Green University of Bangladesh
Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
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Course Code: CSE-310 Section:DN

Lab Project Name: Weather Teller

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[For Teachers use only: Don't Write Anything inside this box]

Lab Project Status

Marks: …… **Signature: .....**

Comments: ..... **Date: .....**

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Chapter 1

Introduction

1.1 Introduction

Weather Teller is a simple bash program that can show real time weather updates of any city in the world. Weather forecasting is the application of science and technology to predict the conditions of the atmosphere for a given location and time. People have attempted to predict the weather informally for millennia and formally since the 19th century.

1.2 Objective

In our real life we need to remain updated and get the latest news about weather as there are lots of reasons behind it in an agricultural country like bangladesh. If we are not aware about regular weather update there can be many natural disasters from which we should protect ourselves as well as crops. Most common weather related disasters are

- Sudden Cyclone
- Scorching Heat
- Heavy Rainfall

The main goal of the Weather Teller app is showing the current and real time weather conditions as it is very necessary for us. If we know the real time weather update we will be

able to take precautionary steps to minimize the bad impact of natural climites. Most common feature of our app is :

- Showing Temperature
- Humidity
- Cloud condition
- Temperature Feel

Chapter 2

Implementation of the Project

2.1 Tools

To implement this project we have to use lots of tools and technologies and programming ideas. They are :

- Nano (As code editor)
- VS Code (As code editor)
- Bash /Shell Scripting (As programming language)
- Open Weather API
- JSON
- Necessary linux commands

2.1.1 Implementing time image

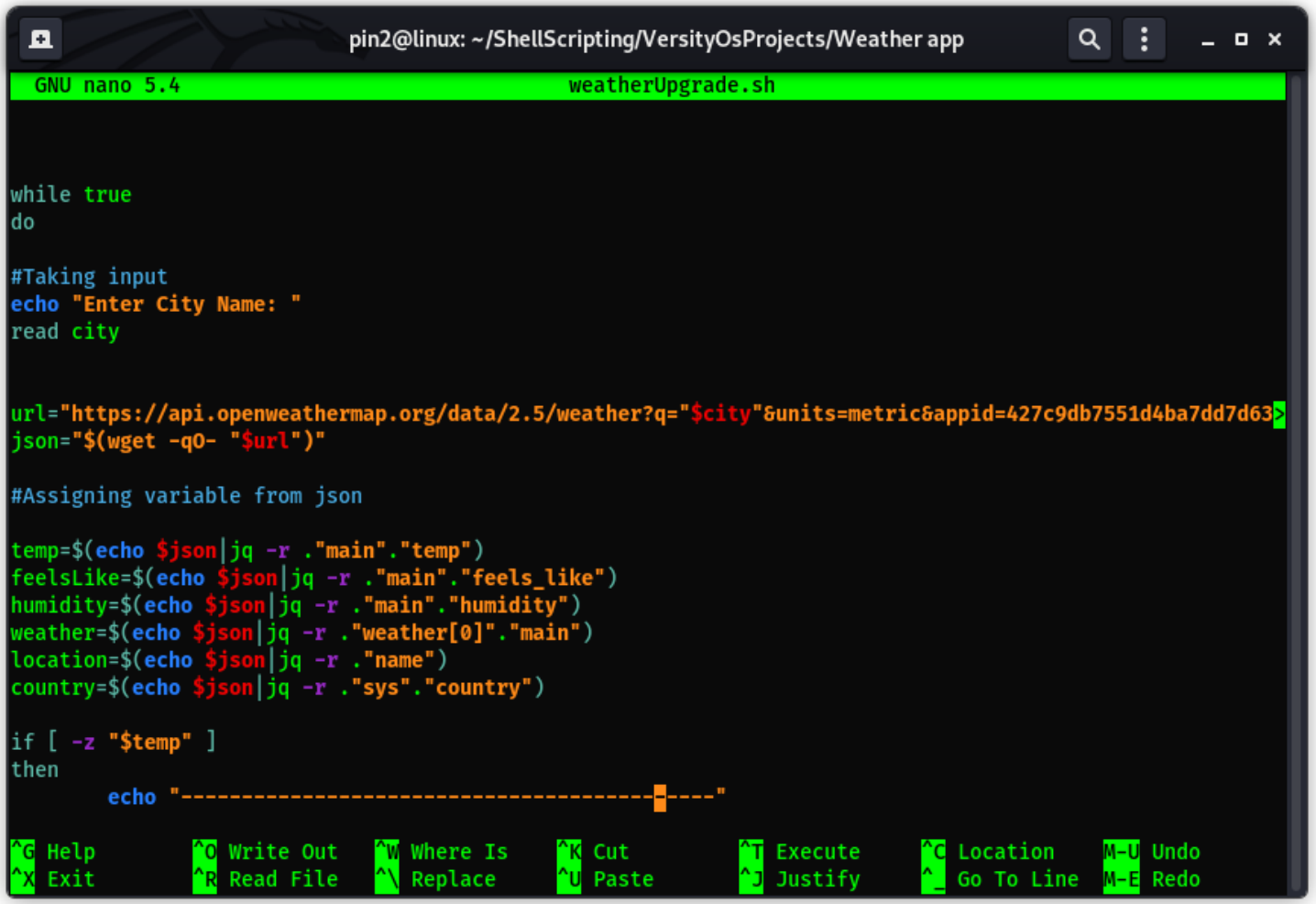

Figure 2.1: Coding Environment

2.2 Implementation process

2.2.1 We opened NANO as editor

2.2.2 Then we declare a infinity while loop for reusing the apps

2.2.3 Took user input by read command

2.2.4 Took City as user input

2.2.5 Created an account in open weather map

2.2.6 Took a free api

2.2.7 Called the api from our shell environment

2.2.8 We used wget command to view the weather api from API url

2.2.9 used q0 command to convert the string data into JSON

2.2.10 We used jq -r command to read the data from object

2.2.11 We declared necessary variables to store our necessary data

2.2.12 We used if else condition to check the if the city is valid or not

2.2.13 if a person give a invalid city it will show error

2.2.14 Otherwise weather details will be printed

Chapter 3

Performance Evaluation

3.1 Simulation Environment/ Simulation Procedure

We used our default linux terminal to simulate our project. Simulation screen shot are given below

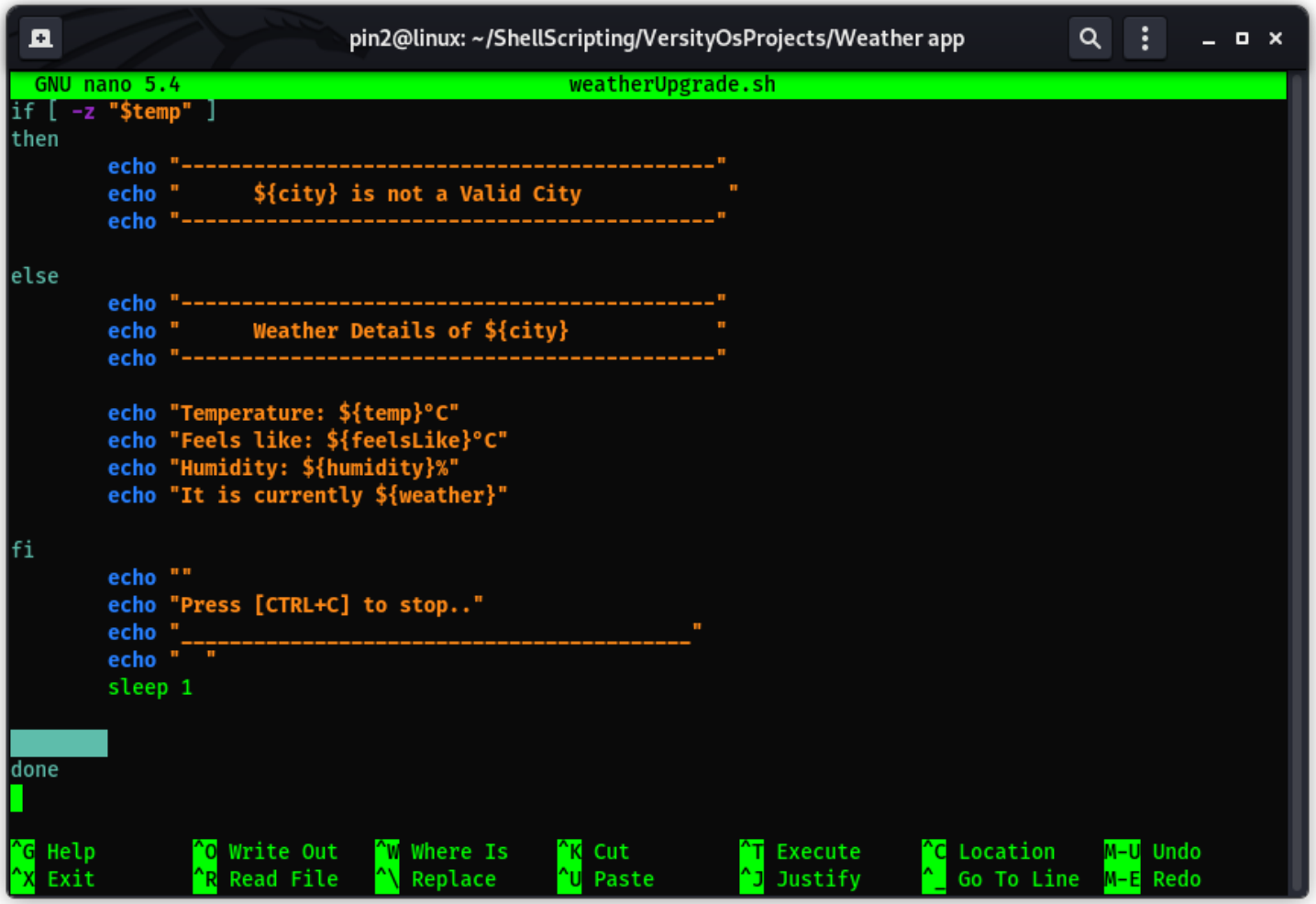

Figure 3.1: Simulation process

3.2 Results and Discussions

3.2.1 Results

We got the expected output correctly. As we use the openweather api key.

