

Software Engineering Task-1

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1. Implement weather modeling* using the quadratic solution in stages: hard-coding variables keyboard input, read from a file, for a single set of input, multiple sets of inputs.
2. Save all versions, debug, fix problems, create a Github account

1. HardCoding Variables and Defining the Quadratic Function

```
1. 1.Implement weather modeling* using the quadratic solution in stages: hard-coding variables keyboard input, read from a file, for a single set of input, multiple sets of inputs.
```

```
def temp_modeling(a,b,c,time):  
    temp = a*time**2 + b*time + c  
    return temp
```

Hardcoded Variables

```
[3] a=1  
    b=2  
    c=3  
    time=5
```

```
[12] print("temperature for hard-coded variables")  
      print(f"temperature for hardcoded coefficients at time {time} hours: {temp_modeling(a,b,c,time)}")
```

```
temperature for hard-coded variables  
temperature for hardcoded coefficients at time 5 hours: 38.0
```

2. Accepting the Variables through the Keyboard

```
[13] a,b,c=(input("Enter coefficients a,b,c separated by space: ")).split( )
      a= float(a)
      b=float(b)
      c=float(c)

Enter coefficients a,b,c separated by space: 1 2 3

[14] time=float(input("Enter time: "))

Enter time: 5

[15] print("Temperature for keyboard entered coefficients")
      print(f"temperature for keyboard entered coefficients at time {time} hours: {temp_modeling(a,b,c,time)}")

Temperature for keyboard entered coefficients
temperature for keyboard entered coefficients at time 5.0 hours: 38.0
```

3. Reading the Coefficients from the uploaded file

```
[34] def file_read(filename):
      with open (filename, 'r') as temp_file:
          lines = temp_file.readlines()
          coefficients = [tuple(map(float, line.strip().split(','))) for line in lines]
          return coefficients
```

4. Single Set of Inputs

```
For single set of inputs

coefficients = file_read('/content/weather_modeling.txt')
a, b, c, time = coefficients[0]
temp1 = temp_modeling(a,b,c,time)
print("Temperature for single set of inputs from a file")
print(f"temperature for single set of inputs from file coefficients at time {time} hours: {temp1}")

Temperature for single set of inputs from a file
temperature for single set of inputs from file coefficients at time 5.0 hours: 38.0
```


5. Multiple set of Inputs


```
Multiple Inputs
for i, (a, b, c, time) in enumerate(coefficients):
    temp2 = temp_modeling(a,b,c,time)
    print(f"temperature for multiple set of inputs from file coefficients at time {time} hours: {temp2}")

temperature for multiple set of inputs from file coefficients at time 5.0 hours: 38.0
temperature for multiple set of inputs from file coefficients at time 10.0 hours: 234.0
```

6. Pushing The project Into GitHub Repository

Copy to GitHub

Repository: 

Branch: 

OmegaKavya/Software_Engineering

main

File path*

SE_Exp_1.ipynb

Commit message

Software_Engineering_task_1

☒ Include a link to Colab

Cancel

OK

7. Pushed Changes on GitHub

The screenshot shows a web browser displaying the GitHub repository page for 'OmegaKavya / Software_Engineering'. The file 'SE_Exp_1.ipynb' is selected, showing its content in a Jupyter Notebook format. The notebook includes a title 'Software_Engineering / SE_Exp_1.ipynb', a commit hash '403d53f' from '14 minutes ago', and a 'History' link. The content of the notebook is as follows:

```
1. 1.Implement weather modeling* using the quadratic solution in stages: hard-coding variables keyboard input, read from a file, for a single set of input, multiple sets of inputs.
```

In [2]:

```
def temp_modeling(a,b,c,time):  
    temp = a*time**2 + b*time + c  
    return temp
```

Hardcoded Variables

In [3]:

```
a=1  
b=2  
c=3  
time=5
```

In [12]:

```
print("temperature for hard-coded variables")  
print(f"temperature for harcoded coefficients at time {time} hours: {temp_modeling(a,b,c,time)}")
```

temperature for hard-coded variables
temperature for harcoded coefficients at time 5 hours: 38.0

In [13]:

```
a,b,c=input("Enter coefficients a,b,c separated by space: ").split( )  
a= float(a)  
b=float(b)
```

The screenshot shows the file list of the 'Software_Engineering' repository. The repository is public and has 1 branch and 0 tags. The file list includes 'SE_Exp_1.ipynb' and 'weather_modeling.txt'. The commit hash '403d53f' is shown, along with the commit message 'Software_Engineering_task_1' and the commit time '16 minutes ago'. There are 2 commits in total.

File	Commit	Time
SE_Exp_1.ipynb	Software_Engineering_task_1	16 minutes ago
weather_modeling.txt	Add files via upload	17 minutes ago