Arduino Workshop 5

OZ7SKB 2018

OZ4KAJ

Plan for i aften

* Boolsk algebra
  * Sand falsk
* Løkker
  * for next, do while, while
* Valg
  * if then, if then else, switch case
* Subrutiner hvis det nås. Ellers næste gang.

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Sand <-> Falsk

* Ingen mellemvej!!
  * Kun Sand eller Falsk
  * ”Lise er sød” DU’R IKKE
  * ”Lise er 5 år” DU’R
* Eksempler:
  * pinValue <= 5 (er mindre end eller lig med)
  * pinValue != 5 (er ikke lig med)
  * pinValue > 7 (er større end)
  * pinInput == HIGH (input er høj)
  * showDisplay == false (status er falsk)

Mere Sand <-> Falsk

* ”To be or not to be”

* || (or)
  * (value < 8) || (value > 2) (værdien ligger imellem 2 og 8)
  * (value > 8) || (value < 2)

* && (and)
  * (portWest == open) && (portEast == close)
  * (led13 == on) && (powerPin < 4)

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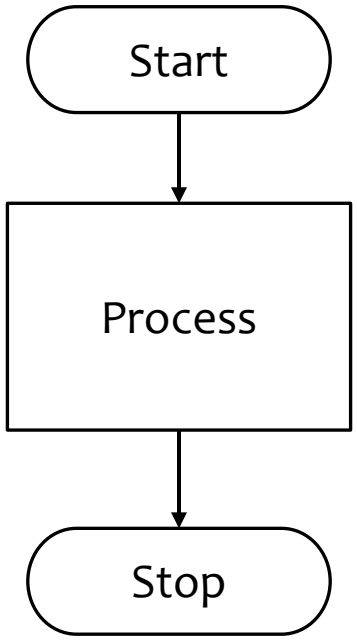
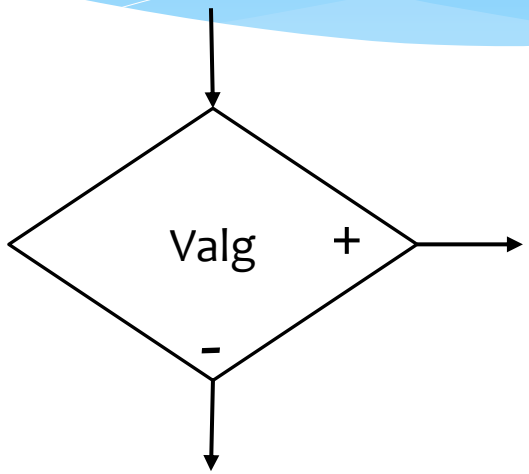
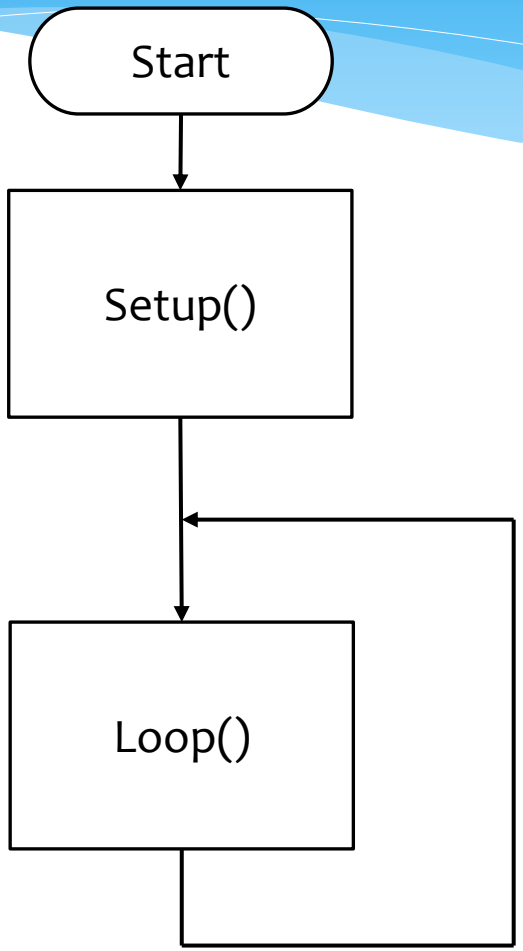
Processdiagram, simpelt

