



اسم المادة: الكترونيك  
اسم التدريسي: ضحى علي طالب  
المرحلة: الثانية  
السنة الدراسية: 2024-2025  
رقم التجربة: 7  
عنوان التجربة: Transistor as a switch



## **Objective: -**

In this Transistor tutorial, we will learn about the working of a Transistor as a Switch. Switching and Amplification are the two areas of applications of Transistors and Transistor as a Switch is the basis for many digital circuits.

## **Circuit elements:**

DC power  
LED  
Resistor  
Oscilloscope  
Transistor  
Millimeter

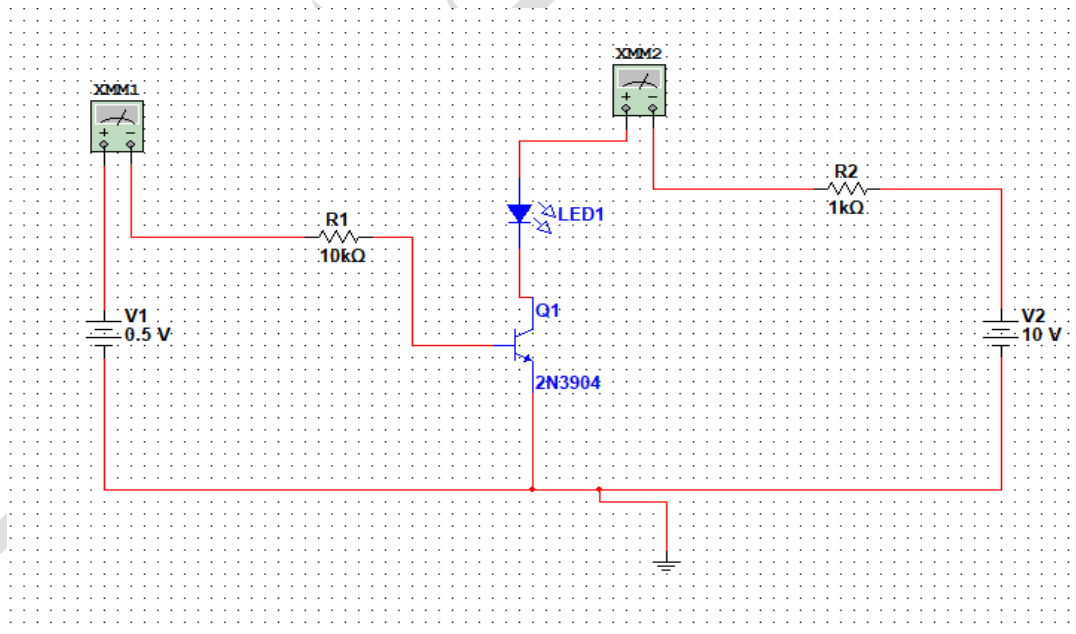
## **Theory**

“William Shockley” invented the transistor in 1947. A transistor is a three-terminal semiconductor device which can be used for switching applications, amplification of weak signals and in quantities of thousands and millions of transistors are interconnected and embedded into a tiny integrated circuit/chip, which makes computer memories. A Transistor switch, which is used for opening or closing of a circuit that means the transistor, is commonly used as a switch in the electronic devices only for the low voltage applications

because of its low power consumption. Transistor work as a switch when it is in cutoff and saturation regions. In this article, we will discuss how to use a transistor as a switch.

### Procedure:

1. Connect the circuit that shown in the figure below:
2. A- Set the DC power (0.5) v  
B- Set the DC power (2) v





اسم المادة: الكترونك  
اسم التدريسي: ضحى علي طالب  
المرحلة: الثانية  
السنة الدراسية: 2024-2025  
رقم التجربة: 7  
عنوان التجربة: Transistor as a switch

