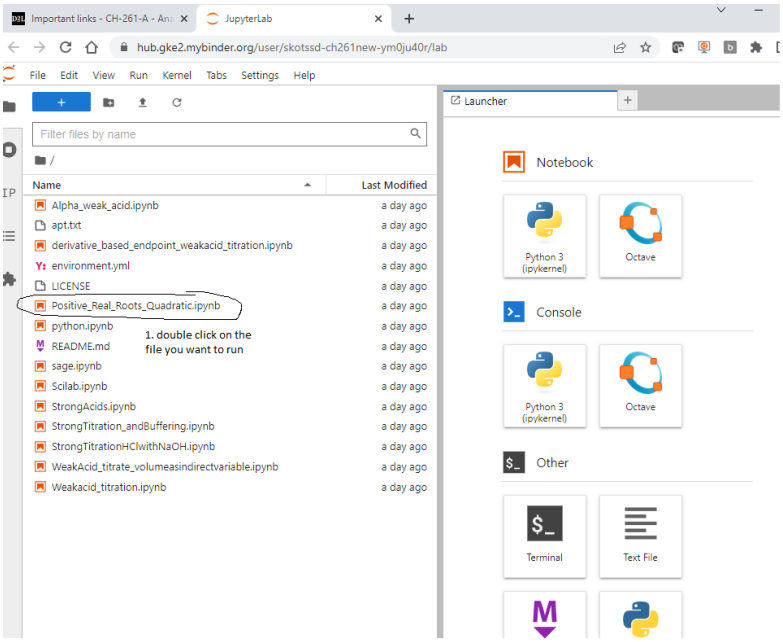
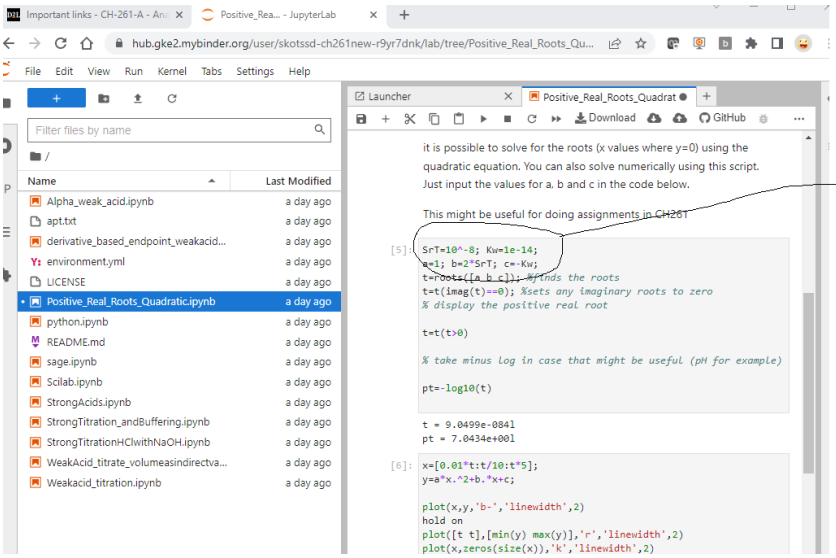
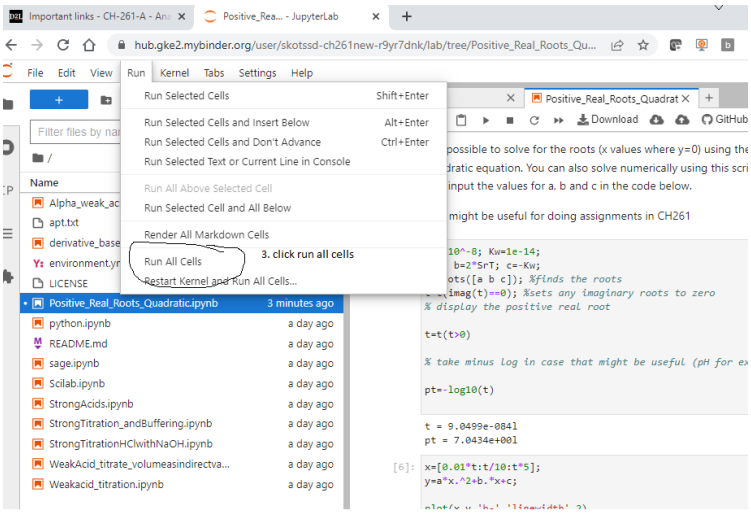
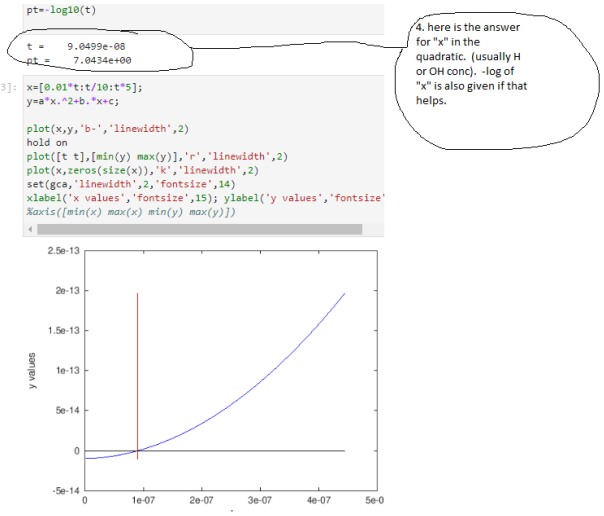

