

Oppgave 4.

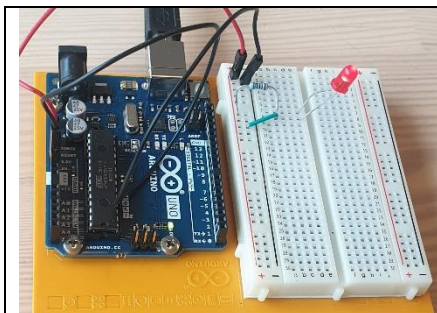
```
This example code is in the public domain.  
  
http://www.arduino.cc/en/Tutorial/Blink  
*/  
  
// the setup function runs once when you press reset or power the board  
void setup() {  
  // initialize digital pin LED_BUILTIN as an output.  
  pinMode(LED_BUILTIN, OUTPUT);  
}  
  
// the loop function runs over and over again forever  
void loop() {  
  digitalWrite(LED_BUILTIN, HIGH); // turn the LED on (HIGH is the voltage level)  
  delay(200); // wait for a second  
  digitalWrite(LED_BUILTIN, LOW); // turn the LED off by making the voltage LOW  
  delay(200); // wait for a second  
}
```



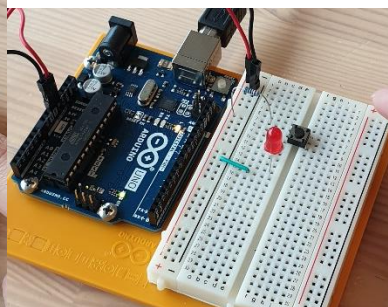
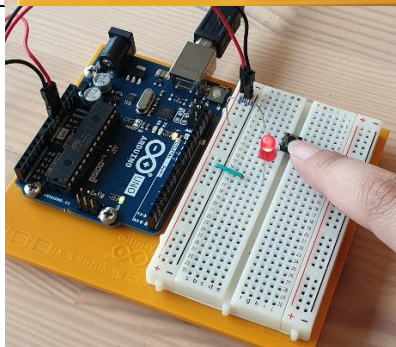
Oppgave 5

Project 01

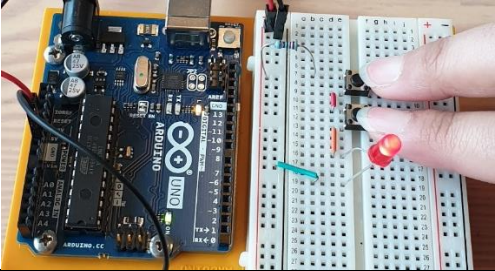
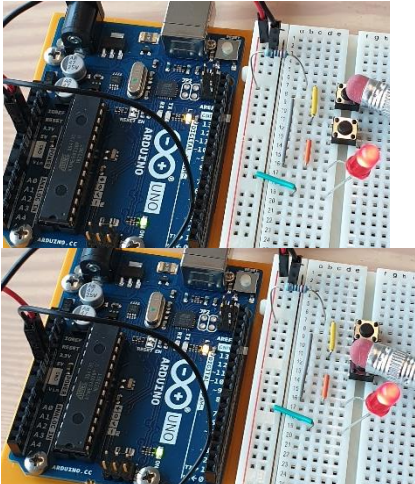
Get to Know Your Tools



Figur 5 krets tegning



Figur 8 Bygg kretsen

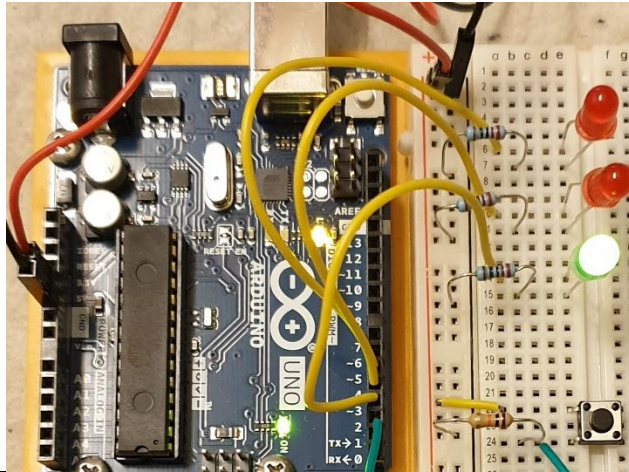
	<p><u>Figur 10 Serie koblet krets</u> Serie-kobling må begge knappene være trykk inn/ned for at LED-en skal lyse.</p>
	<p><u>Figur 12 Parallel koblet krets</u> Parallell-kobling trenger man bare og trykke på en av knappene.</p>

Oppgave 6.

