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Prelab 6

```
% Name: Logan Calder
% Lab Number: 5
% Class: ECEN 50L
% Date: 5/21/24
% Section time: 14:15T
```

```
% Clear output
clc;
```

Variable Initialization

```
Vs = 2;
```

```
C1 = 1e-6;
C2 = 2.2e-6;
C3 = 4.7e-6;
```

Part 1

```
Ceq = 1/C1 + 1/C2 + 1/C3;
Ceq = 1/Ceq;
```

```
V1 = (Ceq/C1) * Vs;
V2 = (Ceq/C2) * Vs;
V3 = (Ceq/C3) * Vs;
```

```
capacitors = {'C1'; 'C2'; 'C3'};
voltages = [V1; V2; V3];
T = table(capacitors, voltages, 'VariableNames', {'Capacitor', 'Voltage(V)'});
disp(T)
```

<i>Capacitor</i>	<i>Voltage(V)</i>
{ 'C1' }	1.1995
{ 'C2' }	0.54524
{ 'C3' }	0.25522

Part 2

```
R1 = 500;  
R2 = 750;  
  
T1 = R1 * C1;  
T2 = R2 * C1;  
  
time_const = {'T1'; 'T2'};  
values = [T1; T2];  
T = table(time_const, values, 'VariableNames', {'Time Constant', 'Value (s)'});  
disp(T)
```

<i>Time Constant</i>	<i>Value (s)</i>
{ 'T1' }	0.0005
{ 'T2' }	0.00075

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