

```

int UpperThreshold = 300; //Thresholding of where to read "beats" based on your signal input
int LowerThreshold = 240;
int reading = 0;
int BPM = 0;
bool IgnoreReading = false;
bool FirstPulseDetected = false;
unsigned long FirstPulseTime = 0;
unsigned long SecondPulseTime = 0;
unsigned long PulseInterval = 0;

void setup(){
  Serial.begin(74880);
}

void loop(){
  reading = analogRead(A0);
  // Heart beat leading edge detected.
  if(reading > UpperThreshold && IgnoreReading == false){
    if(FirstPulseDetected == false){
      FirstPulseTime = millis();
      FirstPulseDetected = true;
    }
    else{
      SecondPulseTime = millis();
      PulseInterval = SecondPulseTime - FirstPulseTime;
      FirstPulseTime = SecondPulseTime;
    }
    IgnoreReading = true;
  }

  // Heart beat trailing edge detected.
  if(reading < LowerThreshold && reading > 2){
    IgnoreReading = false;
  }

  BPM = (1.0/PulseInterval) * 60.0 * 1000;
  //Serial.println(A0);
  Serial.print("BPM = ");
  Serial.println(BPM);
  delayMicroseconds(3900);
  {
  // read the input on analog pin 0:
  int sensorValue = analogRead(A0);
  // Convert the analog reading (which goes from 0 - 1023) to a voltage (0 - 5V):
  float voltage = sensorValue/1023.0;
  // read the input on analog pin 0:
  //int sensorValue = analogRead(A0);
  // Convert the analog reading (which goes from 0 - 1023) to a voltage (0 - 5V):

  // print out the value you read:
  Serial.println(voltage);
  };
  // print out the value you read:
  Serial.println(voltage);
  }
}

```