**Precalculus End-of-the-Year Extra Credit Assignment**

**Introduction:**

For this project we decided to make a computer game called “Polar Defense”. This game was made as fun way to practice skills involving polar coordinates, but it also includes a study guide for understanding what polar coordinates are, how to graph them, how to express them under different conditions, and how to convert them to rectangular form, as well as from rectangular form back to polar form. We wrote our own original code and even created our own original designs for the turret, buttons, ships, and more, all from scratch. The game is made in a programming language called “Python” which must be installed in order for the game to run. Below are the steps for installing Python.

**Steps:**

* **Step 1 (Download Python for Windows):** Visit <https://www.python.org/> and find the “Downloads” menu in the navigation bar. Mouse over it and a menu should appear. On the right side of the menu you will find text that says “download for windows.” Under it there will be a button with the latest version on it. Click that button to download the latest python version and run it. Follow the steps to install Python.
* **Step 1 (Download Python for MacOS):** Visit <https://www.python.org/> and find the “Downloads” menu in the navigation bar. Mouse over it and a menu should appear. The menu will contain an option to download for MacOS X. Click that button to go to the downloads page and click on the text at the top of that page that says “Latest Python 3 Release” to download the latest python version. Run the downloaded file and follow the steps to install Python.
* **Step 2 (Install Python):** Run the python.exe file that was downloaded. On the first page of installation, find the checkbox that says, “add python to PATH” and make sure it's checked. (VERY IMPORTANT)
* **Step 3 (Install Game):** Download the submitted project from the extra credit assignment on google classroom and open it. Find the "install.py" script and run it.
* **Step 4 (Open Game):** Once install has run and the window disappeared, double click "main.py" to start the game.
* **Step 5 (Enjoy!):** Have fun and enjoy!