CMS ID: 2837-2023

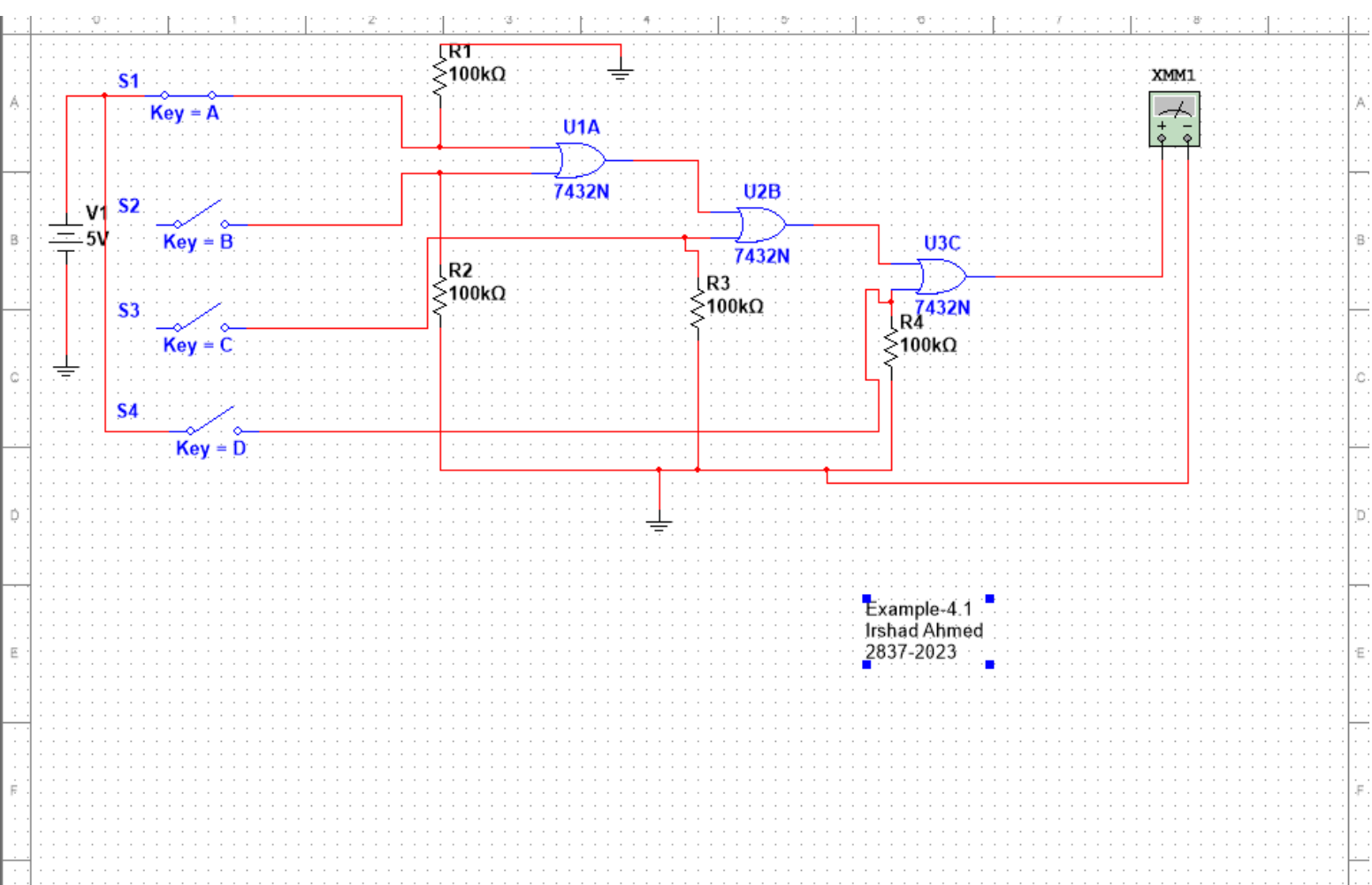NAME: IRSHAD AHMED

SECTION: A

DEPARTMENT: BACHELOR OF SCIENCE
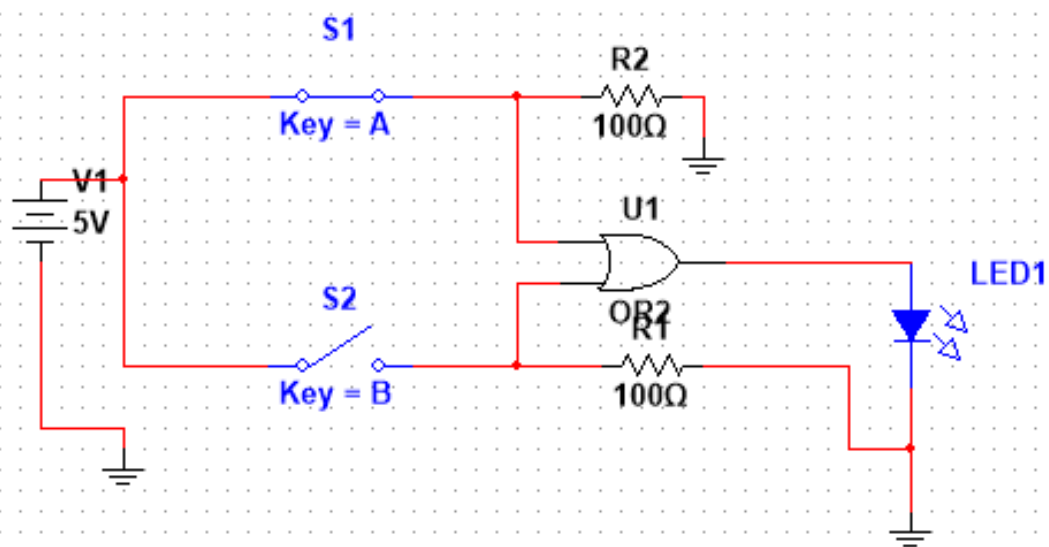
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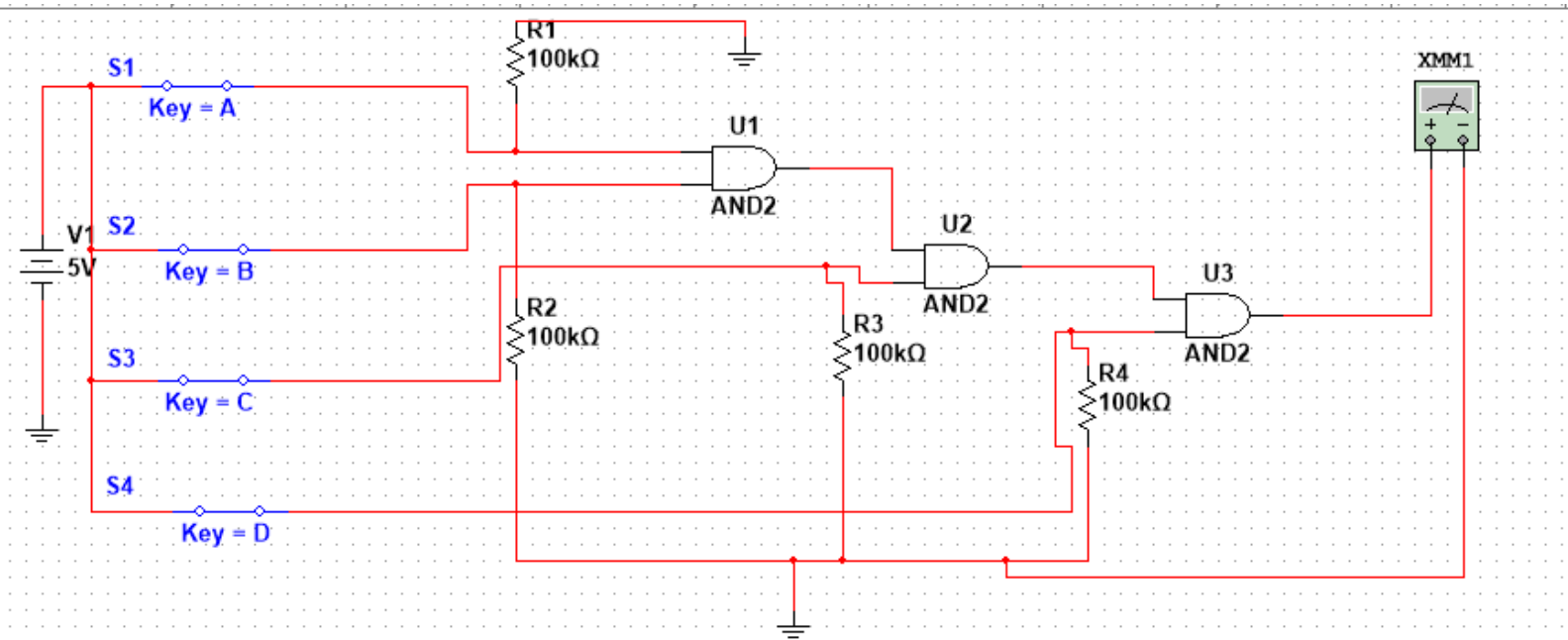
TEACHER NAME: IQBAL-UD-DIN KHAN

SUBMISSION DATE: 30-1-2024

ASSIGNMENT NO 1
DIGITAL LOGIC DESIGN (DLD)
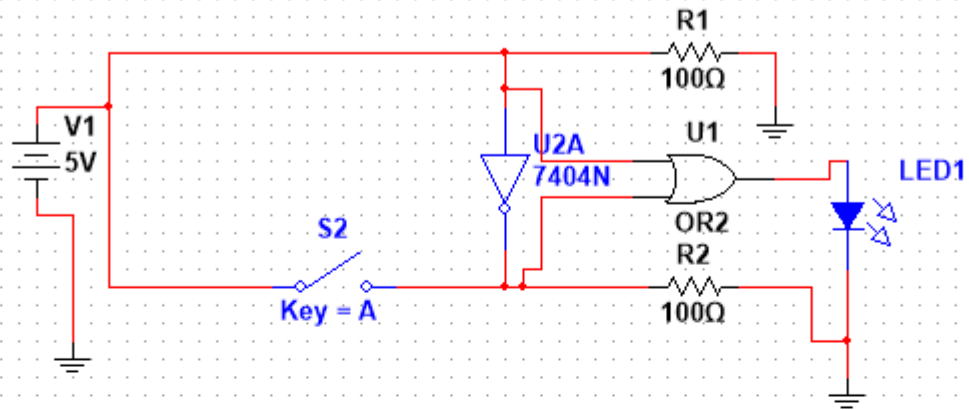
R1
100kΩ

S1
Key = A

U1A
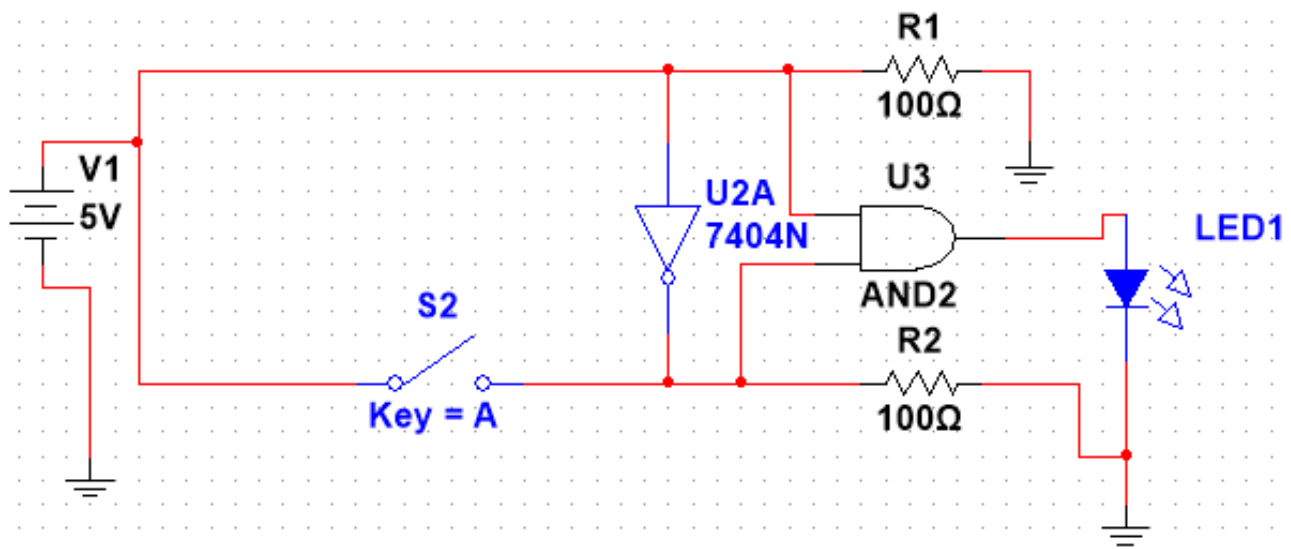7432N

U2B
7432N

V1
5V

S2
Key = B

R2
100kΩ

U3C
7432N

R3
100kΩ

S3
Key = C

R4
100kΩ

S4
Key = D

XMM1

Example-4.1
Irshad Ahmed
2837-2023

S1

Key = A

R2

100Ω

V1

5V

S2

Key = B

U1

OR2

R1

100Ω

LED1

Example-4.2
Irshad Ahmed
2837-2023

R1
100kΩ

S1
Key = A

U1
AND2

XMM1

V1
5V

S2
Key = B

U2
AND2

U3
AND2

R2
100kΩ

S3
Key = C

R3
100kΩ

R4
100kΩ

S4
Key = D

Example-4.3
Irshad Ahmed
2837-2023

V1
5V

S2
Key = A

U2A
7404N

R1
100Ω

U1
OR2

R2
100Ω

LED1

Example-4.4(a)
Irshad Ahmed
2837-2023

V1
5V

S2
Key = A

R1
100Ω

U2A
7404N

U3
AND2

R2
100Ω

LED1

Example-4.4(b)
Irshad Ahmed
2837-2023

R1
100kΩ

S1
Key = A

U1
XOR2

V1
5V

S2
Key = B

U2
XOR2

R2
100kΩ

S3
Key = C

R3
100kΩ

XMM1

Example-4.5(a)
Irshad Ahmed
2837-2023

S1

Key = A

R1

100kΩ

V1

5V

U1A

74AS86M

S2

Key = A

R2

100kΩ

LED1
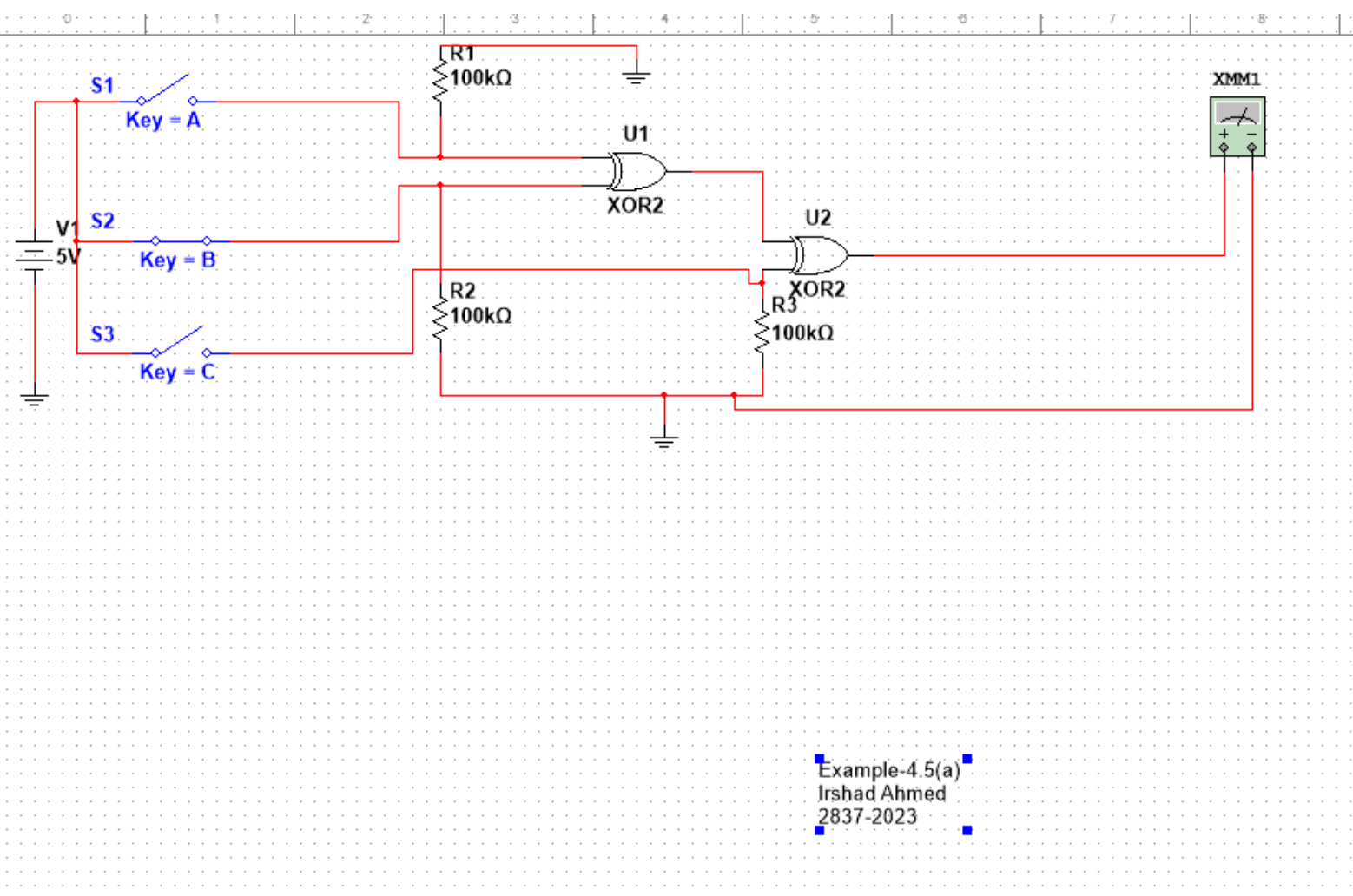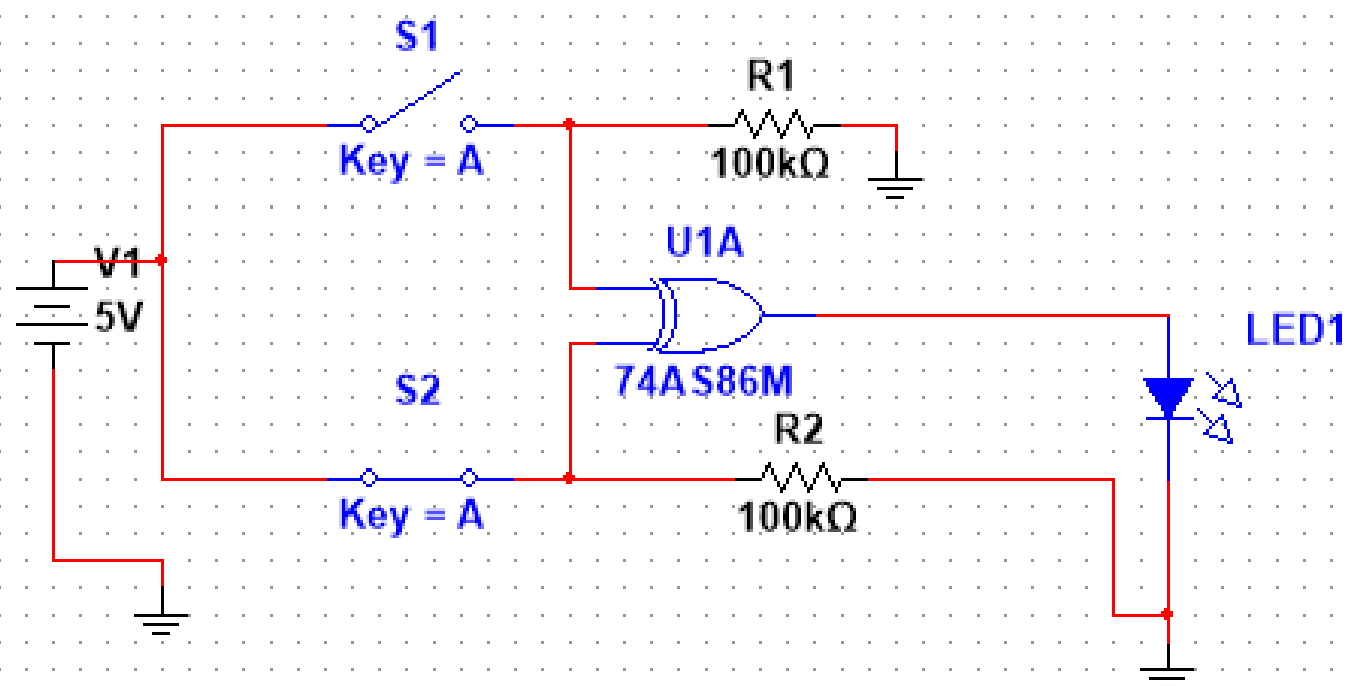
Example-4.6
Irshad Ahmed
2837-2023

