions
        shifted_c = chr(c_ascii) # convert the ASCII value back to a
character
        shifted_s += shifted_c # add the shifted character to the result
string
    print(shifted_s)

if __name__ == "__main__":
    thread1 = Thread(target=input_string_thread)
    thread2 = Thread(target=reverse_string_thread)
    thread3 = Thread(target=capital_string_thread)
    thread4 = Thread(target=shift_string_thread)

    thread1.start()
    thread1.join()
    thread2.start()
    thread2.join()
    thread3.start()
    thread3.join()
    thread4.start()
```

## OUTPUT:

```
ENTER YOUR STRING
vanya
THIS IS WILL SHOW THE RESULT OF THE STRING IN A REVERSED FORM
aynav
THIS WILL SHOW THE STRING IN UPPER CASE LETTERS
VANYA
THIS WOULD SHIFT THE STRING
xcp{c
```

## EXPLANATION:

In this program we have created 4 threads input, reversed, capitalize and shift.

- **PROCESS OF CODE:**

The code will process in the following way:

1. Creating function of input thread “that would take the input of the string from the user”. We have defined that string variable as a global variable.
2. Creating reverse function. The reversed function would reverse the string that the user has given.
3. Creating capitalize function. The input string given by the user would be capitalized using upper () command. This would automatically convert the string in upper case letters.
4. Creating shift function. In this function we have shifted each character within 2 position ahead. Using the ord command (function returns the number representing the Unicode code of a specified character).
5. We have created the main and have created thread targeting each functions.
6. Then we have joined the thread using join () command and start the thread using start () command.
7. The output of the code is shown above.

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