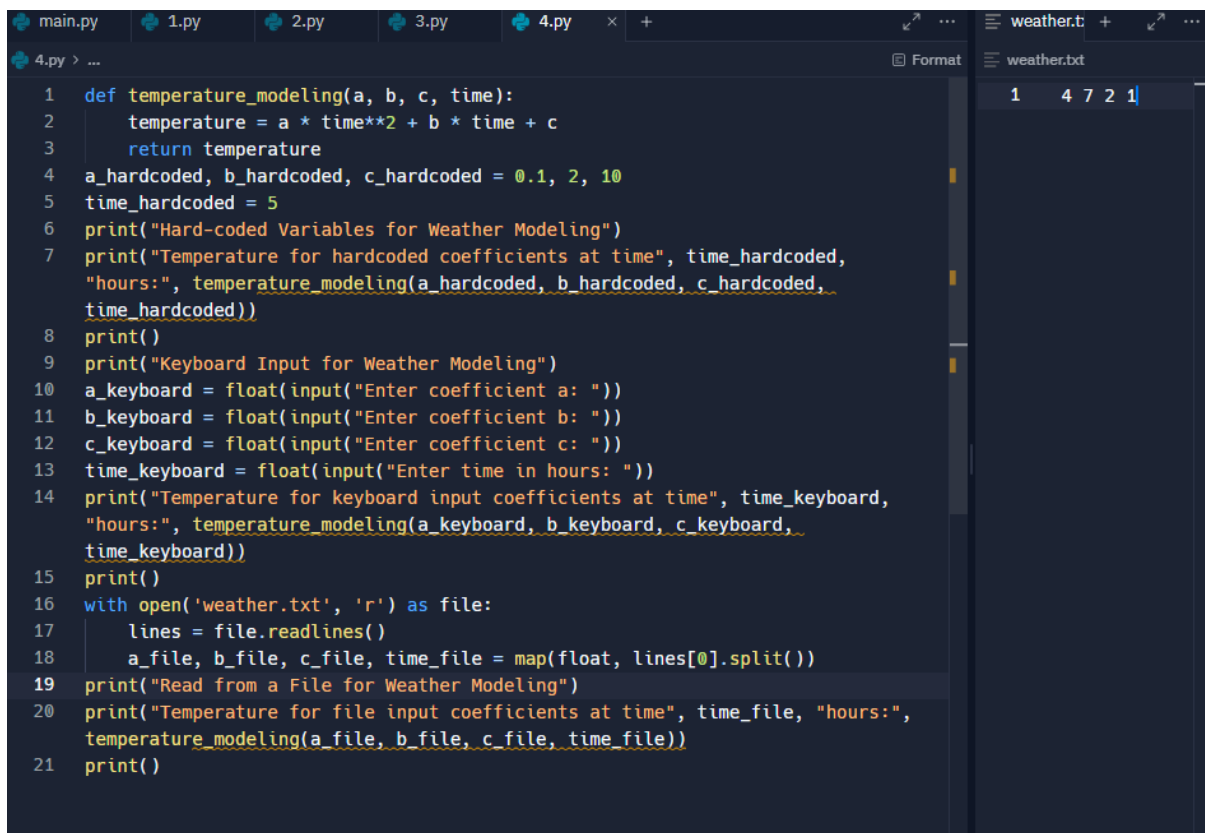


SOFTWARE ENGINEERING LAB

TASK-1

CODE:

A screenshot of a code editor with a dark theme. The editor has several tabs at the top: 'main.py', '1.py', '2.py', '3.py', '4.py', and a '+' icon. The '4.py' tab is active. The code is a Python script for weather modeling. It defines a function 'temperature_modeling(a, b, c, time)' that calculates temperature based on coefficients a, b, c and time. The script includes three main sections: 1. Hard-coded variables: a = 0.1, b = 2, c = 10, time = 5. It prints a message and the temperature for these values. 2. Keyboard input: Prompts the user to enter coefficients a, b, c and time in hours. It prints the temperature for the entered values. 3. File input: Opens 'weather.txt' and reads the first line, which contains coefficients and time separated by spaces. It prints the temperature for the values read from the file. The code is numbered from 1 to 21. On the right side of the editor, there is a file explorer showing 'weather.txt' with its contents: '1 4 7 2 1'.

```
1 def temperature_modeling(a, b, c, time):
2     temperature = a * time**2 + b * time + c
3     return temperature
4 a_hardcoded, b_hardcoded, c_hardcoded = 0.1, 2, 10
5 time_hardcoded = 5
6 print("Hard-coded Variables for Weather Modeling")
7 print("Temperature for hardcoded coefficients at time", time_hardcoded,
8     "hours:", temperature_modeling(a_hardcoded, b_hardcoded, c_hardcoded,
9     time_hardcoded))
10 print()
11 print("Keyboard Input for Weather Modeling")
12 a_keyboard = float(input("Enter coefficient a: "))
13 b_keyboard = float(input("Enter coefficient b: "))
14 c_keyboard = float(input("Enter coefficient c: "))
15 time_keyboard = float(input("Enter time in hours: "))
16 print("Temperature for keyboard input coefficients at time", time_keyboard,
17     "hours:", temperature_modeling(a_keyboard, b_keyboard, c_keyboard,
18     time_keyboard))
19 print()
20 with open('weather.txt', 'r') as file:
21     lines = file.readlines()
22     a_file, b_file, c_file, time_file = map(float, lines[0].split())
23 print("Read from a File for Weather Modeling")
24 print("Temperature for file input coefficients at time", time_file, "hours:",
25     temperature_modeling(a_file, b_file, c_file, time_file))
26 print()
```

OUTPUT:

```
~/SE$ make 4
make: *** No rule to make target '4'. Stop.
~/SE$ python 4.py
Hard-coded Variables for Weather Modeling
Temperature for hardcoded coefficients at time 5 hours: 22.5

Keyboard Input for Weather Modeling
Enter coefficient a: 4
Enter coefficient b: 7
Enter coefficient c: 2
Enter time in hours: 1
Temperature for keyboard input coefficients at time 1.0 hours: 13.0

Read from a File for Weather Modeling
Temperature for file input coefficients at time 1.0 hours: 13.0

~/SE$ █
```

Generate Ctrl I