

1.
 - a. GPIO Port Mode Register (GPIOx_MODER)
Sets the mode of the pins to input, output, alternate or analog.
 - b. GPIO port output type register (GPIOx_OTYPER)
Lets you set the output mode you want for each pin.
 - c. GPIO port output speed register (GPIOx_OSPEEDR)
Manages power consumption and speed
 - d. GPIO port pull-up/pull-down register (GPIOx_PUPDR)
Lets you set internal pull up or pull down “resistors”. Typically for inputs
 - e. GPIO port input data register (GPIOx_IDR)
A read only register for reading inputs such as buttons.
 - f. GPIO port output data register (GPIOx_ODR)
Sets the logical state of configured output pin.
 - g. GPIO port bit set/reset register (GPIOx_BSRR)
Write-only. Lets you quickly and easily reset and clear bits in the output register
 - h. GPIO port configuration lock register (GPIOx_LCKR)
Locks the configuration of registers for each associated pin
 - i. GPIO alternate function low/high registers (GPIOx_AFRL/GPIOx_AFRH)
Lets you use alternate functions that are specific to the processor and pin
 - j. GPIO port bit reset register (GPIOx_BRR)
Same as set/reset but for the lower half of bits
2. 3 (0b11)
3. 20
4.
 - a. $0xAD \mid 0xC7 = 11101111 = 0xEF$
 - b. $0xAD \& 0xC7 = 10000101 = 0x85$
 - c. $0xAD \& \sim(0xC7) = 00101000 = 0x28$
 - d. $0xAD \wedge 0xC7 = 01101010 = 0x6A$
5. Register = register & $\sim(1 \ll 5 \mid 1 \ll 6)$
6. 2 MHz
7.
 - a. RCC_APB2ENR (bit 11)
 - b. RCC_AHBENR (bit 0)
 - c. RCC_APB1ENR (bit 21)