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Electrónica Digital 2
carne: 18193
enero 2021
sección: 20

Laboratorio # 5

Manejo de memoria SD

Link del video:

https://youtu.be/nftP2RyKOJg

Link del GitHub:

https://github.com/nataliadlb/LABS_REPOSITORIO.git

Pseudocódigo

```
#include <SPI.h>
#include <SD.h>

int Num = 0;
File myFile;

void setup()
{
 // Open serial communications and wait for port to open:
 Serial.begin(115200);
 while (!Serial) {
  ; // wait for serial port to connect. Needed for Leonardo only
 }
 SPI.setModule(0);

 Serial.println(" ");
 Serial.println("Initializing SD card...");
 // On the Ethernet Shield, CS is pin 4. It's set as an output by default.
 // Note that even if it's not used as the CS pin, the hardware SS pin
 // (10 on most Arduino boards, 53 on the Mega) must be left as an output
 // or the SD library functions will not work.
 pinMode(PA_3, OUTPUT);

 if (!SD.begin(PA_3)) {
  Serial.println("initialization failed!");
  return;
 }
 Serial.println("initialization done.");
 myFile = SD.open("/");
 printDirectory(myFile, 0);
```

```
  //Serial.println("done!");
}

void loop()
{
   if (Serial.available() > 0) {
   Num = Serial.read();
   }

  switch (Num){
     case '1':
       myFile = SD.open("hola.txt");
       if (myFile) {
         Serial.println("hola.txt:");

        // read from the file until there's nothing
else in it:
        while (myFile.available()) {
          Serial.write(myFile.read());
        }
        // close the file:
        myFile.close();
       } else {
        // if the file didn't open, print an error:
        Serial.println("error opening test.txt");
       }
     case '2':
       Serial.println("caso 2 wuuuu");
       }

}

void printDirectory(File dir, int numTabs) {
   while(true) {

     File entry =  dir.openNextFile();
     if (! entry) {
       // no more files
       break;
     }
     for (uint8_t i=0; i<numTabs; i++) {
       Serial.print('\t');
     }
     Serial.print(entry.name());
     if (entry.isDirectory()) {
       Serial.println("/");
       printDirectory(entry, numTabs+1);
     } else {
       // files have sizes, directories do not
       Serial.print("\t\t");
       Serial.println(entry.size(), DEC);
     }
     entry.close();
   }
}
```

Código

```
/*
  Labortorio # 5
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  Digital 2
  sección 20
  marzo 2021
*/

/*
 created   Nov 2010
 by David A. Mellis
 modified 9 Apr 2012
 by Tom Igoe
 modified 2 Feb 2014
 by Scott Fitzgerald

 This example code is in the public domain.
 */

#include <SPI.h>
#include <SD.h>

int Num; //variable de .TXT que quieren ver
int control; //para que se ejecute hast que el usuario decida terminar

File myFile;

void setup()
{
  // Open serial communications and wait for port to open:
  Serial.begin(115200);
  while (!Serial) {
    ; // wait for serial port to connect. Needed for Leonardo only
  }
  SPI.setModule(0);


  Serial.println(" ");
  Serial.println("Initializing SD card...");
  pinMode(PA_3, OUTPUT);


  if (!SD.begin(PA_3)) {
    Serial.println("initialization failed!");
    return;
  }
  Serial.println("initialization done.");
  Serial.println();
  Serial.println("--------- ARCHIVOS EN LA SD ---------");
  Serial.println();
  myFile = SD.open("/"); //abrir archivos
  printDirectory(myFile, 0); //funcion que muestra archivos dentro de SD
  Serial.println("");
```

```
  Serial.println("----------------------------------------
--------------");
  Serial.println("¿Qué archivo .TXT  quieres
ver? Escribir 1, 2, 3 o 4");
  Serial.println("----------------------------------------
--------------");


}


void loop(){


  while (control != 5){//mientras no se escriba
5, el programa corre
     if (Serial.available() > 0) { //Leer valor que
se ingresa
    Num = Serial.read();
   }


     if (Num == '1'){ //si es opcion 1, mostrar
archivo 1 (pacman)
        myFile = SD.open("pacman.txt");
       if (myFile) {
        Serial.println();
        Serial.println("------------ Pacman ---------
---");
        Serial.println();


        // read from the file until there's
nothing else in it:
        while (myFile.available()) {
          Serial.write(myFile.read());
        }
        // close the file:
        myFile.close();
       } else {
        // if the file didn't open, print an error:
        Serial.println("error opening test.txt");
       }
       Serial.println("");
       Serial.println("----------------------------------
-------------------------");//volver a preguntar
       Serial.println("Escribir 1, 2, 3 o 4 para
ver otro archivo o 5 para terminar");
       Serial.println("----------------------------------
-------------------------");
     }


     else if (Num == '2'){ //si es opcion 2,
mostrar archivo 2 (corazon)
        myFile = SD.open("corazon.txt");
       if (myFile) {
        Serial.println();
        Serial.println("------------ Corazón ---------
---");
        Serial.println();


        // read from the file until there's
nothing else in it:
        while (myFile.available()) {
          Serial.write(myFile.read());
        }
        // close the file:
        myFile.close();
```

```
    } else {
      // if the file didn't open, print an error:

      Serial.println("error opening test.txt");
    }
    Serial.println("");
    Serial.println("-----------------------------------------------------------------"); //volver a preguntar
    Serial.println("Escribir 1, 2, 3 o 4 para ver otro archivo o 5 para terminar");
    Serial.println("-----------------------------------------------------------------");
  }


 else if (Num == '3'){ //si es opcion 3, mostrar archivo 3 (ying yang)
   myFile = SD.open("yingyang.txt");
    if (myFile) {
      Serial.println();
      Serial.println("----------- Ying yang ----------");
      Serial.println();


      // read from the file until there's nothing else in it:
      while (myFile.available()) {
        Serial.write(myFile.read());
      }
      // close the file:
      myFile.close();
    } else {
      // if the file didn't open, print an error:
      Serial.println("error opening test.txt");
    }
    Serial.println("");
    Serial.println("-----------------------------------------------------------------"); //volver a preguntar
    Serial.println("Escribir 1, 2, 3 o 4 para ver otro archivo o 5 para terminar");
    Serial.println("-----------------------------------------------------------------");
  }


 else if (Num == '4'){ //si es opcion 4, mostrar archivo 4 (fantasma pacman)
   myFile = SD.open("fantasma.txt");
    if (myFile) {
      Serial.println();
      Serial.println("------- Fantasma de pacman -------");
      Serial.println();


      // read from the file until there's nothing else in it:
      while (myFile.available()) {
        Serial.write(myFile.read());


      }
      // close the file:
      myFile.close();
    } else {
      // if the file didn't open, print an error:
```

```
        Serial.println("error opening test.txt");
      }
      //Serial.println();
      Serial.println("");
      Serial.println("----------------------------------
-------------------------"); //volver a preguntar
      Serial.println("Escribir 1, 2, 3 o 4 para
ver otro archivo o 5 para terminar");
      Serial.println("----------------------------------
-------------------------");
    }
  else if (Num == '5'){
    Serial.println("");
    Serial.println("Fin del programa");
    control = 5;
  }
  else{}
  }
}



void printDirectory(File dir, int numTabs)
{//funcion que muestra los archivos de la SD
  while(true) {
    File entry =  dir.openNextFile();
    if (! entry) {
      // no more files
      break;
    }
    for (uint8_t i=0; i<numTabs; i++) {
      Serial.print('\t');
    }
    Serial.print(entry.name());
    if (entry.isDirectory()) {
      Serial.println("/");
      printDirectory(entry, numTabs+1);
    } else {
      // files have sizes, directories do not
      Serial.print("\t\t");
      Serial.println(entry.size(), DEC);
    }
    entry.close();
  }
 Serial.println("");


}
```