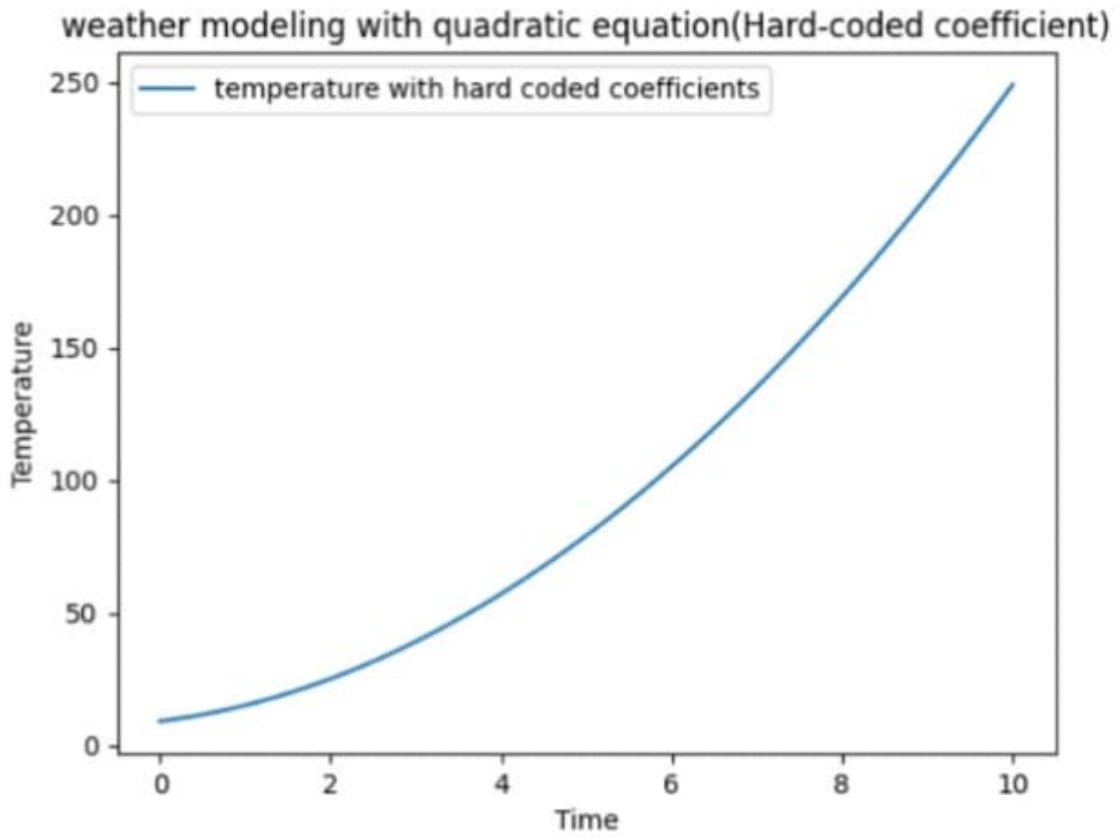
```python
import matplotlib.pyplot as plt
import numpy as np
# hard code variables
def quadratic_model(time):
  a=2
  b=4
  c=9
  temperature = a*time*time + b*time + c
  return temperature

time_values=np.linspace(0,10,100)
temperature_hardcoded = quadratic_model(time_values)

plt.plot(time_values,temperature_hardcoded, label='temperature with hard coded coefficients')
plt.xlabel('Time')
plt.ylabel('Temperature')
plt.legend()
plt.title('weather modeling with quadratic equation(Hard-coded coefficient)')
plt.show()
```

```
plt.show()
```



