Exercise 6_Read from serial monitor

s214417 Lukas Schou

s214413 Christian Cederhorn

Code which reads from serial monitor and if one of the letters a, b, c, d or e is entered an LED lights up if another letter is put in, all the LEDs will turn off

```
int incomingByte = 0;

void setup() {
  Serial.begin(9600);

  // sets the pins 2-6 as an output
  for (int i = 2; i <= 6; i++){
    pinMode(i, OUTPUT);
  }
}

void loop() {
  // send data only when you recive data
  if (Serial.available() > 0){
    incomingByte = Serial.read();  //read the incoming byte from the Arduino

    // the characters a to e turns on a 5 different LEDs
    switch(incomingByte){
      case 97:
        digitalWrite(6, HIGH);
        break;
      case 98:
        digitalWrite(5, HIGH);
        break;
      case 99:
        digitalWrite(4, HIGH);
        break;
      case 100:
        digitalWrite(3, HIGH);
        break;
      case 101:
        digitalWrite(2, HIGH);
        break;
    }

    // every other character turns of all the LEDs
    if ((incomingByte > 47 && incomingByte < 91) || (incomingByte > 101 && incomingByte < 123)){
      for (int i = 2; i <= 6; i++){
          digitalWrite(i, LOW);
       }
    }
  }
}
```

Questions

- 6a: What is a char? How many bits does one use?

A char is short for a character and covers single display units which are symbols, letters or digits. A char uses 8 bits or 1 byte of memory.

- 6b: What is the resulting character stored in the variable mychar?

```
char mychar = '4';
int val = mychar-'0';
mychar = (char)(val+'A'-1)
```

The steps are:

mychar = 4

val = 4 – 0 = 4

mychar = 4 + 65 – 1 = 68

68 in ASCII is equal to the letter ‘D’.