

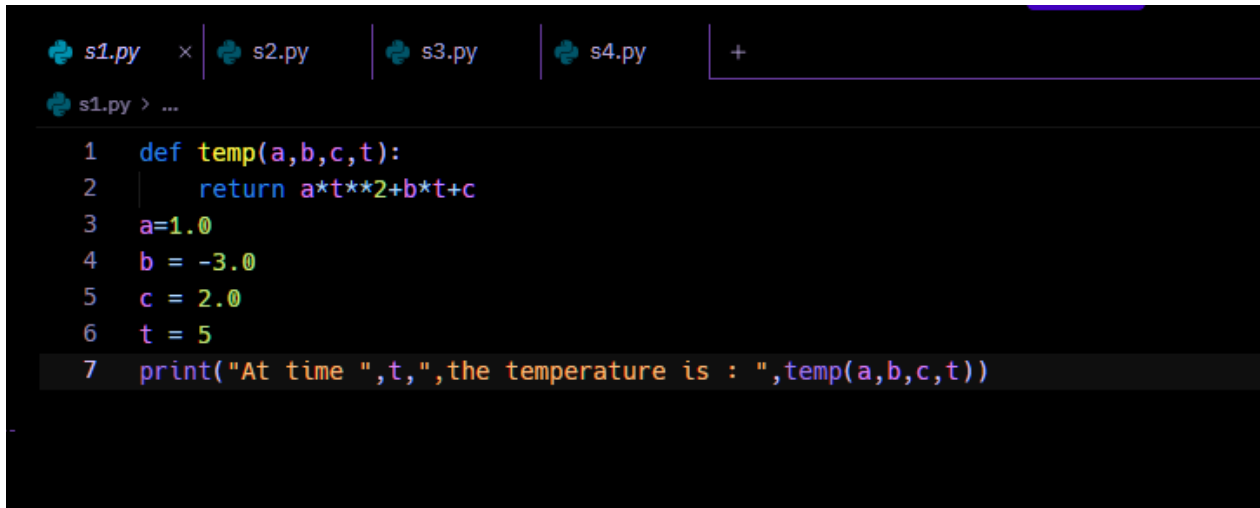
Software Engineering

Task 1

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Hard-Coding Variables

Input:

A screenshot of a code editor with a dark theme. The editor has four tabs at the top: s1.py, s2.py, s3.py, and s4.py. The s1.py tab is active. The code in s1.py is as follows:

```
1 def temp(a,b,c,t):
2     return a*t**2+b*t+c
3 a=1.0
4 b = -3.0
5 c = 2.0
6 t = 5
7 print("At time ",t,"the temperature is : ",temp(a,b,c,t))
```

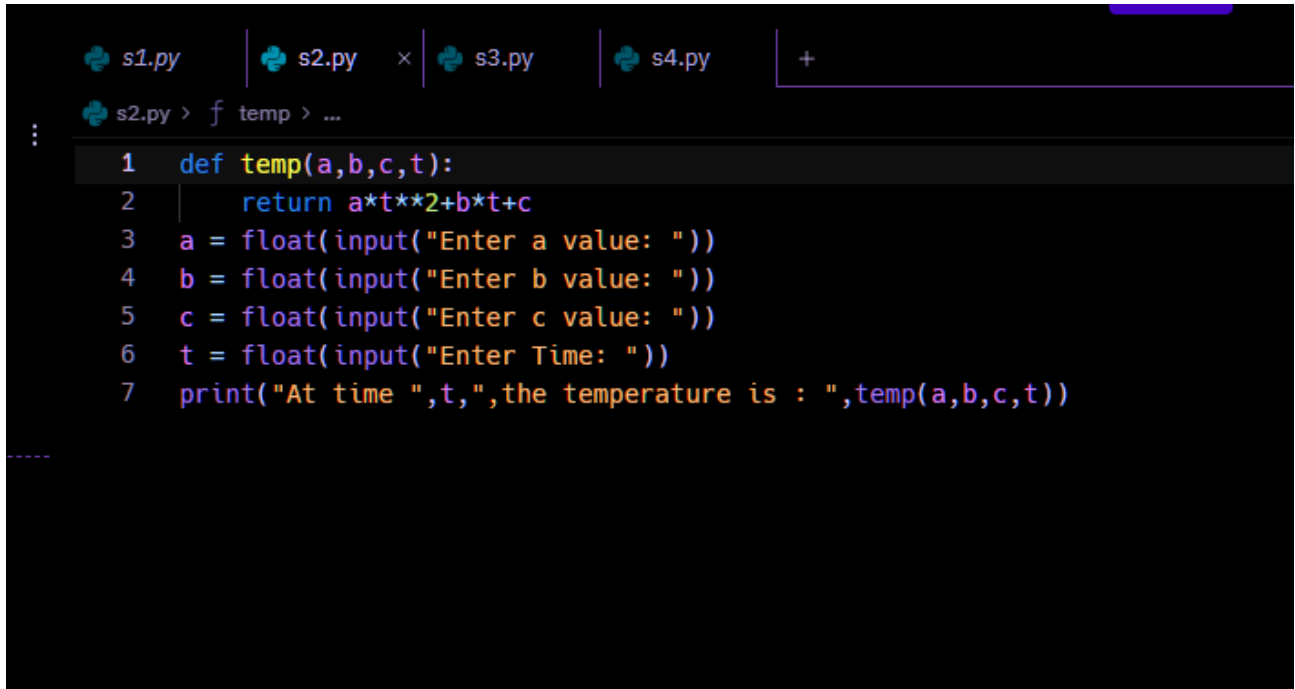
Output:

A screenshot of a terminal window with a dark theme. The terminal shows the command `python s1.py` being executed. The output is `At time 5 ,the temperature is : 12.0`. The prompt `~/SE$` is visible. There is a "Generate" button with a keyboard shortcut `Ctrl I` in the bottom right corner.

```
~/SE$ python s1.py
At time 5 ,the temperature is : 12.0
~/SE$
```


Keyboard-Input

Input:



```
s1.py | s2.py x | s3.py | s4.py | +
s2.py > f temp > ...
1 def temp(a,b,c,t):
2     return a*t**2+b*t+c
3 a = float(input("Enter a value: "))
4 b = float(input("Enter b value: "))
5 c = float(input("Enter c value: "))
6 t = float(input("Enter Time: "))
7 print("At time ",t,"the temperature is : ",temp(a,b,c,t))
```

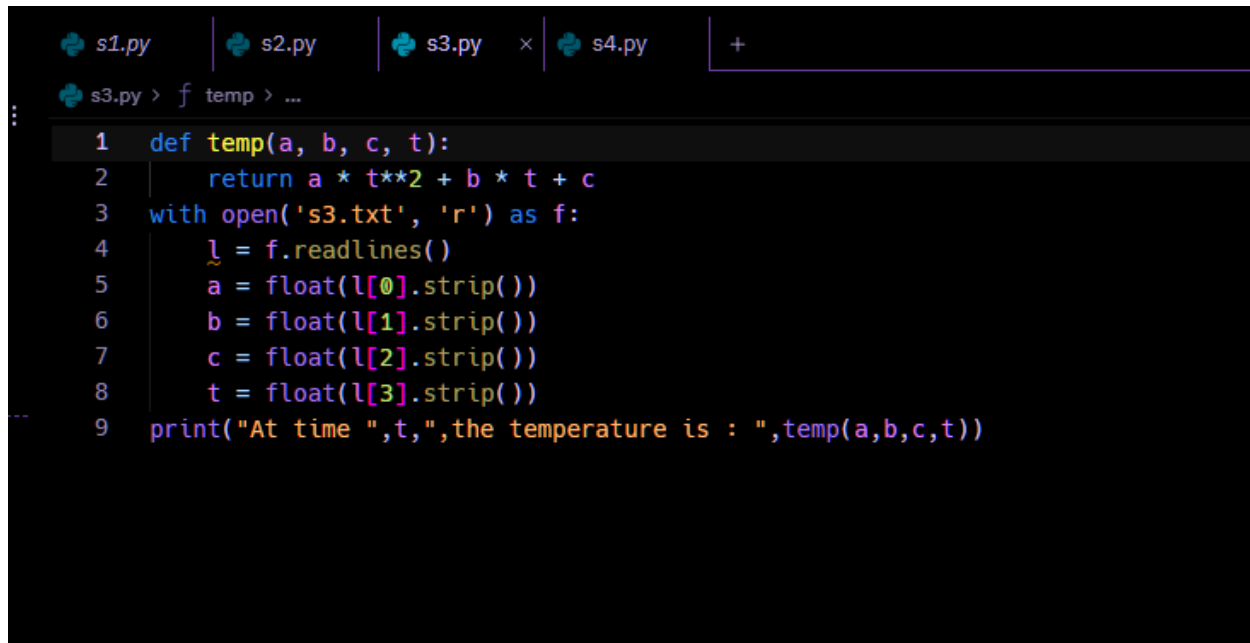
Output:



```
Shell
~/SE$ python s2.py
Enter a value: 2
Enter b value: 3
Enter c value: 4
Enter Time: 3
At time 3.0 ,the temperature is : 31.0
~/SE$
```

Reading from a file (single input):

