**Inputs:**

* **shape**: A string that specifies the shape of the capacitor. It can be **"P"** for parallel-plate capacitor, **"C"** for cylindrical capacitor, or **"S"** for spherical capacitor.
* **material**: A string that specifies the material of the capacitor.
* **distance**: The distance between the plates of the parallel-plate capacitor or the distance between the center of the cylindrical/spherical capacitor and its outer surface.
* **voltage**: The voltage across the capacitor.
* **length**: The length of the parallel-plate capacitor or the height of the cylindrical/spherical capacitor.
* **width**: The width of the parallel-plate capacitor or the outer radius of the cylindrical/spherical capacitor.
* **height**: The height of the cylindrical capacitor.
* **inner\_radius**: The inner radius of the cylindrical/spherical capacitor.
* **outer\_radius**: The outer radius of the cylindrical/spherical capacitor.

**Outputs:**

* **C**: The capacitance of the capacitor.
* **G**: The conductance of the capacitor.
* **I**: The leakage current of the capacitor.
* **V**: The breakdown voltage of the capacitor.

**Description:**

This function calculates the capacitance, conductance, leakage current, and breakdown voltage of a capacitor with a specified shape, material, and geometry. It calls one of three nested functions (**parallel**, **cylinder**, or **spherical**) based on the shape input to perform the calculations for that particular capacitor geometry.

**parallel** function:

* Inputs:
  + **info**: A table containing the dielectric constant, the breakdown electric field strength, and the conductivity of the specified capacitor material.
  + **voltage**: The voltage across the capacitor.
  + **length**: The length of the parallel-plate capacitor.
  + **width**: The width of the parallel-plate capacitor.
  + **distance**: The distance between the plates of the parallel-plate capacitor.
* Outputs:
  + **C**: The capacitance of the parallel-plate capacitor.
  + **G**: The conductance of the parallel-plate capacitor.
  + **I**: The leakage current of the parallel-plate capacitor.
  + **V**: The breakdown voltage of the parallel-plate capacitor.

**cylinder** function:

* Inputs:
  + **info**: A table containing the dielectric constant, the breakdown electric field strength, and the conductivity of the specified capacitor material.
  + **voltage**: The voltage across the capacitor.
  + **height**: The height of the cylindrical capacitor.
  + **outer\_radius**: The outer radius of the cylindrical capacitor.
  + **inner\_radius**: The inner radius of the cylindrical capacitor.
* Outputs:
  + **C**: The capacitance of the cylindrical capacitor.
  + **G**: The conductance of the cylindrical capacitor.
  + **I**: The leakage current of the cylindrical capacitor.
  + **V**: The breakdown voltage of the cylindrical capacitor.

**spherical** function:

* Inputs:
  + **info**: A table containing the dielectric constant, the breakdown electric field strength, and the conductivity of the specified capacitor material.
  + **voltage**: The voltage across the capacitor.
  + **inner\_radius**: The inner radius of the spherical capacitor.
  + **outer\_radius**: The outer radius of the spherical capacitor.
* Outputs:
  + **C**: The capacitance of the spherical capacitor.
  + **G**: The conductance of the spherical capacitor.
  + **I**: The leakage current

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