Important links - CH-261-A - An
JupyterLab
hub.gke2.mybinder.org/user/skotssd-ch261new-ym0ju40r/lab
File Edit View Run Kernel Tabs Settings Help
Filter files by name
/
Name
Last Modified
Alpha_weak_acid.ipynb a day ago
apt.txt a day ago
derivative_based_endpoint_weakacid_titration.ipynb a day ago
environment.yml a day ago
LICENSE a day ago
Positive_Real_Roots_Quadratic.ipynb a day ago
python.ipynb a day ago
README.md a day ago
sage.ipynb a day ago
Scilab.ipynb a day ago
StrongAcids.ipynb a day ago
StrongTitration_andBuffering.ipynb a day ago
StrongTitrationHClwithNaOH.ipynb a day ago
WeakAcid_titrate_volumeasindirectvariable.ipynb a day ago
Weakacid_titration.ipynb a day ago
1. double click on the file you want to run
Launcher
Notebook
Python 3 (ipykernel)
Octave
Console
Python 3 (ipykernel)
Octave
Other
Terminal
Text File


Important links - CH-261-A - An
Positive_Rea... - JupyterLab
hub.gke2.mybinder.org/user/skotssd-ch261new-r9yr7dnk/lab/tree/Positive_Real_Roots_Qu...
File Edit View Run Kernel Tabs Settings Help
Filter files by name
/
Name
Last Modified
Alpha_weak_acid.ipynb a day ago
apt.txt a day ago
derivative_based_endpoint_weakacid... a day ago
environment.yml a day ago
LICENSE a day ago
Positive_Real_Roots_Quadratic.ipynb a day ago
python.ipynb a day ago
README.md a day ago
sage.ipynb a day ago
Scilab.ipynb a day ago
StrongAcids.ipynb a day ago
StrongTitration_andBuffering.ipynb a day ago
StrongTitrationHClwithNaOH.ipynb a day ago
WeakAcid_titrate_volumeasindirectva... a day ago
Weakacid_titration.ipynb a day ago
Launcher
Positive_Real_Roots_Quadrat
Download
GitHub
it is possible to solve for the roots (x values where y=0) using the quadratic equation. You can also solve numerically using this script. Just input the values for a, b and c in the code below.
This might be useful for doing assignments in CH261
[5]:
SrT=10^-8; Kw=1e-14;
a=1; b=2*SrT; c=-Kw;
t=roots([a b c]); %finds the roots
t=t(imag(t)==0); %sets any imaginary roots to zero
% display the positive real root
t=t(t>0)
% take minus log in case that might be useful (pH for example)
pt=-log10(t)
t = 9.0499e-0841
pt = 7.0434e+001
[6]:
x=[0.01*t:t/10:t*5];
y=a*x.^2+b.*x+c;
plot(x,y,'b-','linewidth',2)
hold on
plot([t t],[min(y) max(y)],'r','linewidth',2)
plot(x,zeros(size(x)),'k','linewidth',2)
2. change the variable names and quantities to match what you are calculating. and let Octave calucate a, b and c for you (you need to type in those calculations as well). Or ... you can just calculate a, b and c and type the numbers in directly.


Important links - CH-261-A - Ana
Positive_Rea... - JupyterLab
hub.gke2.mybinder.org/user/skotssd-ch261new-r9yr7dnk/lab/tree/Positive_Real_Roots_Qu...
File Edit View Run Kernel Tabs Settings Help
Run Selected Cells Shift+Enter
Run Selected Cells and Insert Below Alt+Enter
Run Selected Cells and Don't Advance Ctrl+Enter
Run Selected Text or Current Line in Console
Run All Above Selected Cell
Run Selected Cell and All Below
Render All Markdown Cells
Run All Cells
Restart Kernel and Run All Cells...
3. click run all cells
Positive_Real_Roots_Quadrat
Download
GitHub
Filter files by name
Name
Alpha_weak_ac
apt.txt
derivative_base
environment.yr
LICENSE
Positive_Real_Roots_Quadratic.ipynb 3 minutes ago
python.ipynb a day ago
README.md a day ago
sage.ipynb a day ago
Scilab.ipynb a day ago
StrongAcids.ipynb a day ago
StrongTitration_andBuffering.ipynb a day ago
StrongTitrationHClwithNaOH.ipynb a day ago
WeakAcid_titrate_volumeasindirectva... a day ago
Weakacid_titration.ipynb a day ago
possible to solve for the roots (x values where y=0) using the
dratic equation. You can also solve numerically using this scri
input the values for a, b and c in the code below.
might be useful for doing assignments in CH261
10^-8; Kw=1e-14;
b=2*SrT; c=-Kw;
ots([a b c]); %finds the roots
imag(t)==0); %sets any imaginary roots to zero
% display the positive real root
t=t(t>0)
% take minus log in case that might be useful (pH for ex
pt=-log10(t)
t = 9.0499e-08
pt = 7.0434e+00
[6]:
x=[0.01*t:t/10:t*5];
y=a*x.^2+b.*x+c;


pt=-log10(t)
t = 9.0499e-08
pt = 7.0434e+00
4. here is the answer for "x" in the quadratic. (usually H or OH conc). -log of "x" is also given if that helps.
[3]:
x=[0.01*t:t/10:t*5];
y=a*x.^2+b.*x+c;
plot(x,y,'b-','linewidth',2)
hold on
plot([t t],[min(y) max(y)],'r','linewidth',2)
plot(x,zeros(size(x)),'k','linewidth',2)
set(gca,'linewidth',2,'fontsize',14)
xlabel('x values','fontsize',15); ylabel('y values','fontsize'
%axis([min(x) max(x) min(y) max(y)])

2.5e-13
2e-13
1.5e-13
1e-13
5e-14
0
-5e-14
y values
0
1e-07
2e-07
3e-07
4e-07
5e-0