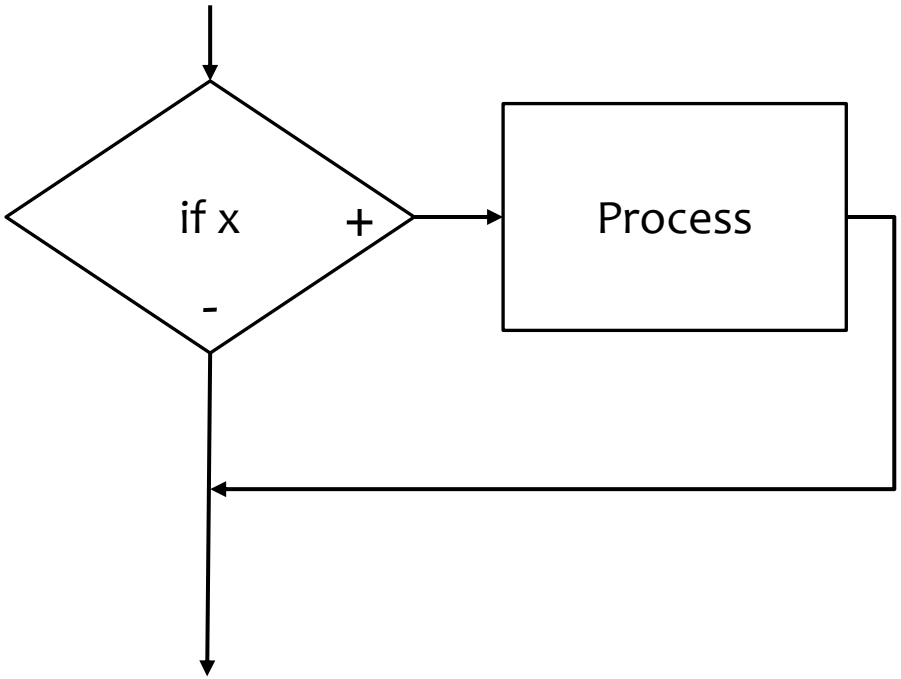




Arduino



if ..




```
if (x > 120) digitalWrite(LEDpin, HIGH);

if (x > 120)
    digitalWrite(LEDpin, HIGH);

if (x > 120)
    {digitalWrite(LEDpin, HIGH);}
```

