Day 2 - RShiny Calculator Apps

\*Refer to <https://lucaspingpao.shinyapps.io/calculators/> to see the finalized version of all these calculator apps.

1. Calculator App
   1. Open “Calculator App.R” in RStudio. Try running the app locally on your computer.
   2. Add more operations to your calculator (e.g. multiplication, division, exponents).
   3. Add an error handling message that prints an error if the user tries to divide by 0.
   4. Design your calculator to make it look more user friendly!
2. Prime Factorizer App
   1. Create a new box in your existing calculator app and title it “Prime Factorization”.
   2. Implement the factorize functions you wrote in Day 1 into these apps. If you have not completed these functions already, you may want to go back and finish Part 2 of the worksheet from Day 1.
   3. Make sure to add error handling messages that catch inappropriate inputs to ensure that the user cannot crash the app.
3. More Calculators! (Bonus for people with more math experience)
   1. Create new boxes in your existing calculator app to implement the following functionalities below. Make sure to add error handling messages that catch inappropriate inputs to ensure that the user cannot crash the app.
   2. Modular Arithmetic Calculator
      1. Copy in the structure from the box that contains the functionalities of the standard calculator.
      2. Add an input that allows the user to specify which mod you would like to do arithmetic in.
   3. Binary Calculator
      1. Implement buttons that convert a number from decimal to binary.
      2. Add an input that allows the user to specify which base you would like to do arithmetic in.
4. Publishing Apps Online
   1. Make a free account on shinyapps.io.
   2. Follow the instructions on the documentation link below under Chapter 2.3 to configure your Shinyapps account to your computer: <https://docs.rstudio.com/shinyapps.io/>
   3. Put your app file and any relevant files into a new folder on your computer and rename your app file to “app.R”.
   4. On RStudio, go to “Session” -> “Set Working Directory” -> “Choose Directory” and choose the folder which contains your app files.
   5. Click the blue “Publish App” icon next to “Run App” and deploy your app!