**MISSION: FIRST PROGRAM** mission n.2; STEM 8

I. Situation:

1. **How to run IDLE, the Python code editor program**:
2. To write a program using the Python programming language on your Chromebook, you will need to switch from the Chrome OS operating system to the Unix operating system and run the IDLE code editor program. There are many versions of Unix. The one installed on your computer is called Xfce4. To switch to Unix and start programing, follow the following procedure:
   1. Startup the Chromebook in developer mode as you usually do.
   2. Start Chrome (internet browser).
   3. Hit ctrl+alt+t to open Crosh, the Chrome OS developer shell.
   4. At the prompt crosh> type “shell”, hit enter.
   5. At the prompt chronos@localhost / $ type “sudo startxfce4”, hit enter.
   6. You should now see the Xfce desktop, including a picture of a mouse. Left click the Terminal Emulator icon that is in the menu bar at the bottom of the screen.
   7. At the prompt (xenial)chrome@localhost:-$ enter “idle3”.
   8. A blank window will open. Congratulations: this is the IDLE program you will use to write, edit and run Python programs.
   9. To return to the Chrome OS desktop press alt+ctrl+shift+🡪.
3. Python Function: Print
   1. Syntax: print()
   2. The print function will print what is between the parentheses.
   3. If you wish to print text (aka a string variable), you must enclose it in quotations. It is highly recommended that you use double quotations (“).
      1. Example:
         1. Code: print (“Spam and eggs”)
         2. Result: Spam and eggs
      2. Special case: how to print a double quotation mark.
         1. Because it is used to make the start or end of a character string (text), single and double quotes can cause errors. If you want to print [She said “No way!”] for example:
            1. Code: print (“She said “No way!””)
            2. Result: ERROR
         2. To avoid this problem, use an escape key: \” wherever you need a “ in your text.
            1. Code: print (“She said \”No way!\””)
            2. Result: She said “No way!”

II. Mission:

1. Your team must write, run, save, and share a very simple program in Python that uses the print function.
2. In the IDLE edit window, write a line of code that uses the print function. You can have it say anything (appropriate) that you like.
3. Run your program (aka “script”) using the pulldown menu Run-Run Module, or by pressing F5 ()
4. You will be prompted to save your file. Click “ok”
5. Save your file as “XXXXFirstProgram” in the home/chrome/downloads folder.
6. Hopefully, your program will print just what you expect.
   1. If you get an error message, check your code and find the error.
   2. Keep rerunning the program after changes to see if they worked! This is called “debugging,” and it is a BIG, FRUSTRATING part of learning and writing code.
7. Switch back to the Chrome OS desktop. [alt+ctrl+shift+🡪]
8. Check to see if the file XXXXFirstProgram.py is in the downloads folder by clicking the launcher (circle) and files. If not, get back to IDLE on Xfce and try saving again. Check your destination folder!
9. Copy the file to your team’s Google Drive folder, in the “Work Products” folder. Congratulations, you have written, run, saved, and shared your first computer program!

Command & Signal

1. During execution of the mission, you may verbally signal other teams or your commander for assistance.
2. Upon successful completion of the mission, the following badge will be conferred to your team:

