**Analog to digital converter (ADC)**  
Every STM32 microcontroller has at least one 12-bit analog to digital converter. In STM32F100RBT6 microcontroller there are one ADC with 16 input channels. Here we use one of analog input of MCU to control PWM duty of LED brightness . connect external potentiometer to PA0 of STM32VLDISCOVERY board .