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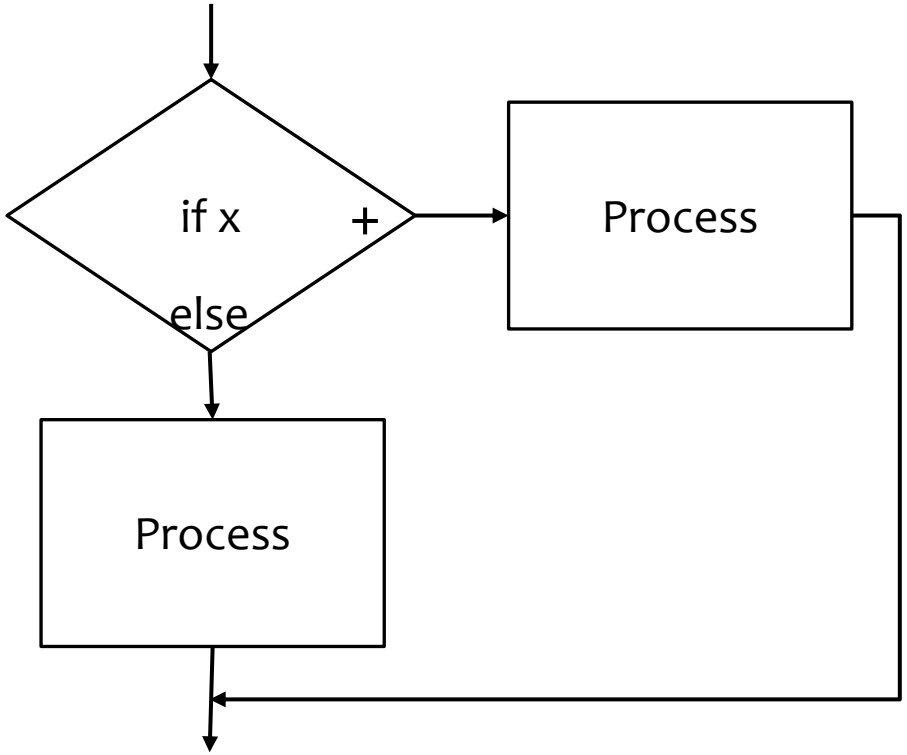
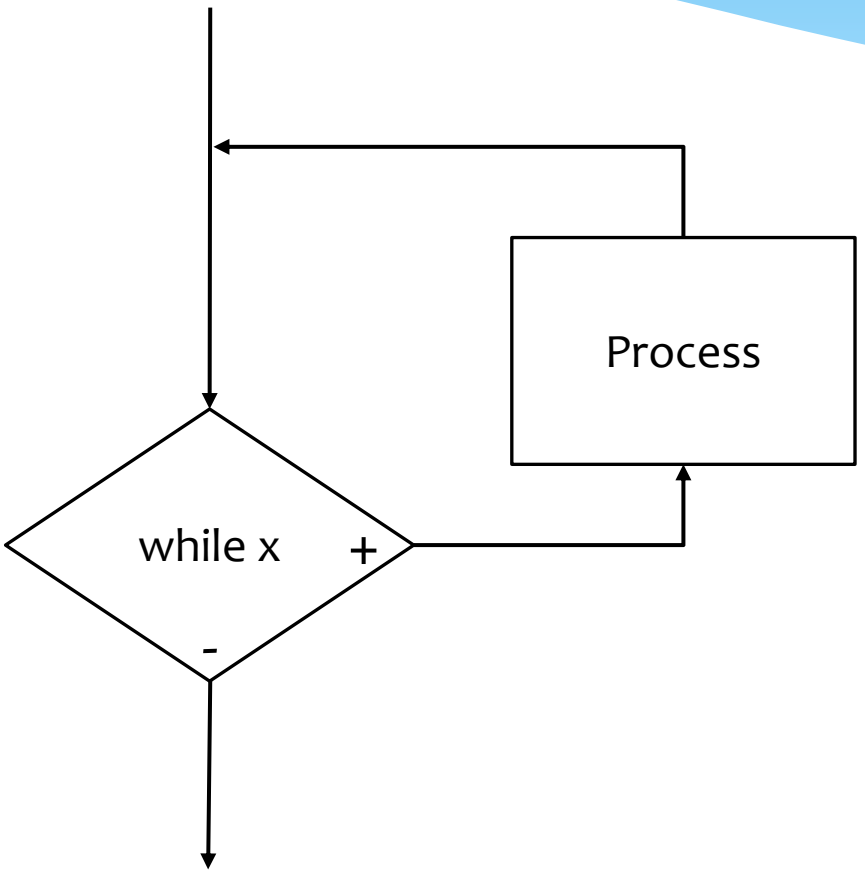
if .. else ..



