PIC MICROCONTROLLERS
(Programmable Interface Controllers)
V.Ryan © www.technologystudent.com 2019

1. WHAT IS A PIC MICROCONTROLLER? WHAT CAN IT DO?

2. INPUTS, PROCESS, OUTPUTS

3. EXAMPLES – MICROCONTROLLER SETUPS

IMPORTANT
IT IS RECOMMENDED THAT YOU READ THROUGH THE PIC- MICROCONTROLLER SECTION OF www.technologystudent.com

V.Ryan © www.technologystudent.com 2019

WHAT IS A PIC MICROCONTROLLER? WHAT CAN IT DO?

TO ANSWER ALL THE QUESTIONS YOU WILL NEED TO DOWNLOAD THE 'PIC MICROCONTROLLER' APP, FROM THE INTERACTIVE MOBILE APP SECTION OF www.technologystudent.com

LINK
http://www.technologystudent.com/mobapps/microcontrollers1.pdf

Once you have downloaded the App, you can use it to navigate the website. You may need to follow the links on each page of the App, to research / complete answers to all the questions.
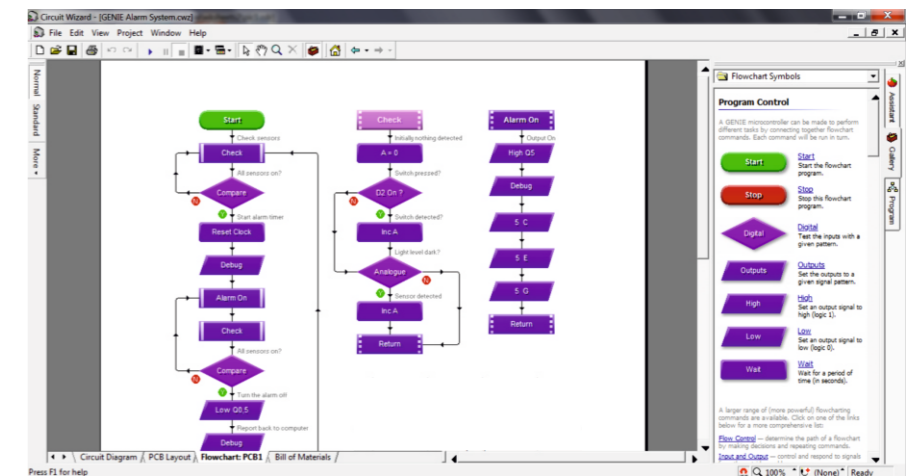
ARE YOU READY? USE THE MOBILE App!!

1 IN GENERAL TERMS, WHAT IS A PIC MICROCONTROLLER? WHAT DOES IT DO?

2 NAME A PIECE OF PROGRAMMING SOFTWARE, USED TO PROGRAM PIC MICROCONTROLLERS AND TO DESIGN CIRCUITS.
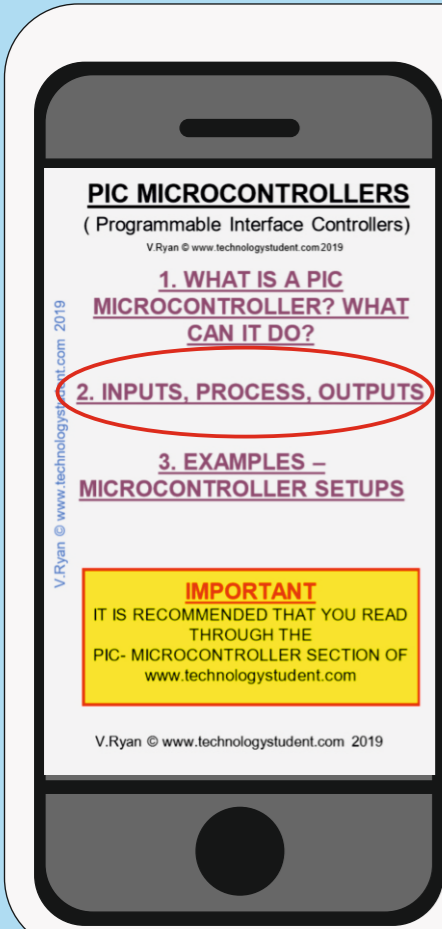
WHAT ARE THE BENEFITS OF SIMULATING A PROGRAM, BY USING THE SOFTWARE YOU NAMED ABOVE?

