Algorithm for Optimization

Practical No.1

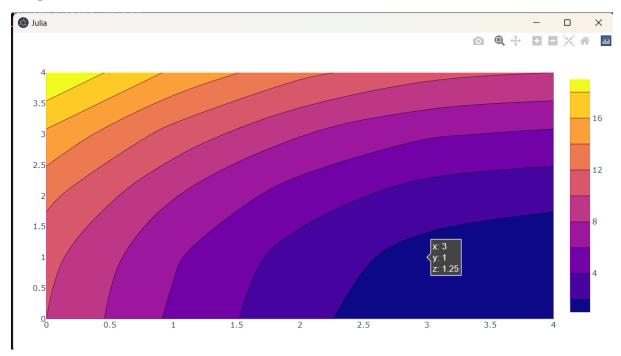
AIM: Implement Contour Plots.

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
                                     5.
               2.5
                         3.125
                                                8.125
                                                            12.5
               0.625
                         1.25
                                     3.125
                                                6.25
                                                            10.625
                         0.625
                                                5.625
                                                            10
                                     2.5
           ]'
[ Info: Listening on: 127.0.0.1:5045, thread id: 1
```

Output:



Code:

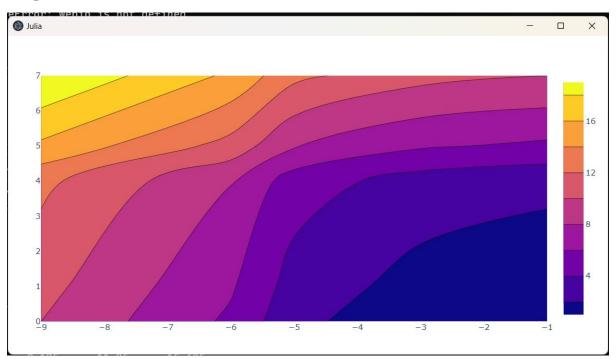
```
using PlotlyJS
```

```
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
                                      15.625
                             11.25
                                    12.5
           3.125
                           8.125
    2.5
                    5.
    0.625 1.25
                    3.125
                                     10.625
                             6.25
    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
                           10.625
                                          12.5
                                                                    20
                  10
                                                       15.625
                  5.625
                            6.25
                                          8.125
                                                       11.25
                                                                    15.625
                  2.5
                            3.125
                                                       8.125
                                                                    12.5
                                          5.
                  0.625
                            1.25
                                          3.125
                                                       6.25
                                                                    10.625
                                                                    10
                            0.625
                                          2.5
                                                       5.625
             ]'
        ))
```

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=[
                        10.625
                                    12.5
                                                15.625
               10
                                                           20
               5.625
                                    8.125
                                                11.25
                                                           15.625
                         6.25
               2.5
                         3.125
                                                8.125
                                                           12.5
                                    5.
               0.625
                         1.25
                                    3.125
                                                6.25
                                                           10.625
                         0.625
                                    2.5
                                                5.625
                                                           10
           ]'
       ))
```

Output:

