

# Implementing on an Arduino

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## Implementation of the discrete lead compensator

$$F_d(z) = 10 \frac{0.81z - 0.60}{z - 0.45}$$

```
// Sampling time
int hMilliSec =          // h=0.2 s

// values to be stored between sampling intervals

double
double

// Functions to read signals from input channels
double read_y_value(){
...
}
double read_yref_value(){
...
}
// Function to write control signal to output channel
void write_u_value(){
...
}

void loop() {
// Read inputs
y = read_y_value();
yref = read_yref_value();

// Compute control signal

double u =

// Write control signal
write_u_value(u);

// Store values for the next iteration

// Wait till next sampling instant
delay(hMilliSec);
}
```