

# Computer Applications

## 30 Hour - Part 2

### Student Workbook

Issue: US220/30/2b-IQ-0501A



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**Lesson Module:** 73.22/2

**Written by:** LJ Technical Dept

### Assignment 16 Software Production & Testing

The program to count to 10000 has been saved as .....1601

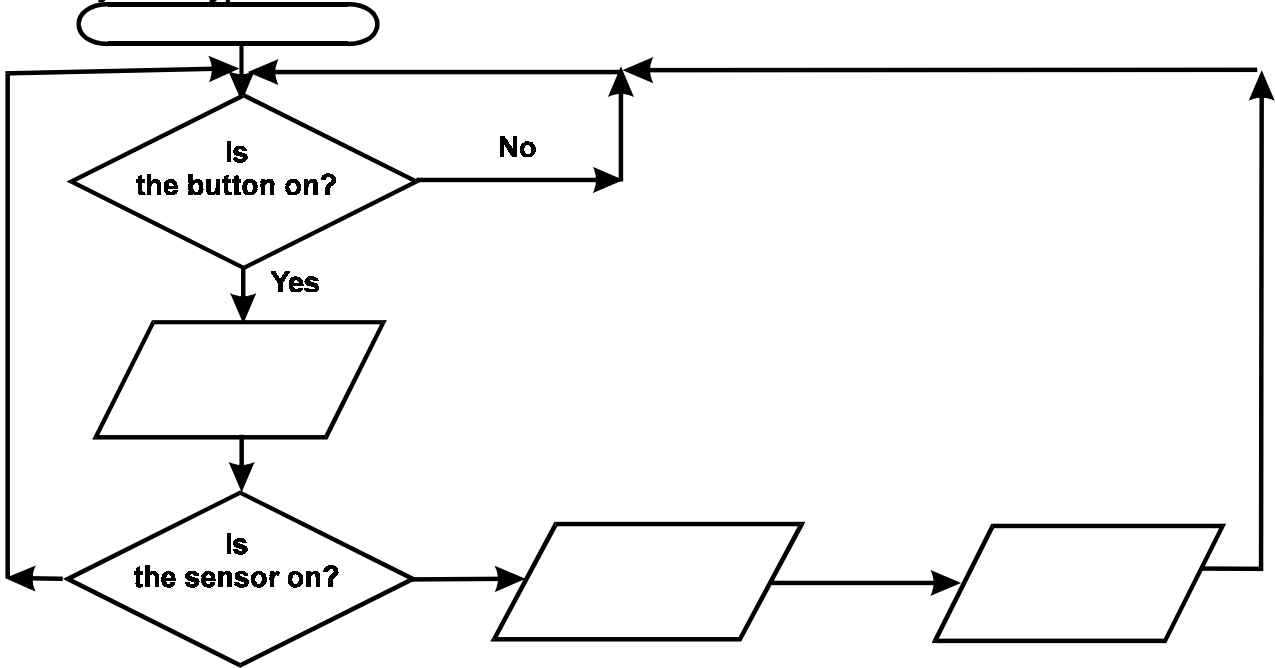
### Assignment 18 HiTech Home Security - Research

**Security Sensor Table:**

Port Line	Sensor Type	Room Name
PA0		
PA1		
PA2		
PA3		
PA4		
PA5		
PA6		
PA7		

### Assignment 19 HiTech Home Security - Design

Security Prototype Flowchart:



Button	Sensor	OUTPUT	Tested?
Off	Off		
Off	On		
On	Off		
On	On		

The security flowchart has been saved as .....1901

### Assignment 20 HiTech Home Security - Program

The prototype security program has been saved as .....2001

The security program has been saved as .....2002

## Assignment 21 Computers & Numbers

**Converting 56 into binary:**

**Converting 45 into binary:**

**Converting 34 into binary:**

## Assignment 22 Truth Tables & Logic

**Truth table for TRAVEL.TXT:**

<i>Question 1</i>	<i>Question 2</i>	<i>Question 3</i>	<i>Result</i>
<i>no</i>	<i>no</i>	<i>no</i>	
<i>no</i>	<i>no</i>	<i>yes</i>	
<i>no</i>	<i>yes</i>	<i>no</i>	
<i>no</i>	<i>yes</i>	<i>yes</i>	
<i>yes</i>	<i>no</i>	<i>no</i>	
<i>yes</i>	<i>no</i>	<i>yes</i>	
<i>yes</i>	<i>yes</i>	<i>no</i>	
<i>yes</i>	<i>yes</i>	<i>yes</i>	

**Three sentences that use the word AND are:**

1 .....

2 .....

3 .....

**Truth table for the OR gate:**

<i>INPUT A</i>	<i>INPUT B</i>	<i>OUTPUT C = A OR B</i>
<i>False</i>	<i>False</i>	
<i>False</i>	<i>True</i>	
<i>True</i>	<i>False</i>	
<i>True</i>	<i>True</i>	

**Three sentences that use the word OR are:**

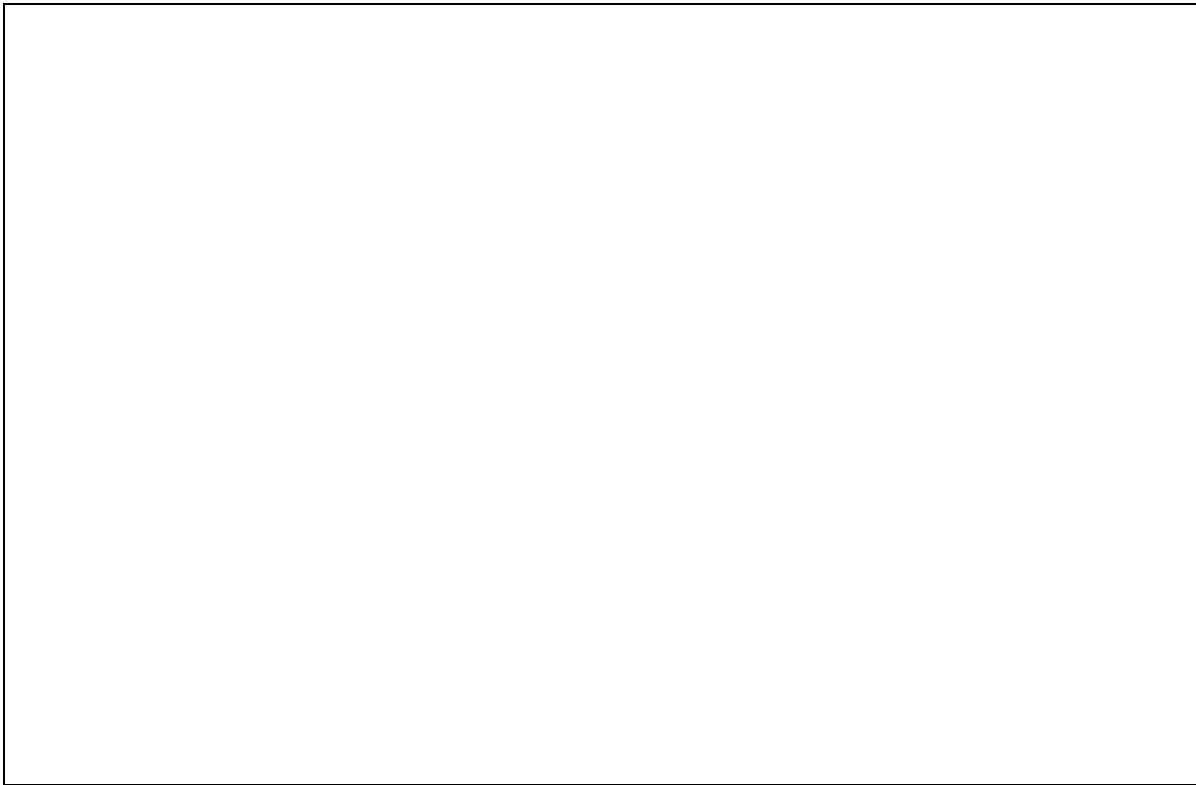
1 .....

2 .....

3 .....

## Assignment 23 Sensing a Fire

*Smoke Detection System Flowchart:*

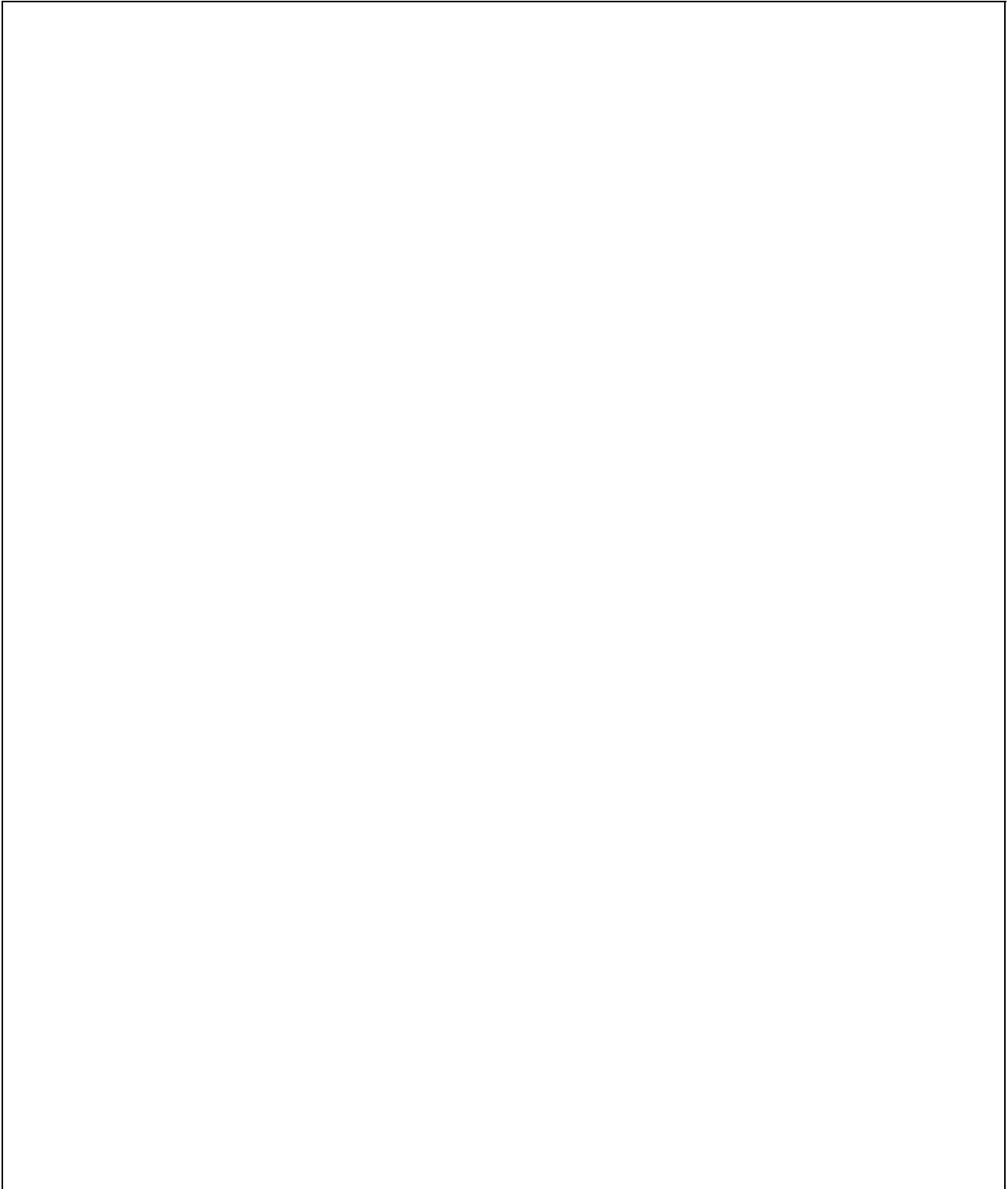


## Assignment 24 Fire Sprinklers & Escape Routes

*Fire Detection System Truth Table:*

<i>Input</i>	<i>Input</i>	<i>Output</i>	<i>Output</i>	<i>Output</i>	<i>Output</i>
<i>Smoke Sensor PA0=on.</i>	<i>Temperature bigger than 40 degrees C (104F).</i>	<i>Alarm Sound.</i>	<i>Smoke Detected Message.</i>	<i>Fire Detected Message.</i>	<i>Sprinklers Activated. PB0=on.</i>
<i>False</i>	<i>False</i>				
<i>False</i>	<i>True</i>				
<i>True</i>	<i>False</i>				
<i>True</i>	<i>True</i>				

**Fire Detection & Sprinkler System Flowchart:**



*The fire detection program has been saved as .....2401*

**Assignment 25**                      *Computer Control Systems*

*The control program has been saved as* .....2501

**Assignment 26**    *Automatic Heating & Feedback*

**Boiler Control System Flowchart:**



**Assignment 27**    *Automatic Heating & Feedback*

**Heating Control System Input/Output Table:**

<i>Input</i>	<i>Output</i>

*The air conditioning program has been saved as* .....2701

## Assignment 28 *Timed Events*

*HiTech Home time event Table:*

<i>Time</i>	<i>Event (s)</i>
07:00:00	
07:05:00	
07:10:00	
07:15:00	
07:20:00	
07:25:00	
07:30:00	
07:35:00	
07:40:00	
07:45:00	
07:50:00	
07:55:00	
08:00:00	
08:05:00	
08:10:00	
08:15:00	
-	
17:00:00	
-	
20:00:00	
-	
23:00:00	