3 LIST THE EQUIPMENT REQUIRED TO OPERATE A PIC MICROCONTROLLER.

4 THE SCREEN PRINT SEEN BELOW, SHOWS A FLOW CHART PROGRAM FOR A PIC MICROCONTROLLER. WHY IS USING A FLOWCHART, A BETTER WAY OF PROGRAMMING PIC MICROCONTROLLERS, RATHER THAN WRITING EACH LINE OF CODE, AS TEXT INSTRUCTIONS?

HELPFUL LINK: http://www.technologystudent.com/mobapps/microcontrollers1.pdf

1

PIC MICROCONTROLLERS
(Programmable Interface Controllers)
V.Ryan © www.technologystudent.com 2019

1. WHAT IS A PIC MICROCONTROLLER? WHAT CAN IT DO?

2. INPUTS, PROCESS, OUTPUTS

3. EXAMPLES – MICROCONTROLLER SETUPS

IMPORTANT
IT IS RECOMMENDED THAT YOU READ THROUGH THE PIC- MICROCONTROLLER SECTION OF www.technologystudent.com

V.Ryan © www.technologystudent.com 2019

INPUT, PROCESS, OUTPUTS

TO ANSWER ALL THE QUESTIONS YOU WILL NEED TO DOWNLOAD THE 'PIC MICROCONTROLLER' APP, FROM THE INTERACTIVE MOBILE APP SECTION OF www.technologystudent.com

LINK
http://www.technologystudent.com/mobapps/microcontrollers1.pdf

Once you have downloaded the App, you can use it to navigate the website. You may need to follow the links on each page of the App, to research / complete answers to all the questions.

ARE YOU READY? USE THE MOBILE App!!

ADD THREE MORE INPUTS AND FOUR OUTPUTS, TO THE DRAWING OF A PIC MICROCONTROLLER. INCLUDE THE NAME OF EACH INPUT / OUTPUT.

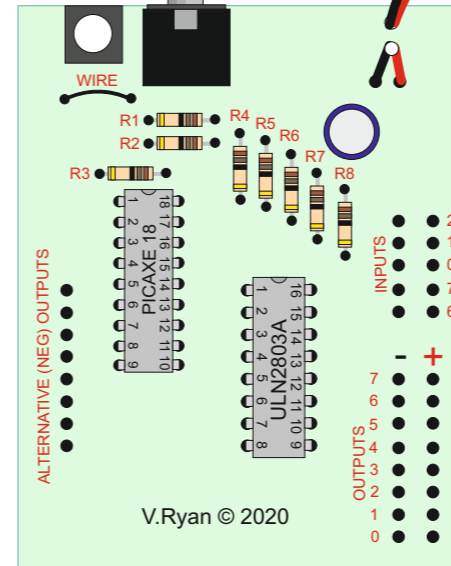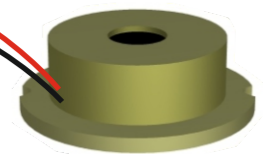An input and output have already been added, as an example.

2 **EXPLAIN / DESCRIBE THE SENSOR SHOWN BELOW AND HOW IT CONNECTS TO A PIC MICROCONTROLLER.**
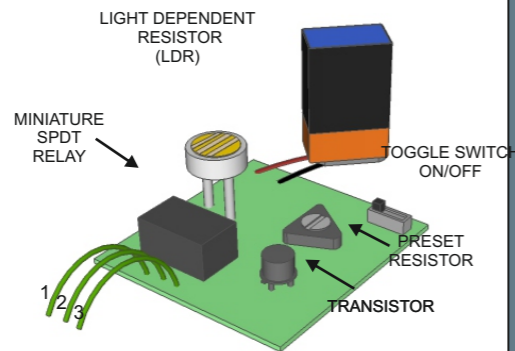
HELPFUL LINK: http://www.technologystudent.com/mobapps/microcontrollers1.pdf
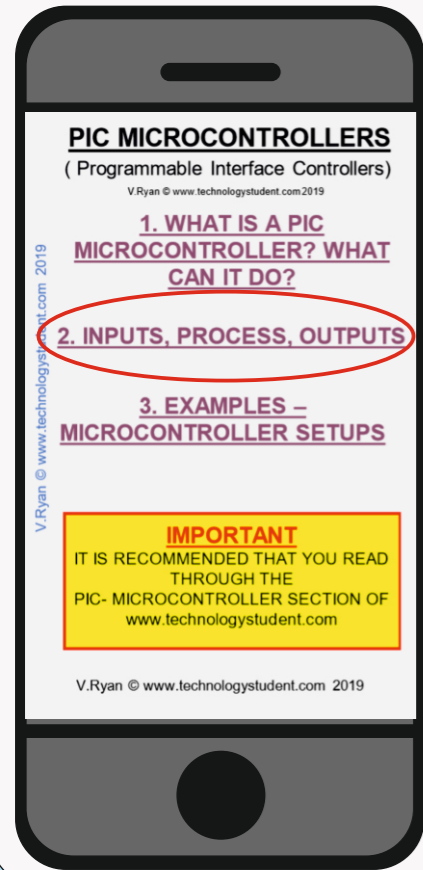
PIC MICROCONTROLLERS
(Programmable Interface Controllers)

V.Ryan © www.technologystudent.com.2019

1. WHAT IS A PIC MICROCONTROLLER? WHAT CAN IT DO?

2. INPUTS, PROCESS, OUTPUTS

3. EXAMPLES – MICROCONTROLLER SETUPS

IMPORTANT
IT IS RECOMMENDED THAT YOU READ THROUGH THE PIC- MICROCONTROLLER SECTION OF www.technologystudent.com

V.Ryan © www.technologystudent.com 2019

INPUT, PROCESS, OUTPUTS

TO ANSWER ALL THE QUESTIONS YOU WILL NEED TO DOWNLOAD THE 'PIC MICROCONTROLLER' APP, FROM THE INTERACTIVE MOBILE APP SECTION OF www.technologystudent.com

LINK

http://www.technologystudent.com/mobapps/microcontrollers1.pdf

Once you have downloaded the App, you can use it to navigate the website. You may need to follow the links on each page of the App, to research / complete answers to all the questions.

ARE YOU READY? USE THE MOBILE App!!

1

THE MAIN COMPONENTS OF THE GENIE E18 PROJECT BOARD/ MICROCONTROLLER CIRCUIT, ARE LISTED BELOW. WRITE THE COMPONENT NAMES IN THE CORRECT POSITIONS, AS IDENTIFIED BY THE ARROWS.