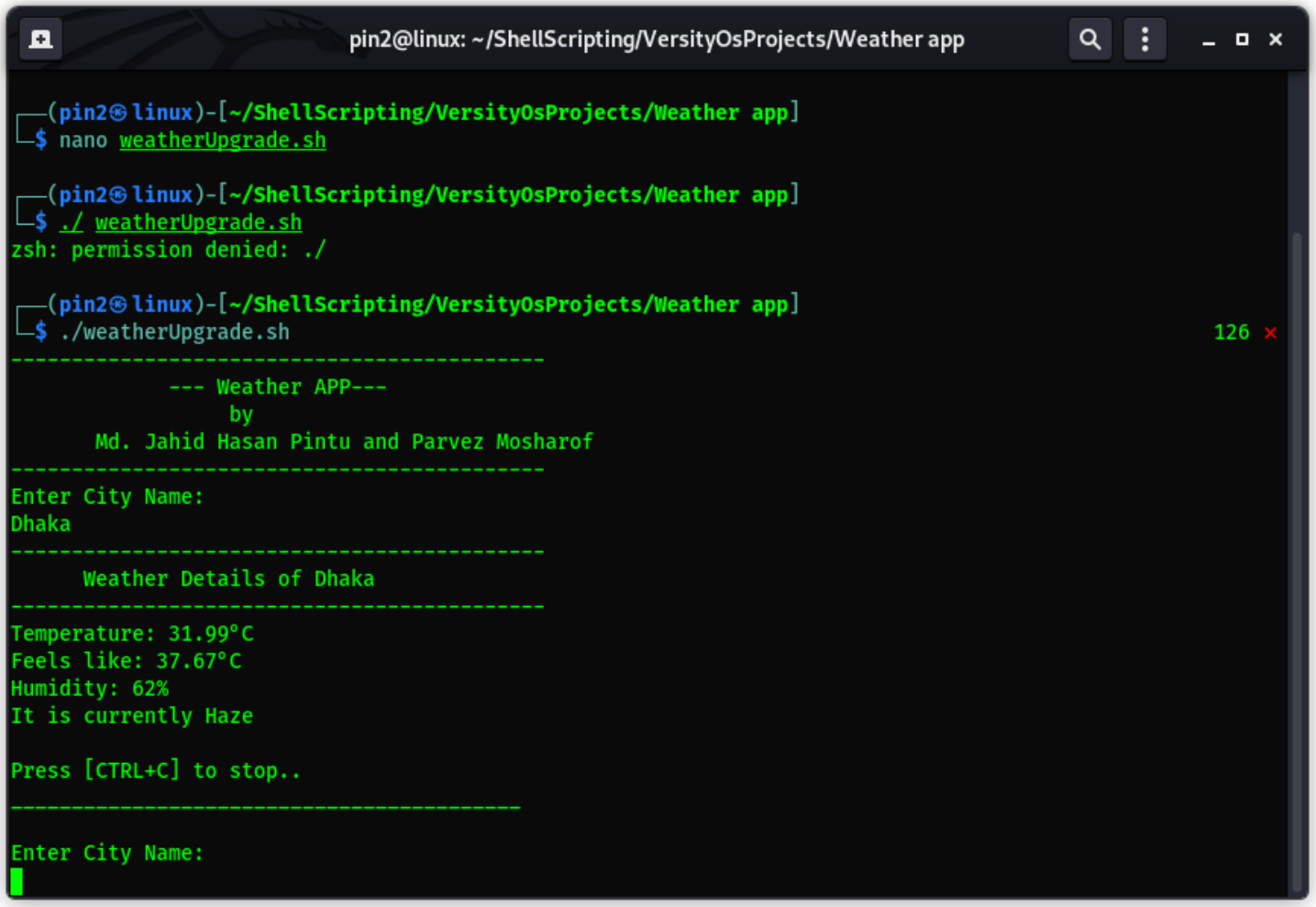

Figure 3.1: Valid Result

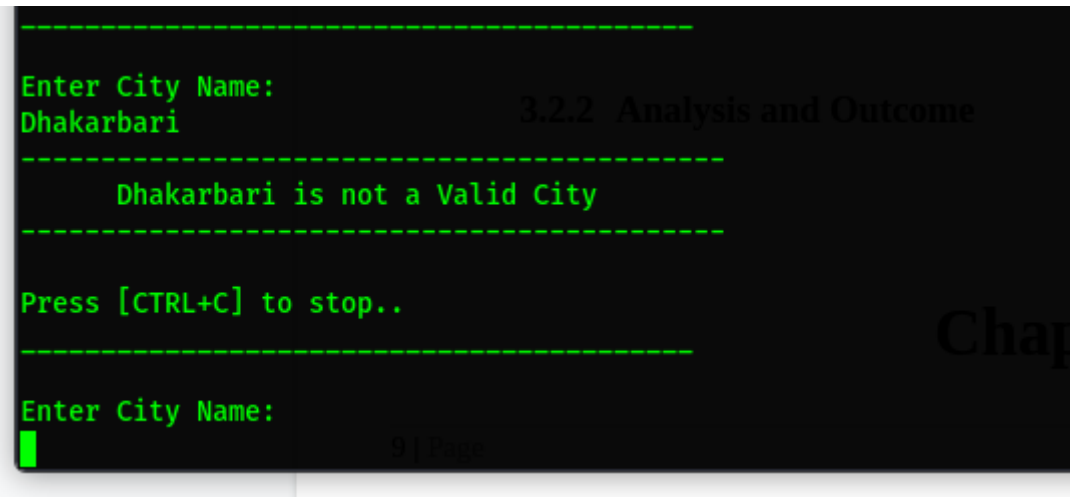

Figure 3.1: If city is invalid

3.2.2 Analysis and Outcome

We implemented our project according to our idea and it works perfectly. Every time it is showing the correct output as per expectation. Some case there maybe some little delay to show the output it actually depends on the network.

Chapter 4

Conclusion

4.1 Introduction

The weather teller app is a simple reflection of our Operating System LAB task. We have tried our best to implement the things which we have learned from our lab. And This app will help people to know the weather.

4.1 Practical Implications

This app is very helpful in our practical days because every person needs to know the weather update all the time to become safe when they are traveling long distances or farmers can protect their crops from natural calamities.

4.2 Scope of Future Work

There is lots of work that can be done in this project. We are determined to do the tasks given below:

1. Weather condition related perfect icon can be shown
2. Earthquake alert
3. Cyclone alert
4. Emergency contact support
5. Realtime location tracking

References

[1] Openweather map: https://openweathermap.org/