```python
##################### Air Standard Cycles: Otto Cycle ####################

from pylab import *

################# Formulas, Values, and Inputs ###############

p_min=10**5
p_max=20*10**5
v_max=0.3
r=5

γ=1.4

########## Process 1-2
p1=p_min
v1=v_max
c1=p1*v1**γ
v2=v1/r
p2=c1/v2**γ

########## Process 2-3
p3=p_max
v3=v2

########## Process 3-4
c2=p3*v3**γ
v4=v1
p4=c2/v4**γ


################ Actual Calculations ###############

######### Pprocess 1-2

v=linspace(v2,v1,50)
p=c1/v**γ
plot(v,p,'r-')

########## process 2-3
v=zeros(50)+v2
p=linspace(p2,p3)
plot(v,p,'b-')

########## Process 3-4

v=linspace(v3,v4,50)
p=c2/v**γ
plot(v,p,'g-')

########## Process 4-1
v=zeros(50)+v1
p=linspace(p1,p4)
plot(v,p,'m-')


##### Plotting #####

text(v1,p1-1000,'1',fontsize=12)
text(v2-0.006,p2,'2',fontsize=12)
text(v3-0.006,p3,'3',fontsize=12)
text(v4,p4+1000,'4',fontsize=12)

xlabel('Volume')
ylabel('pressure')
show()
```