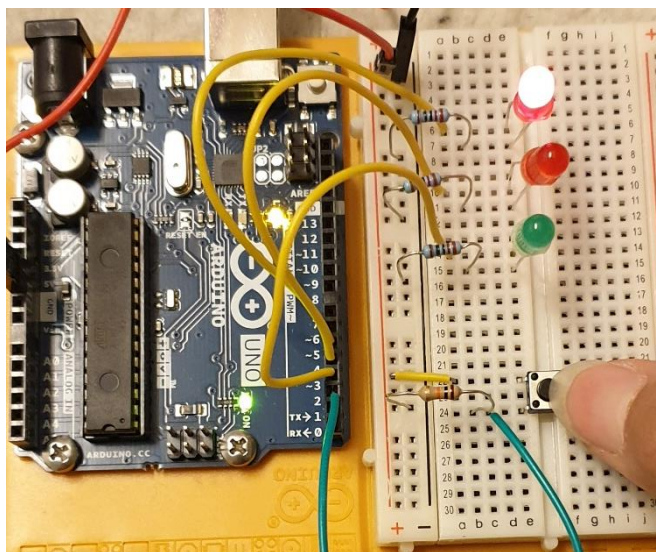
Project 02

Spaceship Interface

<pre> 1 int switchState = 0; 2 void setup() { 3 pinMode(3,OUTPUT); 4 pinMode(4,OUTPUT); 5 pinMode(5,OUTPUT); 6 pinMode(2,INPUT); 7 } 8 void loop() { 9 switchState = digitalRead(2); 10 11 if (switchState == LOW) { 12 13 digitalWrite(3, HIGH); 14 digitalWrite(4, LOW); 15 digitalWrite(5, LOW); 16 } else { 17 digitalWrite(3, LOW); 18 digitalWrite(4, LOW); 19 digitalWrite(5, HIGH); 20 21 delay(250); 22 digitalWrite(4, HIGH); 23 digitalWrite(5, LOW); 24 delay(250); 25 } 26 27 } </pre>	<p>Koden.</p>
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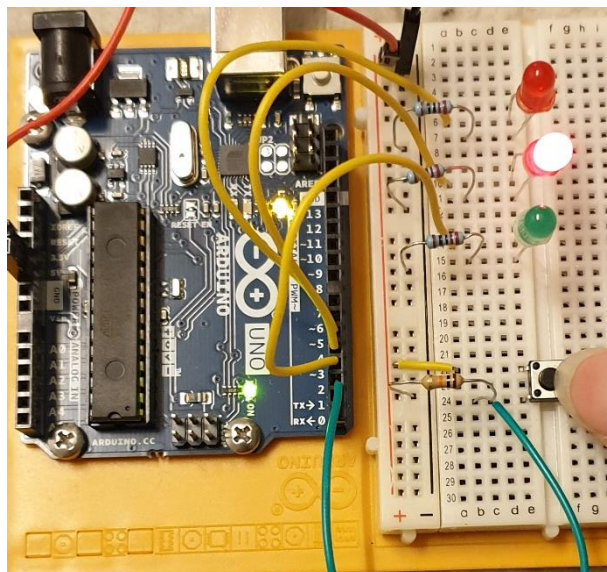


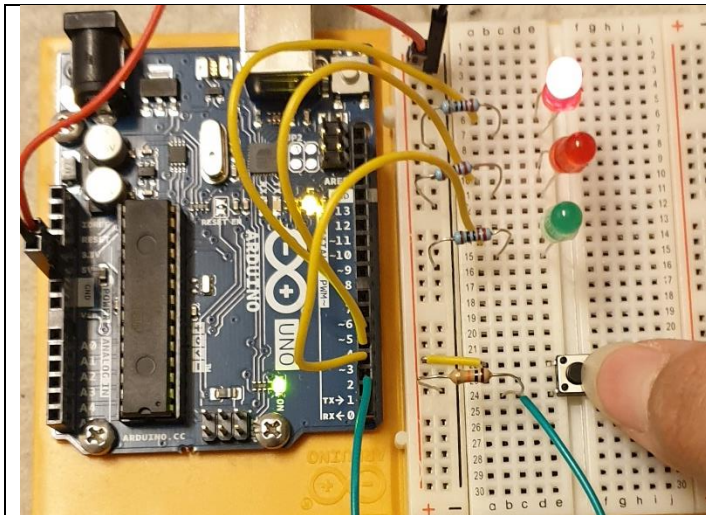
Den grønne lysdioden lyser konstant når man ikke trykker på knappen.



Når man holder inn knappen vil den øverste og midterste (pin 6 og pin 5). byte med og være av og på.

Om man gir slipp på knappen vil den forsette og blinke ned over helt til det grønne lysdioden (pin 4).

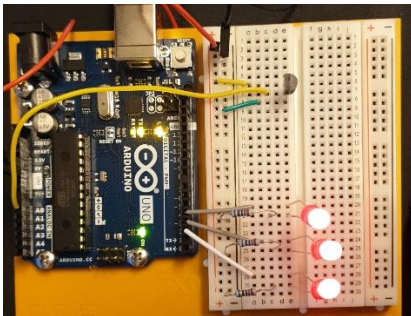




Oppgave 7.

ADC'en virker:

styre digitale utganger:



```

1  const int sensorPin = A0;
2  const float baselineTemp = 20.0;
3  void setup(){
4      Serial.begin(9600);
5
6      for(int pinNumber = 2; pinNumber<5; pinNumber++){
7          pinMode(pinNumber,OUTPUT);
8          digitalWrite(pinNumber, LOW);
9      }
10 }
11
12 void loop(){
13     int sensorVal = analogRead(sensorPin);
14     Serial.print("Sensor Value: ");
15     Serial.print(sensorVal);
16
17     float voltage = (sensorVal/1024.0) * 5.0;
18     Serial.print(", Volts: ");
19     Serial.print(voltage);
20     Serial.print(", degrees C: ");
21
22     float temperature = (voltage - .5) * 100;
23     Serial.print(temperature);
24
25     if(temperature < baselineTemp){
26         digitalWrite(2, LOW);
27         digitalWrite(3, LOW);
28         digitalWrite(4, LOW);
29     }

```

```

    else if(temperature >= baselineTemp+2 &&
    temperature < baselineTemp+4){
        digitalWrite(2, HIGH);
        digitalWrite(3, LOW);
        digitalWrite(4, LOW);
    }

    else if(temperature >= baselineTemp+4 &&
    temperature < baselineTemp+6){
        digitalWrite(2, HIGH);
        digitalWrite(3, HIGH);
        digitalWrite(4, LOW);
    }

    else if(temperature >= baselineTemp+6){
        digitalWrite(2, HIGH);
        digitalWrite(3, HIGH);
        digitalWrite(4, HIGH);
    }

    delay(1);
}

```