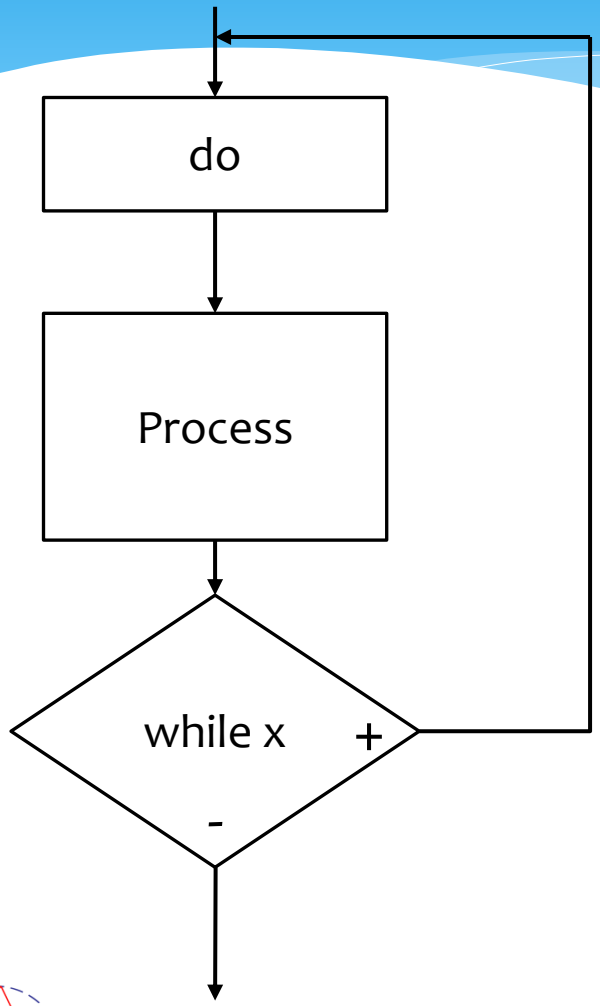

```
if (temperature >= 70) {
    warning(temperature);
}
else {
    printDisplay("Ready to go");
}
```

while ..



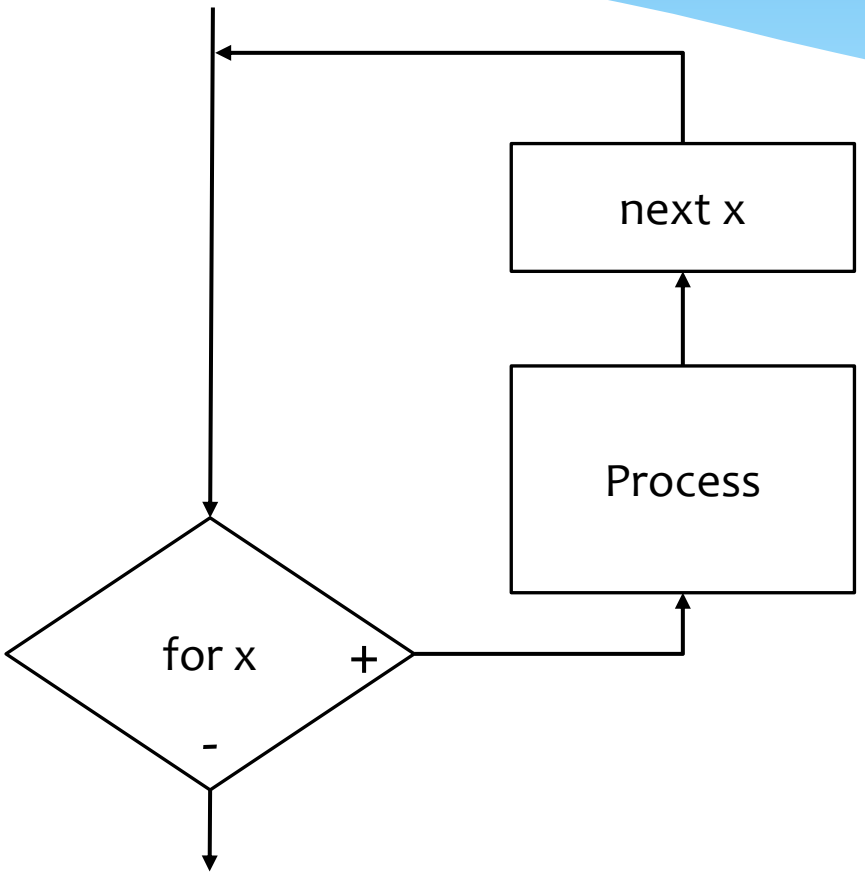

```
while (butPin == HIGH)
{
    printDisplay("Waiting");
}
```

do .. while ..



