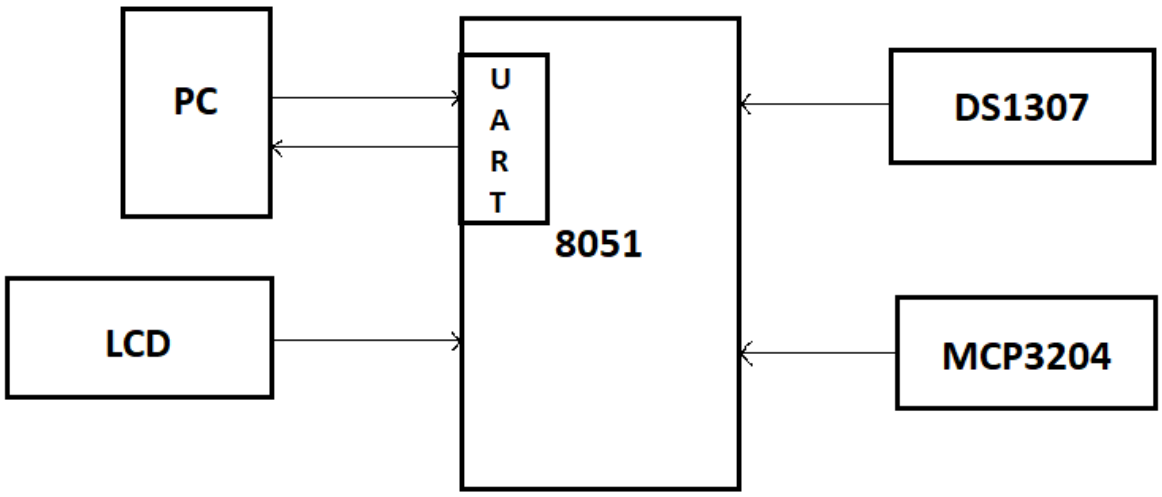
PROJECT TITLE: PC BASED DATA ACQUISTION SYSTEM

ABSTRACT:

Many times it is required to monitor physical phenomena such as temperature, pressure humidity, light intensity, sound intensity, force, etc. Such physical phenomena can be monitored by digital systems employing sensors. However sensor generally produces a change in the resistance, voltage or current. All such phenomena can be converted in to a change in voltage levels. Since the sensors and the subsequent signal conditioning circuits provide a proportionate change in voltage with respective the phenomena, this cannot be directly interpreted by a digital system. A sensor is usually an analog voltage and can take any value between +10 to -10 volts. However a digital system has only two states (ON) or (OFF). Thus it is required to have additional circuitry between the digital systems and analog systems that translate the analog signals in to a digital signals. Such conversion can be perform by an analog to digital converter.

Data Acquisition refers to reading the data continuously from any sensor. Here we are continuously monitoring the data through PC. We are concentrating mostly on serial communication. The data which we are receiving from the sensor is received by the micro controller using ADC. We need to monitor this data on the PC and on the LCD, In order to send the data we are using serial communication. We get the information like Time and Voltage readings with our data. The data that is stored in PC is easier to monitor are retrieve at any time compared to storing in a particular memory. Now a days we are using the same process as storing the data in the PC in any kind of industry.

BLOCK DIAGRAM:



OUTPUT IN PROTEUS: