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Solving Linear Differential Equations Using the Quadratic ODE Method

Diaz, John Patrick M.

Infante, Rey Allen C.

Lugtu, Nathan Angelo D.

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Professor Ramon Stephen Ruiz

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I. Introduction

The use of solving differential equations is to determine whether the roots obtained from the equation were real or imaginary. In the project, the group made use of solving linear differential equations with the use of the quadratic ordinary differential equation or the ODE. Quadratic, by definition, is a function with the highest degree being 2. The objective of the project is to be able to solve the roots given constants from the function '$ax^2 + bx + c$'. The results obtained would determine the classification of the roots.

II. Methodology

For the methodology part, what the group did was to list down the certain variables needed. In this case, there are three constants, namely 'a', 'b', and 'c'. The first constant 'a' corresponds to the constant that is with the variable in its second degree. Followed by the second constant 'b' which corresponds to the constant that is with the variable in its first degree. Finally, 'c' which is basically a constant without any variable.

III. References

https://educ.jmu.edu/~sochacjs/M341/TheQuadraticODE.pdf

https://www.pearson.com/content/dam/one-dot-com/one-dot-com/uk/documents/subjects/mathematics/Worksheets/Chapter2/Example-14-Chapter-2-The-discriminant-two-distinct-roots.pdf