Sadiq S.

Algorithm for Optimization

Practical No.1

AIM: Implement Contour Plots.

Code:

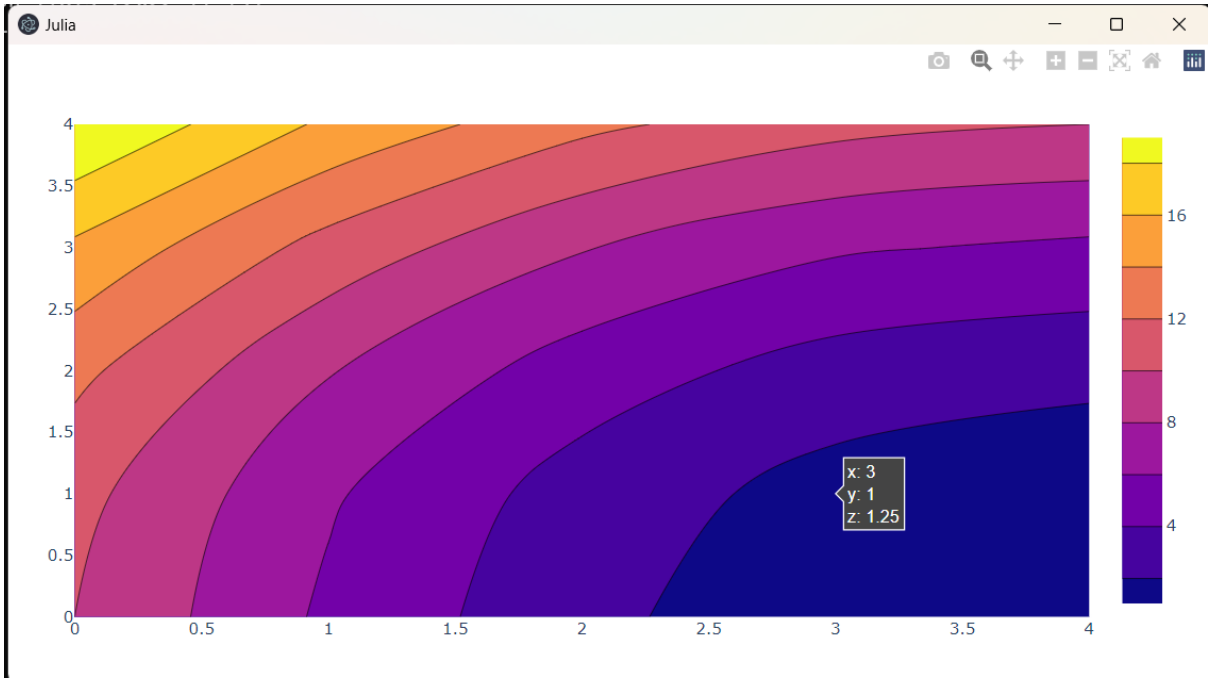
```
using PlotlyJS
plot(contour(
   z=[
      10      10.625     12.5      15.625     20
      5.625   6.25       8.125     11.25      15.625
      2.5     3.125      5.        8.125      12.5
      0.625   1.25       3.125     6.25       10.625
      0       0.625      2.5       5.625      10
   ]'
))
```

```
julia> using PlotlyJS

julia>

julia> plot(contour(
           z=[
               10      10.625      12.5       15.625     20
               5.625    6.25       8.125      11.25      15.625
               2.5      3.125      5.         8.125      12.5
               0.625    1.25       3.125      6.25       10.625
               0        0.625      2.5        5.625      10
           ]'
       ))
[ Info: Listening on: 127.0.0.1:5045, thread id: 1
```

Output:



Code:

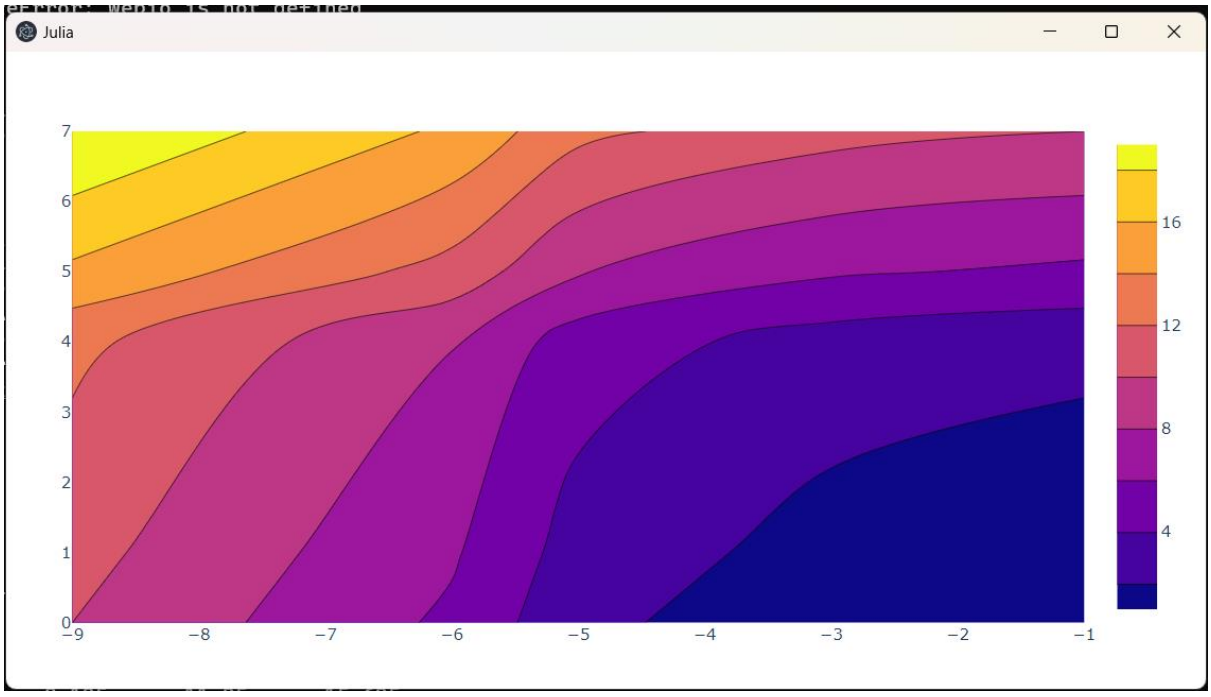
```
using PlotlyJS
plot(contour(
    x=[-9, -6, -5 , -3, -1], # horizontal axis
    y=[0, 1, 4, 5, 7], # vertical axis
    z=[
        10      10.625      12.5      15.625     20
        5.625    6.25       8.125      11.25     15.625
        2.5      3.125      5.         8.125     12.5
        0.625    1.25       3.125      6.25      10.625
        0        0.625      2.5        5.625     10
    ]'
))
```

```
julia> using PlotlyJS

julia>

julia> plot(contour(
           x=[-9, -6, -5 , -3, -1], # horizontal axis
           y=[0, 1, 4, 5, 7], # vertical axis
           z=[
               10      10.625      12.5        15.625     20
               5.625    6.25       8.125       11.25      15.625
               2.5      3.125      5.          8.125      12.5
               0.625    1.25       3.125       6.25       10.625
               0        0.625      2.5         5.625      10
           ]'
       ))
```

Output:



Code:

```
using PlotlyJS
plot(contour(
    colorscale="hot",
    z=[
        10      10.625      12.5        15.625     20
        5.625    6.25       8.125       11.25      15.625
```

```
        2.5     3.125     5.       8.125     12.5
        0.625   1.25      3.125    6.25      10.625
        0       0.625     2.5      5.625     10
    ]'
))
```

```
julia> using PlotlyJS

julia>

julia> plot(contour(
           colorscale="hot",
           z=[
               10      10.625      12.5        15.625      20
               5.625    6.25       8.125       11.25       15.625
               2.5      3.125      5.          8.125       12.5
               0.625    1.25       3.125       6.25        10.625
               0        0.625      2.5         5.625       10
           ]'
       ))
```

Output: