2/1/2020 euler\_method

```
function [V_t] = euler_method(type,Iapp,del_t)
C = (100*(type - 2)*(type - 3) - 130*(type-1)*(type-3) + 100*(type-1)*(type-2))*1e-12;
gl = (5*(type - 2)*(type - 3) - 18*(type-1)*(type-3) + 5*(type-1)*(type-2))*1e-9;
El = (-35*(type - 2)*(type - 3) + 58*(type-1)*(type-3) - 29*(type-1)*(type-2))*1e-3;
V_{thresh} = -50e-3;
delta_volt = 2e-3;
a = (1*(type - 2)*(type - 3) - 4*(type-1)*(type-3) + (type-1)*(type-2))*1e-9;
tau_w = (15*(type - 2)*(type - 3) - 150*(type-1)*(type-3) + 60*(type-1)*(type-2))*1e-3;
b = (0*(type - 2)*(type - 3) - 120*(type-1)*(type-3) + 50*(type-1)*(type-2))*1e-12;
V_r = (-29*(type - 2)*(type - 3) + 50*(type-1)*(type-3) - 23*(type-1)*(type-2))*1e-3;
m = 5000;
U_t = zeros(m,1);
V_t = zeros(m,1);
V_t(1) = El;
for i = 2:m
    V_{-}t(i) = V_{-}t(i-1) + (del_{-}t/C)*(-gl*(V_{-}t(i-1) - El) + gl*delta\_volt*exp((V_{-}t(i-1) - V_{-}thresh)/delta\_volt) - U_{-}t(i-1) + Iapp); \\
   U_t(i) = U_t(i-1) + (del_t/tau_w)*(a*(V_t(i-1) - El) - U_t(i-1));
   if (V_t(i) >= 0)
   V_t(i) = V_r;
   U_t(i) = U_t(i) + b;
   end
end
end
```

Not enough input arguments.

```
Error in euler_method (line 2)
C = (100*(type - 2)*(type - 3) - 130*(type-1)*(type-3) + 100*(type-1)*(type-2))*1e-12;
```

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