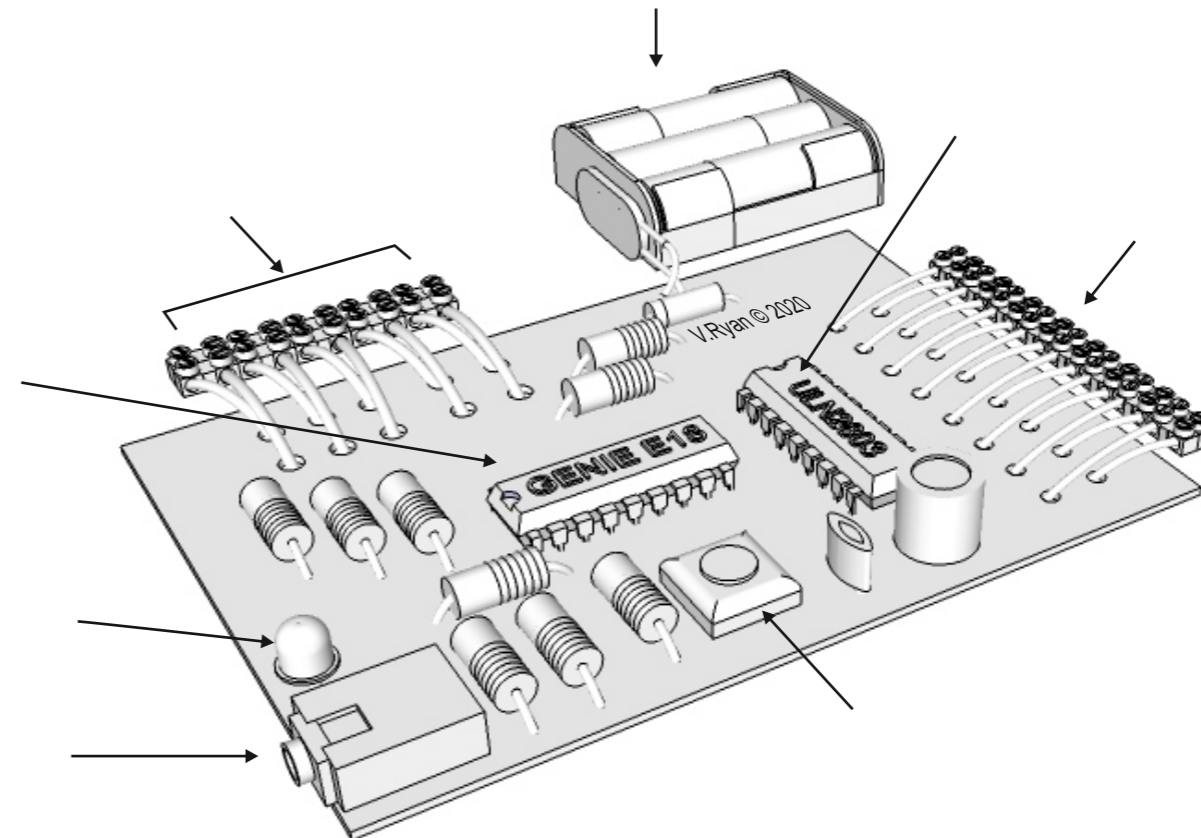RESET SWITCH   BATTERY PACK   DRIVER INTEGRATED CIRCUIT   FIVE INPUTS

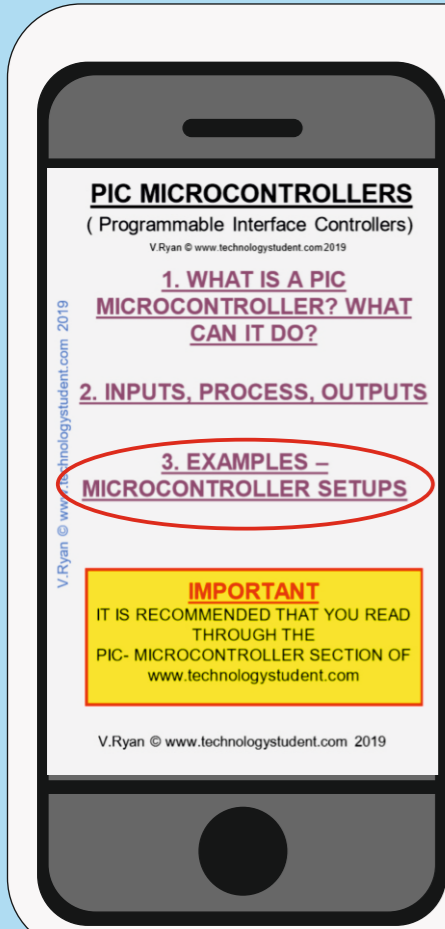EIGHT OUTPUTS   GENIE E18 PIC MICROCONTROLLER   DOWNLOAD SOCKET   STATUS LED

2

WHY IS A ULN2003 DRIVER IC, AN IMPORTANT COMPONENT IN THE MICROCONTROLER CIRCUIT, DRAWN OPPOSITE?

_____

_____

_____

_____

_____

HELPFUL LINK: http://www.technologystudent.com/mobapps/microcontrollers1.pdf

PIC MICROCONTROLLERS
(Programmable Interface Controllers)
V.Ryan © www.technologystudent.com 2019

1. WHAT IS A PIC MICROCONTROLLER? WHAT CAN IT DO?

2. INPUTS, PROCESS, OUTPUTS

3. EXAMPLES – MICROCONTROLLER SETUPS

IMPORTANT
IT IS RECOMMENDED THAT YOU READ THROUGH THE PIC- MICROCONTROLLER SECTION OF www.technologystudent.com

V.Ryan © www.technologystudent.com 2019

ANALOGUE OUTPUTS

TO ANSWER ALL THE QUESTIONS YOU WILL NEED TO DOWNLOAD THE 'PIC MICROCONTROLLER' APP, FROM THE INTERACTIVE MOBILE APP SECTION OF www.technologystudent.com

LINK

http://www.technologystudent.com/mobapps/microcontrollers1.pdf

Once you have downloaded the App, you can use it to navigate the website. You may need to follow the links on each page of the App, to research / complete answers to all the questions.

ARE YOU READY?
USE THE MOBILE App!!

