

```
//13 is the input to the circuit (connects to 150ohm resistor), 11 is the comparator/op-amp output.  
//rebot.org for guide
```

```
double pulse, frequency, capacitance, inductance;
```

```
void setup(){
```

```
  Serial.begin(115200);
```

```
  pinMode(11, INPUT);
```

```
  pinMode(13, OUTPUT);
```

```
  Serial.println("Why hello!");
```

```
  delay(200);
```

```
}
```

```
void loop(){
```

```
  digitalWrite(13, HIGH);
```

```
  delay(5); //give some time to charge inductor.
```

```
  digitalWrite(13, LOW);
```

```
  delayMicroseconds(100); //make sure resination is measured
```

```
  pulse = pulseIn(11, HIGH, 5000); //returns 0 if timeout
```

```
  if(pulse > 0.1){ //if a timeout did not occur and it took a reading:
```

```
    capacitance = 2.E-6; //insert capacitance here. Currently using 2uF
```

```
    frequency = 1.E6/(2*pulse);
```

```
    inductance = 1./(capacitance*frequency*frequency*4.*3.14159*3.14159); //one of my profs told me just do squares like this
```

```
    inductance *= 1E6; //note that this is the same as saying inductance = inductance*1E6
```

```
    Serial.print("High for uS: ");
```

```
    Serial.print(pulse);
```

```
    Serial.print("\tfrequency Hz: ");
```

```
    Serial.print(frequency);
```

```
    Serial.print("\tinductance uH: ");
```

```
    Serial.println(inductance);
```

```
    delay(20);
```

```
}
```

```
}
```