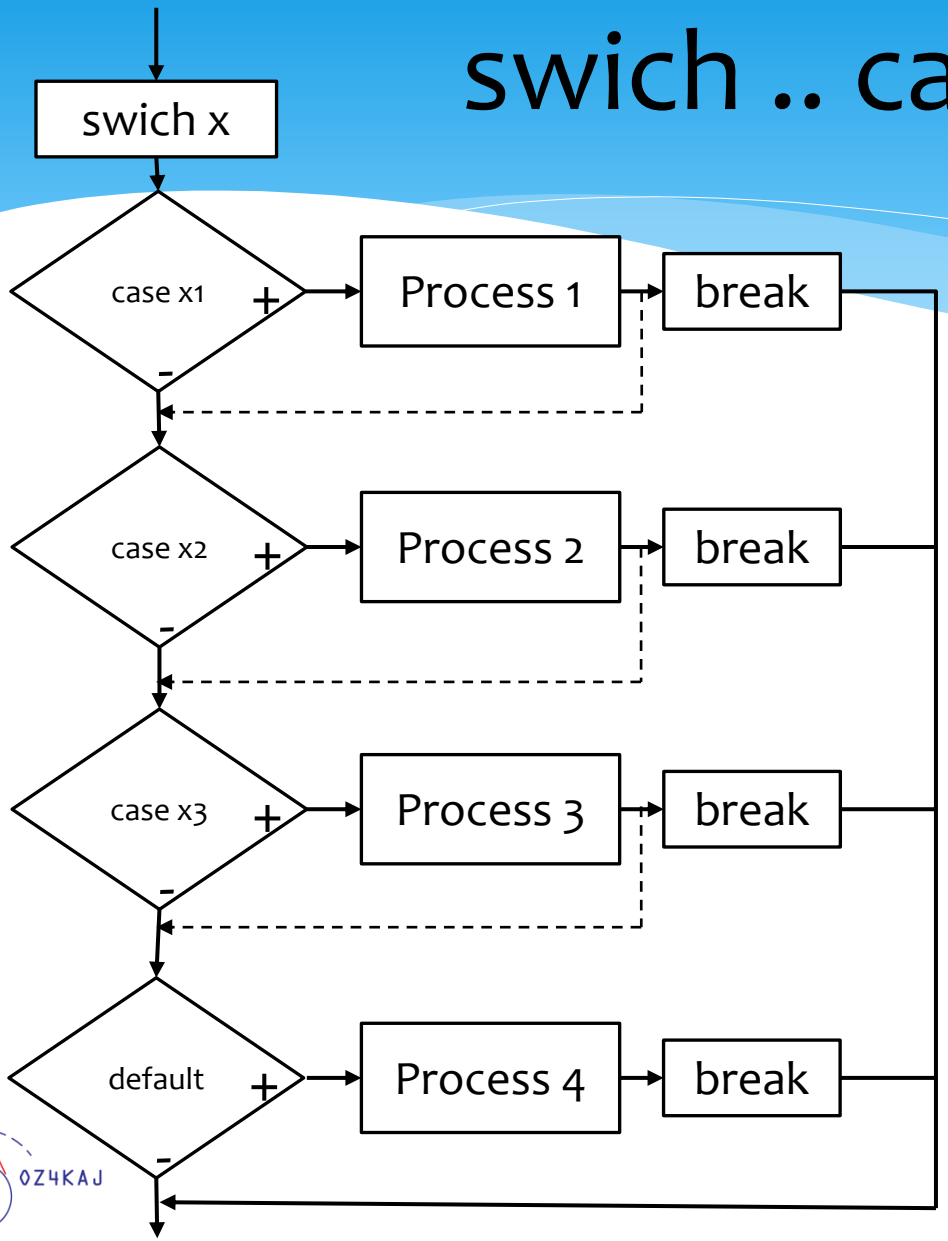

```
int x = 0;
do {
    delay(50);
    x = readSensors();
} while (x < 100);
```

for .. next ..




```
for (int i = 0; i <= 255; i++)
{
    serialPrint(i);
    delay(1000);
}
```

swich .. case ..




```
switch (band)
{
   case 80:
      writeDisplay("80");
      break;
   case 40:
      writeDisplay("40");
      break;
   case 20:
      writeDisplay("20");
      break;
   default:
      writeDisplay("Error");
      break;
}
```

Stop for i aften
Næste gang

Næste gang den 11/4

Emner:

- Subrutiner
- Biblioteker
- Displays