# Physics 89 - Intro to Statistical and Thermal Physics - Spring 2023 Problem Set 00

#### Python and Jupyter Notebook Setup (Not for Credit)

"Due" Friday, January 27 at 11:59 PM (PST)

Last Update: January 18, 2023

• You will submit your work to <u>Gradescope</u>. Please make sure your scans are clear and readable. We also ask that you tag your problems in the Gradescope system.

## Problem 0.1 - Example Notebook

This problem set is intended to help familiarize yourself with the way problems utilizing Jupyter notebooks/Python will be delivered to you and the way you will submit such problems. You do not need to have any special programs installed. Rather, you can use the DataHub account you get as a student. You do not need to set anything up - when you are brought to DataHub you just need to enter your CalNet credentials. For these problems I will publish a link to DataHub. Following the link (and logging in if it prompts you) will automatically copy the problem from our Git repository into your DataHub account. You will then work on the problem in the DataHub system! Solutions for these problems will be released the same way.

Link

http://datahub.berkeley.edu/user-redirect/interact?account=ajh38&repo=phy112-001\_spring\_2023&branch=main

The actual problems for this problem set can be found at the following link: http://datahub.berkeley.edu/user-redirect/interact?account=ajh38&repo=phy112-001\_spring\_2023&branch=main&path=Sp23-112-Hw00-Python+Jupyter-Intro

#### Problem 0.2 - It's All Greek to Me

Practice your greek! Draw (on paper or on a tablet) the lower-case greek alphabet (omitting omicron for... reasons):

 $\alpha \beta \gamma \delta \epsilon (\text{or } \varepsilon) \zeta \eta \theta \iota \kappa \lambda \mu \nu \xi \pi \rho \sigma \tau \nu \phi (\text{or } \varphi) \chi \psi \omega$ 

In order, these are alpha, beta, gamma, delta, epsilon, zeta, eta, theta, iota, kappa, lambda, mu, nu, xi, (omitted), pi, rho, sigma, tau, upsilon, phi, chi, psi, omega. Try to make sure your kappas are distinguishable from ks, your nus from vs, and your omegas from ws.

### Synthesis and Uploading

When you are ready to submit your file, make a pdf file (either by doing control-P or using the Download button under the file tab) of your final DataHub work. Then concatenate<sup>1</sup> it with Problem 0.2 and upload it to Gradescope. Be sure to properly tag the two problems in the system (that is, indicate which page(s) go with which problem(s)).

#### SYMBOLS AND WHAT THEY MEAN

AN UNDERGRAD IS WORKING VERY HARD

%. A GRAD STUDENT IS WORKING VERY HARD

TO HOW, THIS IS APPARENTLY A QUANTUM THING

Re SOMEONE NEEDS TO DO A LOT OF TEDIOUS NUMERICAL WORK; HOPEFULLY IT'S NOT YOU

(T4-T4) YOU ARE AT RISK FOR SKIN BURNS

YOU'RE PROBABLY ABOUT TO MAKE AN

A INCREDIBLY DANGEROUS ARITHMETIC ERROR

MM CAREFUL, THAT EQUIPMENT IS EXPENSIVE

mK CAREFUL, THAT EQUIPMENT IS VERY EXPENSIVE

nm DON'T SHINE THAT IN YOUR EYE

eV DEFINITELY DON'T SHINE THAT IN YOUR EYE

mSv You're about to get in an internet argument

mg/kg GO WASH YOUR HANDS

M9/kg GO GET IN THE CHEMICAL SHOWER

TT OR'T WHATEVER ANSWER YOU GET IS GOING TO BE WRONG BY A FACTOR OF EXACTLY TWO

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 $<sup>^{1}</sup>$ Fancy word for "combine".