**Simulation run procedure:**

1. Change necessary parameters
   1. Save all changed files
2. Update Github repository
   1. Open Github desktop
   2. Add summary (Usually I just label it “Commit”)
   3. Commit to master
   4. Push to origin
3. Open Marc Mentat 2019
   1. Tools -> Python -> Run
   2. C:\Users\19673418\Documents\Masters-Project\Models\MarcMentat\main.py

**Computer death procedure:**

1. Switch it off and back on again
2. Switch off the power and switch it back on again
3. Reseat the RAM
   1. Open the case
   2. Pull the RAM out
   3. Put the RAM back in
      1. Make sure it clicks in properly
4. Run a BIOS diagnostic
   1. Switch the computer on and spam F12
   2. Select BIOS diagnostic from the menu
   3. If no errors are found, run the longer memory check when prompted

**File path to library:**

C:\Users\19673418\Documents\Masters-Project\Models\MarcMentat

**Important Variables:**

|  |  |  |  |
| --- | --- | --- | --- |
| **File** | **Variable** | **Allowable Values** | **Explanation** |
| main.py | case | 1, 2 | Template deformation case  1: Unidirectional extension  2: Bidirectional extension |
| x\_e |  | Elements in the x-direction |
| y\_e |  | Elements in the x-direction |
| e\_s | >5 | Element size in mm  Greater than 5 for manufacturability |
| b |  | Boundary elements  Elements that remain fixed and cannot be altered by the pattern generators |
| p\_mag | <0.03 | Internal pressure in MPa  Greater than 0.03MPa tends to yield mainly unsuccessful simulations due to massive deformations |
| g\_meth | “c”, “l”, “r” | Unit pattern generation method  c: CPPNs  l: L-Systems  r: Random |
| a\_meth | “m”, “g” | Analysis method  m: Monte-Carlo  g: Genetic Algorithm |
| gen |  | The number of generations for the genetic algorithm |
| prob |  | The probability of crossover, random mutation and biased mutation occurring |
| point |  | The number of potential points of crossover, random mutation and biased mutation |
| \evolve\_soft\_2d\evolve\gen\_alg.py | n\_u |  | The number of units in a population |