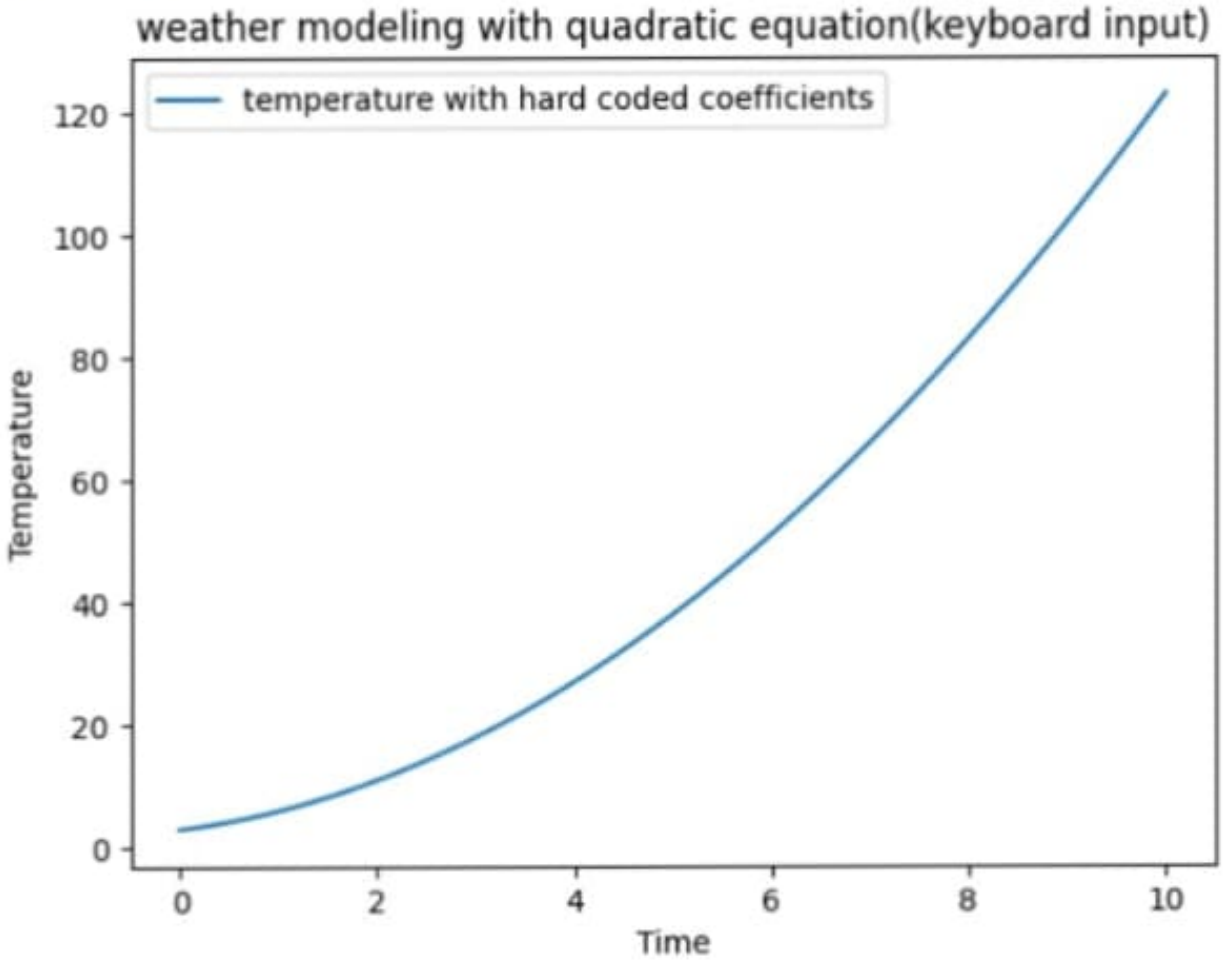
✓ 0s completed at 8:54 PM

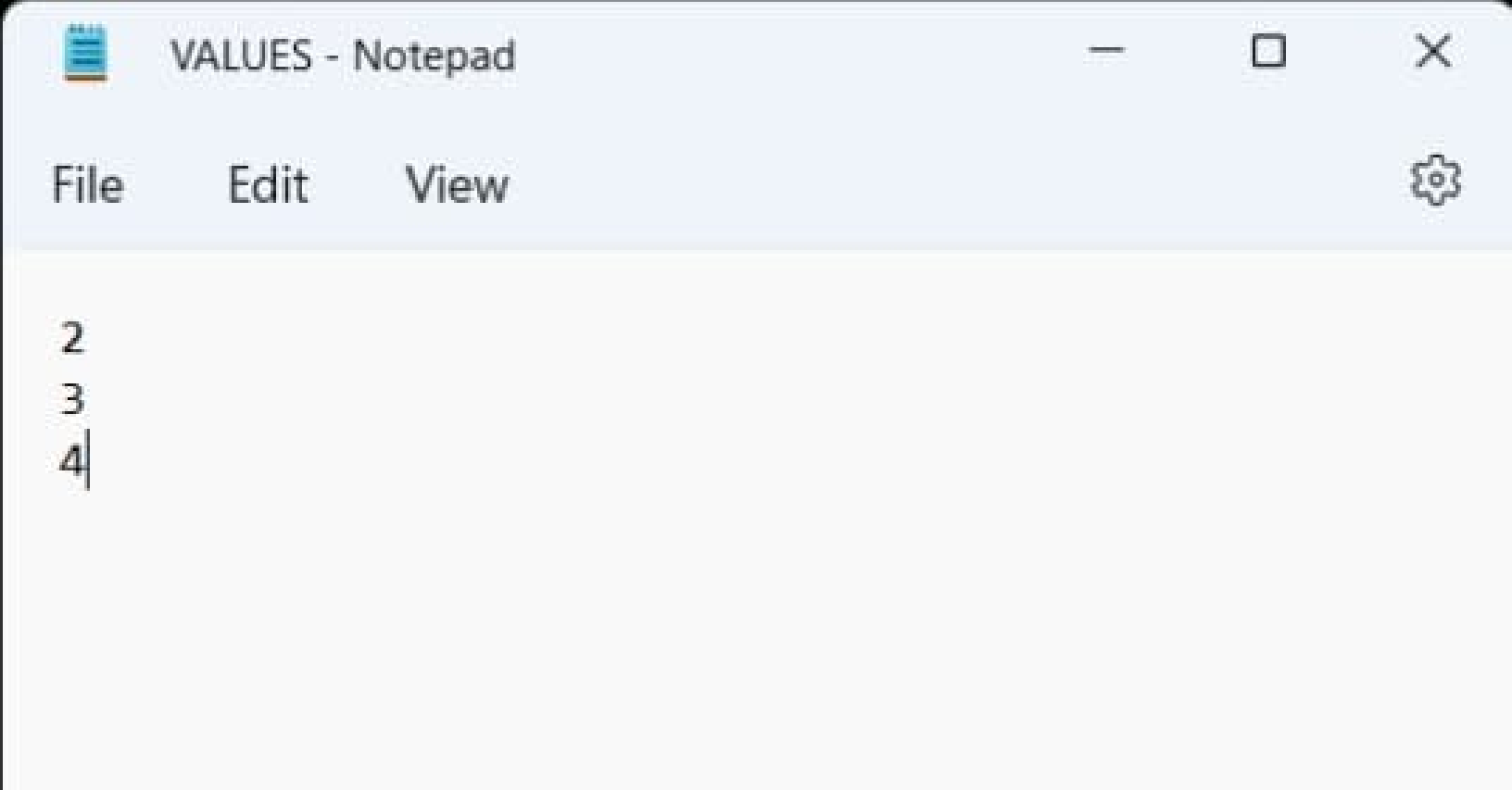
```python
import matplotlib.pyplot as plt
import numpy as np
# hard code variables
def quadratic_model(a,b,c,time):
  temperature = a*time*time + b*time + c
  return temperature

time_values=np.linspace(0,10,100)
a=int(input("Enter value of a : "))
b=int(input("Enter value of b : "))
c=int(input("Enter value of c : "))
temperature_hardcoded = quadratic_model(a,b,c,time_values)

plt.plot(time_values,temperature_hardcoded, label='temperature with hard coded coefficients')
plt.xlabel('Time')
plt.ylabel('Temperature')
plt.legend()
plt.title('weather modeling with quadratic equation(keyboard input)')
plt.show()
```

```
Enter value of a : 1
Enter value of b : 2
Enter value of c : 3
```




VALUES - Notepad
File
Edit
View
2
3
4

+ Code + Text

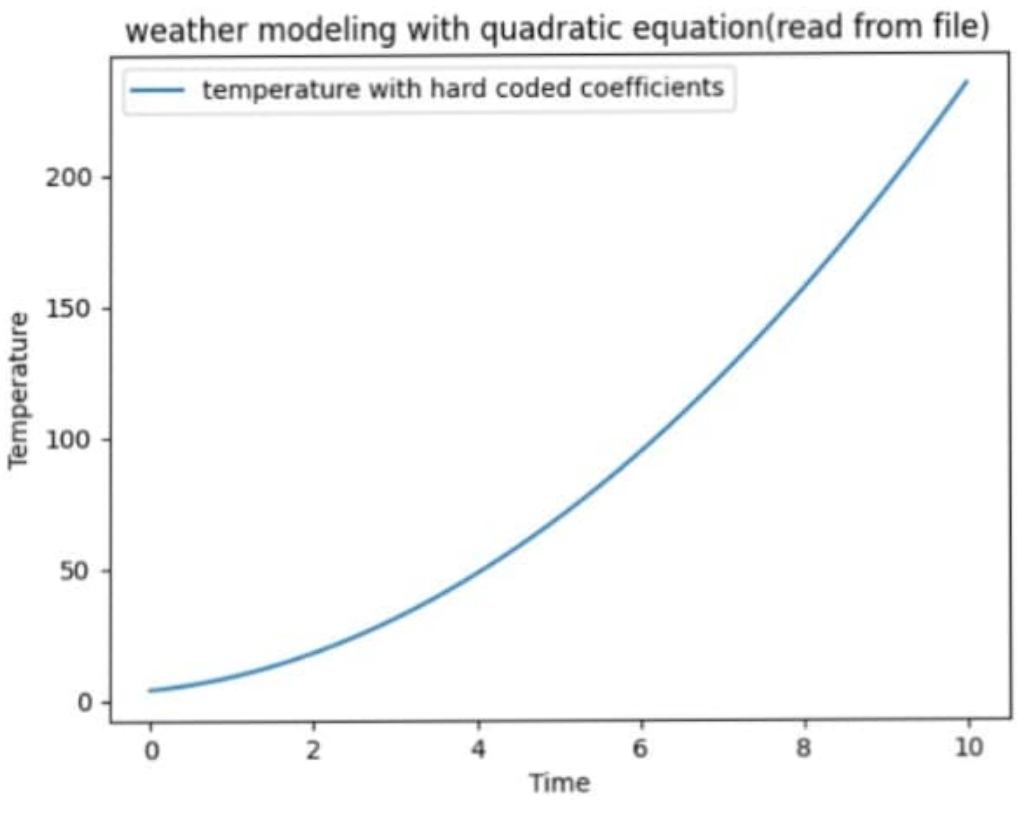
```
f = open("VALUES.txt", "r")

import matplotlib.pyplot as plt
import numpy as np
# hard code variables
def quadratic_model(f,time):
  a=int(f.readline())
  b=int(f.readline())
  c=int(f.readline())
  temperature = a*time*time + b*time + c
  return temperature

time_values=np.linspace(0,10,50)
