```
opts = {};
tmp = {@(x)x^2*exp(x),  0,1,1e-6};opts = [opts;tmp];
tmp = {@(x)exp(x)*sin(x),1,3,1e-6};opts = [opts;tmp];
tmp = {@(x)4/(1+x^2),   0,1,1e-6};opts = [opts;tmp];
tmp = {@(x)1/(1+x),     0,1,1e-6};opts = [opts;tmp];

for i = 1:length(opts)
    res = rombergIntegration(opts{i,:})
end
```

res =

  # 1 # 3

  1.359140914229523   0   0
  0.885660615952277   0.727833849859862   0
  0.760596332448042   0.718908237946630   0.718313197152415
  0.728890177014693   0.718321458536910   0.718282339909595
  0.720935778937658   0.718284312911980   0.718281836536984

  # 4

                  0
                  0
                  0
  0.718281850112090
  0.718281828546943

res =

  # 1 # 3

  5.121826419665847   0   0
  9.279762907261173   10.665741736459614   0
  10.520554283818644   10.934151409337801   10.952045387529679
  10.842043467557430   10.949206528803691   10.950210203434750
  10.923093889613778   10.950110696965893   10.950170974843374
  10.943398421186796   10.950166598377802   10.950170325138595

  # 4

                  0
                  0
                  0
  10.950181073528482
  10.950170352167321
  10.950170314825820

res =
```
1
```

```
# 1 # 3

3.000000000000000                        0                        0
3.100000000000000    3.133333333333333                        0
3.131176470588235    3.141568627450980    3.142117647058823
3.138988494491089    3.141592502458707    3.141594094125888
3.140941612041389    3.141592651224822    3.141592661142563
3.141429893174974    3.141592653552836    3.141592653708037

# 4

                     0
                     0
                     0
3.141585783761874
3.141592638396796
3.141592653590029


res =

# 1 # 3

0.750000000000000                        0                        0
0.708333333333333    0.694444444444444                        0
0.697023809523809    0.693253968253968    0.693174603174603
0.694121850371850    0.693154530654531    0.693147901481235
0.693391202207527    0.693147652819419    0.693147194297078

# 4

                     0
                     0
                     0
0.693147477644832
0.693147183071933
```