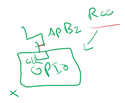
RCC → enable clock → GPIO



GPIO: General purpose Input output

AVR → DIO → Port → output
→ Pin → input
→ DDR → direction

AVR → 3

ST → 10

Registers

↳ moder

8bit → ADC, SAR, RAMP

00 → input

01 → output

10 → Alternative function → Pin AA → uART, Tx- Function, 10 → moder

11 → Analog → any pin Analog, 12

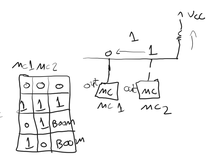
---

oTyper

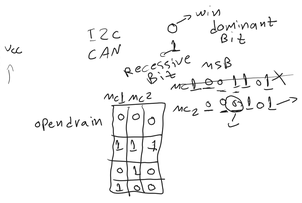
↳ 0 → pushpull (0, 3.3)

↳ 1 → opendrain (0, floating)

pushpull



I2C
CAN



---

open drain

0 → floating

OSPEEDER → power for pin

↳ 00 Low up to 8 MHZ

↳ 01 → medium up to 50 MHZ

↳ 10 → High up to 80 MHZ

↳ 11 → very high up to 180 MHZ

up to 84 MHZ (84)

1sec led, Pwm signal

16 → High

ODR

↳ 0 → Low (0, 0)

↳ 1 → High (3.3, floating)

Push pull, open drain

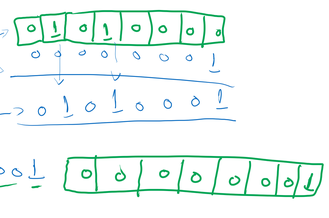
GPIOA → ODR |= 0x0000 0001

× Read ODR → ODR

× OR

✓ write the value

ODR = 0x0000 0001



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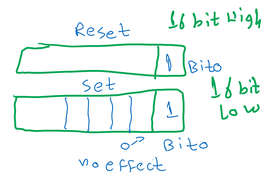
bit set Reset register

BSRR

↳ 1 → effect

↳ 0 → no effect



BSRR = 0x0000 0001

0001 0001

Atomic Instruction

BSRR = 0x 0001 0001

0001 0001

Set has more priority

|= ← ODR |= 0x01FC 0010

Atomic function → BSRR =

IDR →

↳ read value from

Get pin(,);

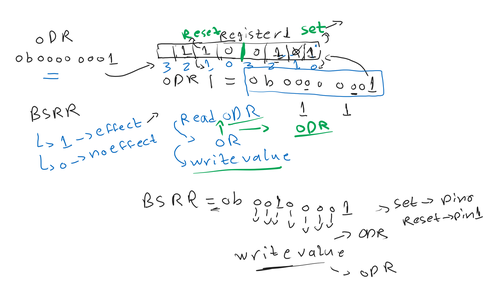
---

internal pullup →

PUPDR

↳ 00 → No internal resistance

↳ 01 → internal pullup

↳ 10 → internal pulldown

↳ 11 → Reserved →