temperature_hardcoded = quadratic_model(f,time_values)

plt.plot(time_values,temperature_hardcoded, label='temperature with hard coded coefficients')
plt.xlabel('Time')
plt.ylabel('Temperature')
plt.legend()
plt.title('weather modeling with quadratic equation(read from file)')
plt.show()
```

```
plt.title('weather modeling with quadratic equation(read from file)')
plt.show()
```

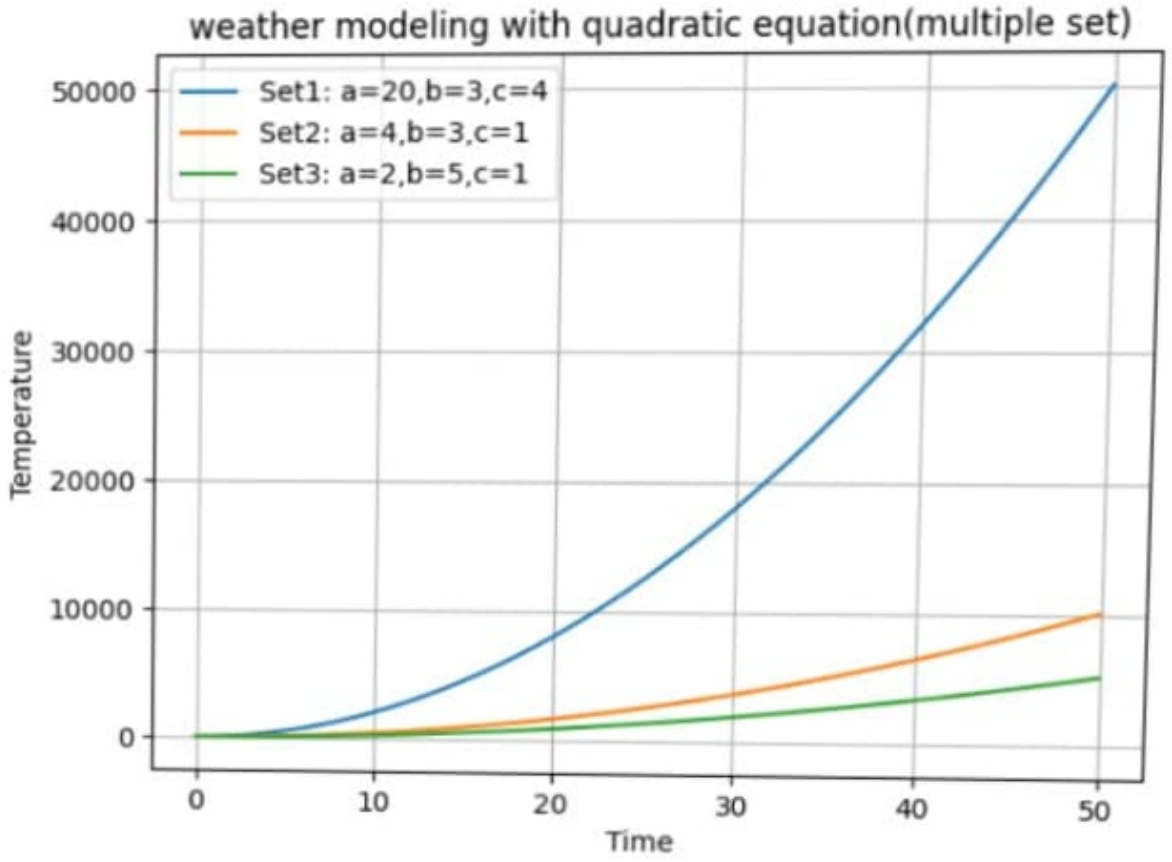


```python
import matplotlib.pyplot as plt
import numpy as np
# hard code variables
def quadratic_model(time,a,b,c):
  temperature = a*time*time + b*time + c
  return temperature
list = [(20,3,4),(4,3,1),(2,5,1)]
time_values=np.arange(0,51,1)

for i,(a,b,c) in enumerate(list):
  temperature_values = quadratic_model(time_values,a,b,c)
  label=f'Set{i+1}: a={a},b={b},c={c}'
  plt.plot(time_values,temperature_values, label=label)


plt.xlabel('Time')
plt.ylabel('Temperature')
plt.legend()
plt.grid(True)
plt.title('weather modeling with quadratic equation(multiple set)')
plt.show()
```

```
plt.show()
```


weather modeling with quadratic equation(multiple set)
Set1: a=20,b=3,c=4
Set2: a=4,b=3,c=1
Set3: a=2,b=5,c=1
Temperature
Time
0
10000
20000
30000
40000
50000
0
10
20
30
40
50