**In-Class Assignment 13**

1. Take the function f(x) = x2 + 3sin(x).
   1. Graph the function between -8 and 8. What do you see about minimum and maximum values?



Chart, line chart, histogram

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* 1. Use the optimize function to find a minimum value in the interval [-3, 3].

A picture containing text

Description automatically generated

* 1. Use the optimize function to find a maximum value in the interval [-3, 3].

A picture containing graphical user interface

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1. Take the function f(x, y) = x2 + y2 - 3x + 2y + sin(xy)
   1. Produce a contour plot for the function in the square [-5, 5] x [-5, 5]. Where do you see a minimum or maximum value?

Text

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* 1. Use the optim function to find the minimum value in this square.

A picture containing background pattern

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