The time program has been saved as .....2801

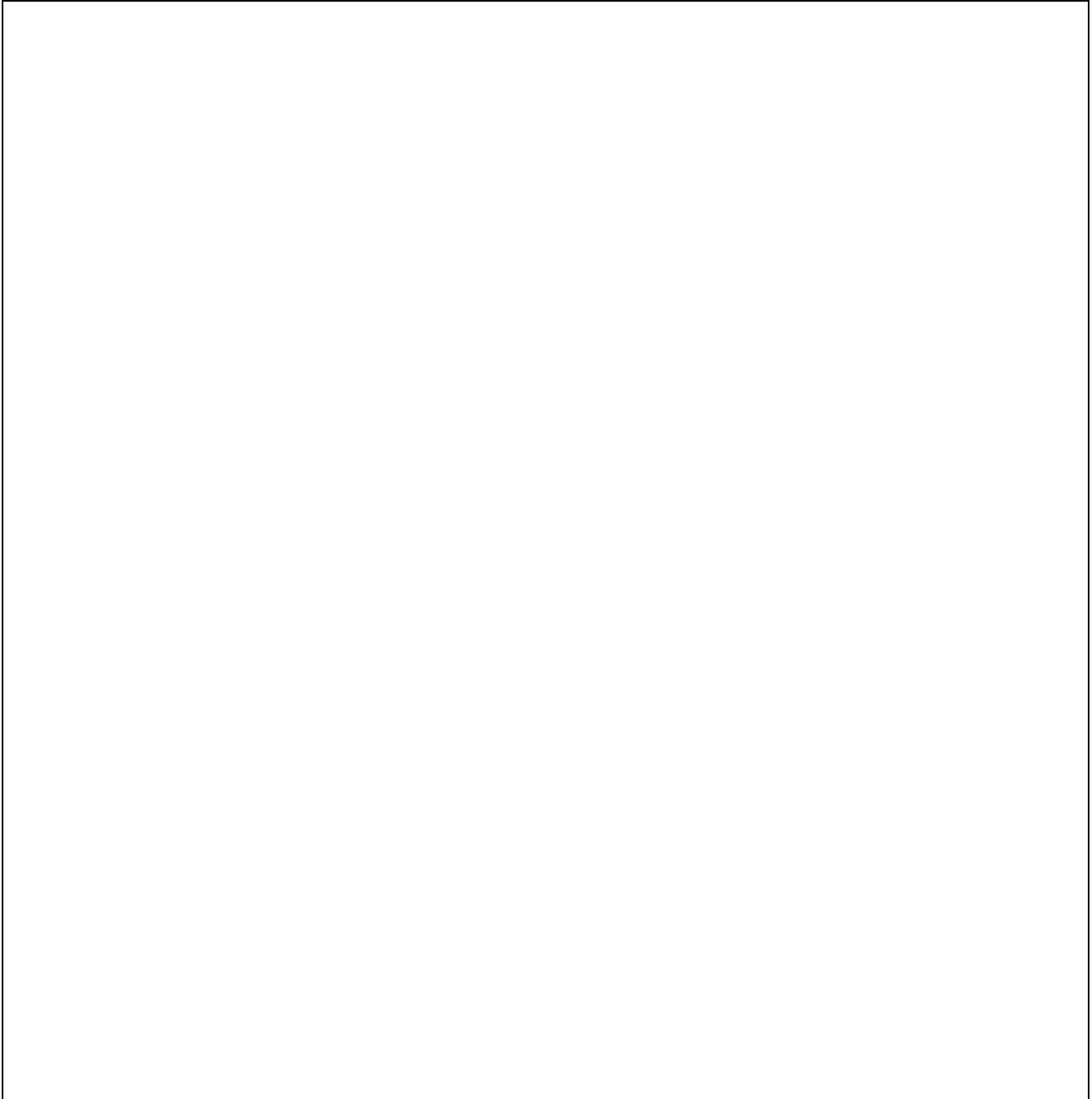
## Assignment 29 *Sequential Control*

The traffic light control program has been saved as .....2901

The stepper motor control program has been saved as .....2902

## Assignment 30 *Automatic Doors*

*Automatic Door Control System Flowchart:*



*The automatic door control program has been saved as .....3001*