Current Bear Commands

Note: spaces are ignored and commands are not case sensitive

* Bear: quick pause – Pauses all action but keeps Matlab running. Also moves robot to home so it is out of the way. This will prevent the robot from moving but will not pause ongoing actions (printing, Instron crushing, etc).
* Bear: resume – Resumes after a quick pause.
* Bear: pause– Stops Matlab after current task. Suggested for making quick changes to Matlab code. Press play on Matlab file to resume.
* Bear: pause for day – Stops printing new parts. Finishes crushing any parts that have started printing, then shuts down Matlab for day.
* Bear: disable printer: <printer number> -- Disables a printer so that you can work on it. Note that it does not actually stop a print on the printer. You must do that through the octoprint.
* Bear: enable printer: <printer number>:<method> -- Enables printer. Takes two methods:
  + resume: Assumes part is on printer and ready for removal (or printing)
  + reset: declares current print failed and starts new one. (Use if no print currently printing)
* Bear: set Instron priority -- Sets priority for when Instron is the limiting factor.
* Bear: set printer priority -- Sets priority for when printers are the limiting factor.
* Bear: disable nozzle: <printer number>:<nozzle number> -- disables nozzle if you run out of filament or want prints to focus on one nozzle. Note that nozzle numbers are 0 and 1, NOT 1 and 2.
* Bear: enable nozzle: <printer number>:<nozzle number> -- enables nozzle. Note that nozzle numbers are 0 and 1, NOT 1 and 2.
* Bear: Status – Gives update on state of command.
* Bear: help – Displays a list of commands that are currently supported
* Bear: clear storage: <printer number> – Clears the storage status, telling the computer that the researcher has removed previously stored parts and that the space is available again. Select printer zero for all, select printer 6 for scale storage.
* Bear: save storage – Creates an excel file that tells the storage location of saved parts. This allows researchers to bag the parts.
* Bear: filament status – Gives approximation of how much filament is left for each of the printers. Multiplies by 10% to approximate wastage.
* Bear: show parity plot – Shows parity plot with rmse value from latest GP.
* Bear: show length scale plot – Shows length scale plot from latest GP.
* Bear: image bed : <printer number> -- Takes image of bed and saves to file.
* Bear: gripper maintenance – Moves gripper to side so you can work on it. Use bear: resume to resume.
* Bear: plot mass – Plots mass, extrusion multiplier, and filament length on graph for each printer.
* Bear: input mass: <ID number>:<mass> -- If the mass was not weighed correctly and you want to input it by hand, please use this command with the ID number of the part. Mass should be entered in grams.
* Bear: part not printable: <selection method>
  + Selection methods:
    - ID: <ID number> -- select the part by its ID number and that is all you need to tell it.
    - Printer: <printer number> -- This will take the ID number of the currently selected printer. Will reset printer. Clear print bed manually or disable printer. Re-enable printer when ready.
    - Scale – Uses ID number of part on scale. This requires it to pass the move to scale action, meaning some mass must be read. Otherwise, use the printer selection above. **Please remove part from scale!**
    - Instron – Uses ID number from instron. Will store part normally, so no need to remove it. Note, will still crush part, so try to declare not printable before it reaches this point if you do not want the instron to crush it.
* Bear: notify removal: <yes or no> -- Changes whether the BEAR will send a slack message when it removes a part. Can be helpful when monitoring BEAR. Yes means BEAR will send slack message. No means it will not. This is persistent, so it will be saved from session to session.
* Bear: set sigmoid cutoff: <number between 0 and 1> -- Sets the sigmoid cutoff. Closer to 0 means that it will treat most structures as printable. Setting closer to 1 means it will be more conservative on what structures it deems printable. Also shows a plot of the sigmoid cutoff you have selected.
* Bear: set xpred limits: C: min: <value> -- Changes the max twist value. Set in radians. Other parameters may follow.
* Bear: printer status – Prints to Slack the status for all of the printers. This can be helpful when trying to figure out which printers need help when returning to the lab while the BEAR is running.
* Bear: update printable – Updates the printability matrix that is created when the researcher reviews previous samples. Updates printable, mass, and toughness.
* Bear: weekly progress – Posts Graph of part count by week.
* Bear: set mass cutoff: <printer>: <nozzle>: <cutoff ID> -- Sets new ID for mass cutoff. Do this when you change the characteristics of the filament (cold pull, etc). Note that nozzles are 0 and 1, NOT 1 and 2.
* Bear: redo cylinder: <filamentID>-- Redoes cylinder modulus test for filament ID. This would be done if there were extrusion problems, for example.
* Bear: print CLS – Switches all printers that are currently being used in the campaign to CLS mode. It will then print all parts that are designated in CLS\_List.xlsx in the main bear folder. If no parts can be printed on a given printer, it will switch back to the current campaign. Note that researcher should be around to process CLS prints.
* Bear: set DP: <printer>: <DP> -- Set new Decision Policy for selected printer.
* Bear: save data—Saves dataT table into excel file and posts to Slack.
* Bear: monitor print: <printer number>-- takes picture of printer and posts to slack
* Bear: Re Calc A Pred – Recalculates acceleration prediction values if you change your model. Make sure model is in bear folder under name aMdlThresh.mat
* bear: plot critical points—Plots the critical points and posts to slack
* Bear: Display Variable: <variable> -- Displays the variable in the matlab interface. Can use sub-indexing, etc. Note that variable is case sensitivbe. Be careful with this command, as it is more likely to encounter unanticipated bugs.
* bear: plotfd: <ID>-- Displays force displacement curve for ID number.
* bear: move test mat – Moves test.mat from bear folder to TSCTestData folder.
* bear: plot AvsS—Plots acceleration vs. max stress before 20% strain
* bear: set STL Mode: <printer>: <new STL Mode> -- Set new stl mode for selected printer.
* bear: check to print list—Looks through ToPrintList.xlsx for parts that have been printed (status == 1) and checks to see if they were printed successfully. If so, sets status to 2. Otherwise, sets status to 0 for reprint. Note that this should be done after the researcher has manually reviewed samples for orientation, etc. After this command, researcher can use command “print from list” to set printers to print failed parts.
* bear: print from list – Sets printers that are currently on main campaign to print from list (STL\_Mode 12). They will print parts from ToPrintList.xlsx if they have the ability.
* Bear: failed: <ID> -- Declares a ID failed (testing on side, etc).
* Bear: store scale—Stores the part on the scale for testing later.
* Bear: save scale—Overrides NN’s determination that part is on its side. Use if you right the part or if the NN is wrong. Note that it can be used until the part is removed, even though it says you only have 60 seconds. 60 seconds is the minimum amount of time you can have.
* Bear: test storage: <#>- Tests part that was stored from scale in cylinder #. This part should be placed on the orange 5 spot where it will be picked up by the BEAR.
* Bear: image printer: <printer number>- Takes a picture of the printer at the printing location. To take picture of bed, use image bed command.
* Bear: load filament—run command when you want to load a new filament into a nozzle. It will run you through prompts on the main controller computer on Matlab.
* Bear: avoid instron: <’on’ or ‘off’>-- When avoid instron is on, the robot will not move into the instron testing area. This allows you to test parts outside of bear loop while bear still runs.
* Bear: reset bluehill – This initiates the bluehill reset. First, bear will finish all ongoing instron tests and process data. Then it will walk user through reset process.