```
//ADDED SOFTWARE SHOWN IN RED FOR DATA LOGGING
//-----------------------------------Battery Capacity Discharge Routine-----------------------------------------------
void batteryCapacity (void) {
 if (Mode == "BC"){
  setCurrent = reading*1000;                          //set current is equal to input value in Amps
  setReading = setCurrent;                            //show the set current reading being used
  setControlCurrent = setCurrent * setCurrentCalibrationFactor;
  controlVoltage = setControlCurrent;

  lcd.setCursor(0,3);
  lcd.print (timer.getTime());                        //start clock and print clock time

  Seconds = timer.getTotalSeconds();                   //get totals seconds

  LoadCurrent = ActualCurrent;                        //if timer still running use present Actual Current reading
  if (timer.status() == 2){                    //if timer is halted then use last Actual Current reading before timer stopped
   LoadCurrent = BatteryCurrent;
   }

  BatteryLife = (LoadCurrent*1000)*(Seconds/3600);      //calculate battery capacity in mAh
  lcd.setCursor(9,3);
  BatteryLife = round(BatteryLife);

  if(BatteryLife >= BatteryLifePrevious){             //only update LCD (mAh) if BatteryLife has increased

   if (BatteryLife < 10) {                            //add a 3 leading zero to display if reading less than 10
   lcd.print("000");
   }

   if (BatteryLife >= 10 && BatteryLife <100){        //add a 2 leading zero to display
   lcd.print("00");
   }

   if (BatteryLife >= 100 && BatteryLife <1000){      //add a 1 leading zero to display
   lcd.print("0");
   }

  lcd.print(BatteryLife,0);
  lcd.setCursor(13,3);
  lcd.print("mAh");
  BatteryLifePrevious = BatteryLife;                  //update displayed battery capacity on LCD
  }
 }

 if (Mode == "BC" && ActualVoltage <= BatteryCutoffVolts){ //stops clock if battery reached cutoff level and switch load off

 BatteryCurrent = ActualCurrent;
 dac.setVoltage(0,false);                             //reset DAC to zero for no output current set at switch on
 toggle = false;                                      //Load is toggled OFF
 lcd.setCursor(8,0);
 lcd.print("OFF");                                    //indicate that LOAD is off at start up
 timer.stop();
 }

   if (Mode == "BC" && Load == 1){                    //Routine used for data logging in Battery Capacity Mode
     if (Seconds != SecondsLog){                      //only send serial data if time has changed
       SecondsLog = Seconds;
       Serial.print (SecondsLog);                     //sends serial data of time in seconds
       Serial.print (",");                            //sends a comma as delimiter for logged data
       Serial.println (ActualVoltage);                //sends serial data of Voltage reading
        }
     }
}
```