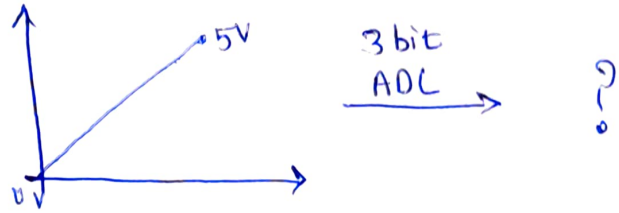
Assignment Questions

① List the differences b/w
   a) Digital & Analog Data
   b) Serial & Parallel Data transfer.

② Explain following 3 basic steps in ~~Digital to~~ Analog to Digital Conversion i) Sampling ii) Holding iii) Quantization.

③ For a given ramp signal varying from 0 to 5V, represent its equivalent digital (binary) representation.



④ Explain the following communication protocols, with its frame format: i) UART ii) I2C iii) SPI.

⑤ List the differences b/w UART, I2C & SPI.

⑥ What is the necessity of converting Analog signal to Digital forms in embedded computing. Explain the following ADC with neat diagram.
   i) Successive approximation ADC
   ii) Flash type ADC.

⑦ With neat block diagram, explain R2R ladder type DAC. (3 bit & 4 bit).

⑧ List the selection criteria's of ADC & DAC for different applications.

⑨ 20 Marks from workshop on TinyML & it applications in embedded System.