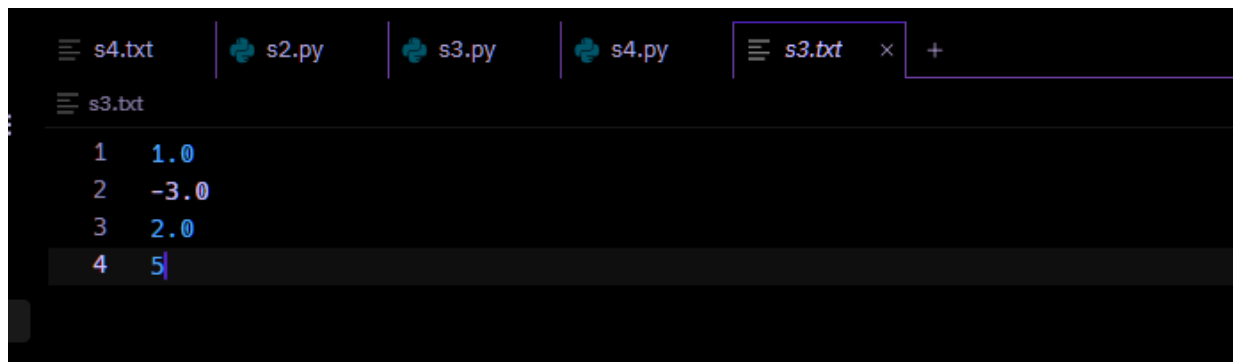
Input:



The screenshot shows a code editor with a dark theme. At the top, there are tabs for s1.py, s2.py, s3.py (active), and s4.py. Below the tabs, the code for s3.py is displayed. It defines a function temp(a, b, c, t) and reads data from a file s3.txt. The code is as follows:

```
1 def temp(a, b, c, t):
2     return a * t**2 + b * t + c
3 with open('s3.txt', 'r') as f:
4     l = f.readlines()
5     a = float(l[0].strip())
6     b = float(l[1].strip())
7     c = float(l[2].strip())
8     t = float(l[3].strip())
9 print("At time ",t,"the temperature is : ",temp(a,b,c,t))
```

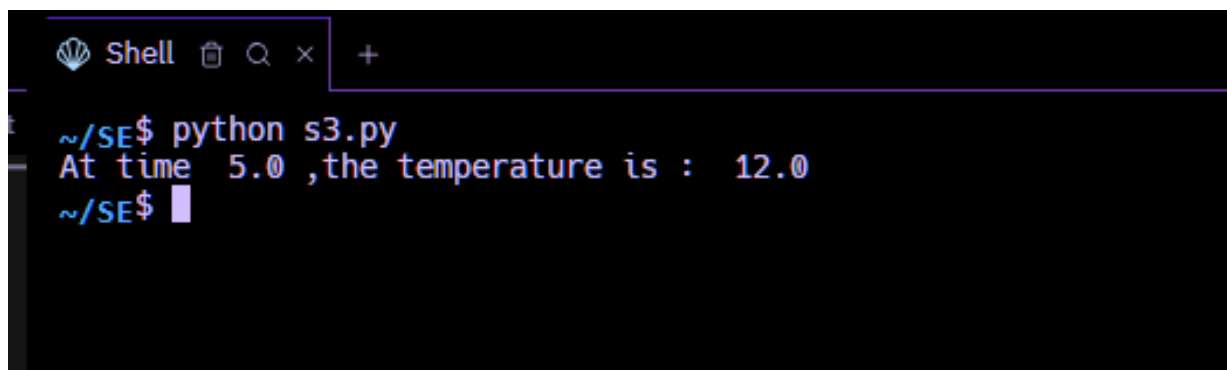
Text input:



The screenshot shows a code editor with a dark theme. At the top, there are tabs for s4.txt, s2.py, s3.py, s4.py, and s3.txt (active). Below the tabs, the contents of s3.txt are displayed. The file contains four lines of text, with the fourth line being highlighted:

```
1 1.0
2 -3.0
3 2.0
4 5
```

Output:



The screenshot shows a terminal window with a dark theme. The title bar says "Shell". The prompt is ~/SE\$. The command python s3.py has been executed, and the output is "At time 5.0 ,the temperature is : 12.0". The prompt is now ~/SE\$.

```
~/SE$ python s3.py
At time 5.0 ,the temperature is : 12.0
~/SE$
```

Reading from a file(multiple file):

Input:

```
s4.txt | s2.py | s3.py | s4.py × +
s4.py > ...
1 def calculate_temperature(a, b, c, time):
2     return a * time**2 + b * time + c
3
4 with open('s4.txt', 'r') as file:
5     lines = file.readlines()
6
7 for line in lines:
8     parts = line.strip().split()
9     a = float(parts[0])
10    b = float(parts[1])
11    c = float(parts[2])
12    time = float(parts[3])
13    temperature = calculate_temperature(a, b, c, time)
14    print(f"At time {time}, the temperature is {temperature}")
```

Text input:

```
s4.txt × | s2.py | s3.py | s4.py | s3.txt +
s4.txt
1 1.0 -4.0 3.0 5
2 2.0 -4.0 3.0 6
```

Output:

```
Shell × +
~/SE$ python s4.py
At time 5.0, the temperature is 8.0
At time 6.0, the temperature is 51.0
~/SE$
```