Math 308 Quiz 7 - Python

Due: Friday, March 22, 2024

Name: _____ **UIN:** _____

Directions: Please download the PDF file of your work on Google Colaboratory and upload on Gradescope by Friday 22 March at 10pm.

1. Consider the differential equation

$$y'' + 2y' + 13y = 3\cos(5t), \;\; y(0) = 1, \;\; y'(0) = 1.$$

   (a) In `Sympy` use Laplace transforms to solve the differential equation. Plot your solution for $0 \leq t \leq 10$.

   (b) Use `dsolve` to solve the differential equation and plot your solution for $0 \leq t \leq 10$.