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);
  }
}