1 AN LDR IS A VERY USEFUL ANALOGUE SENSOR. ON THE DRAWING OF THE PIC MICROCONTROLLER, SKETCH AN LDR IN THE CORRECT POSITION, SET UP AS AN ANALOGUE INPUT.
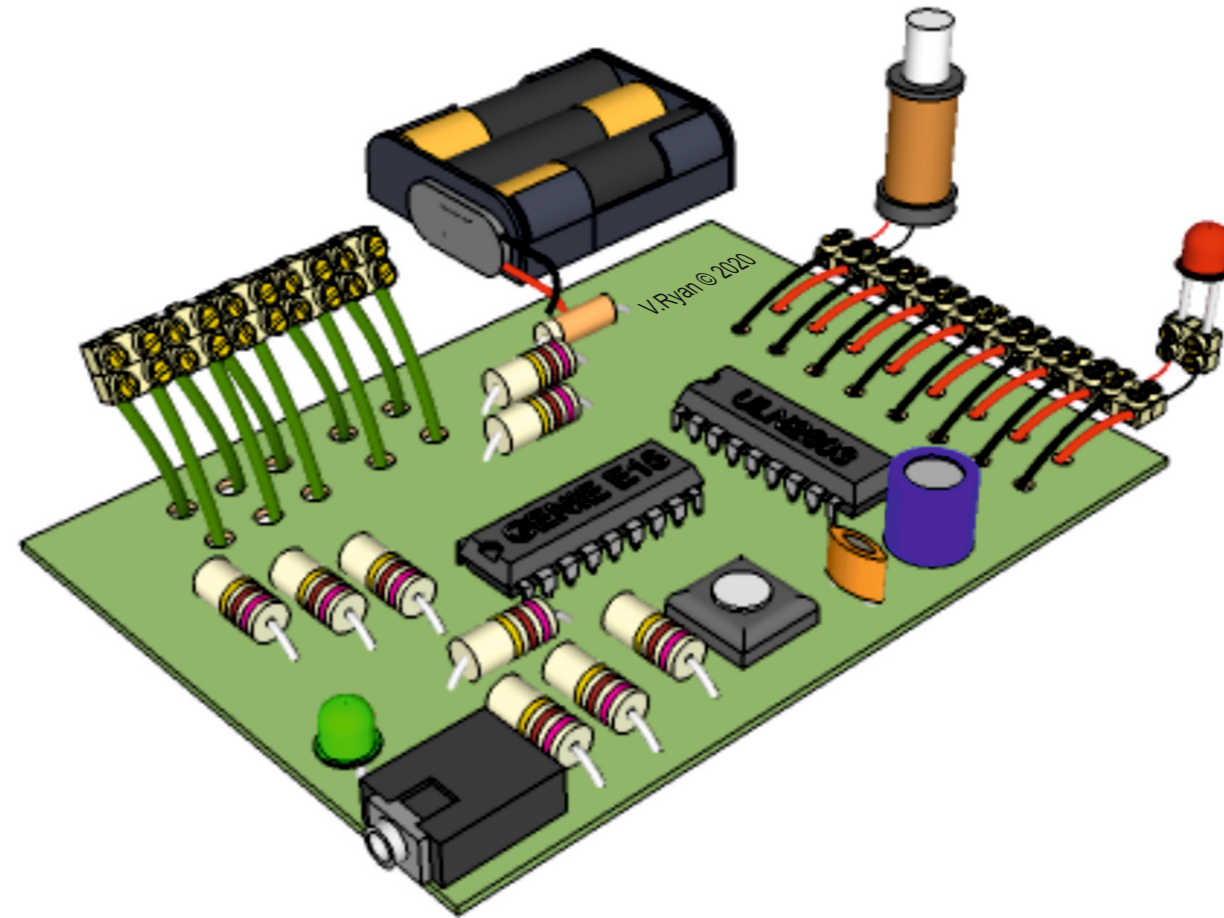
DESCRIBE HOW THE LDR, ANALOGUE SENSOR, COULD BE USED TO ENERGISE THE SOLENOID AND ILLUMINATE THE LED.

_____

_____

_____

2 WHAT IS THE DIFFERENCE BETWEEN A DIGITAL AND AN ANALOGUE INPUT?

_____

_____

_____

_____

_____

HELPFUL LINK: http://www.technologystudent.com/mobapps/microcontrollers1.pdf