R1
100kΩ

S1
Key = A

U1
AND2

S2
V1
5V
Key = B

R2
100kΩ

U2
AND2

R3
100kΩ

U3
AND2

U4
NOT

XMM1

S3
Key = C

R4
100kΩ

S4
Key = D
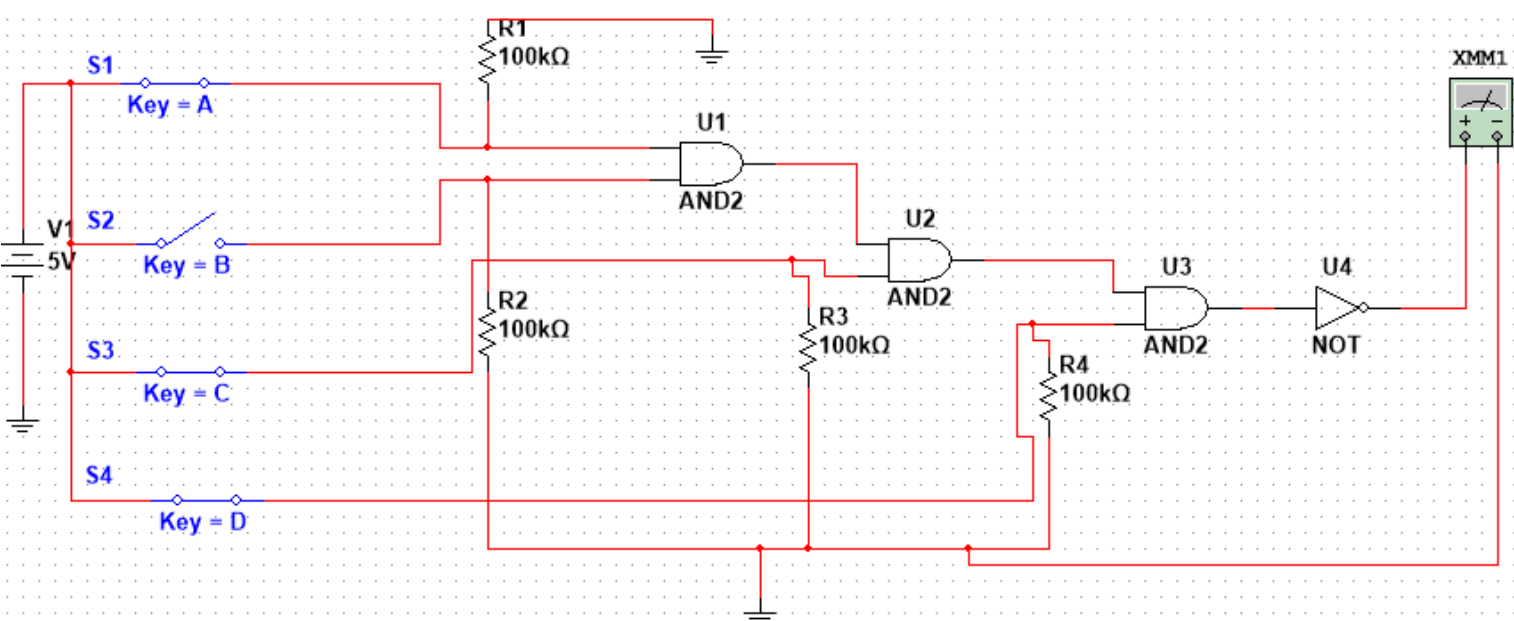
Example-4.7(a)
Irshad Ahmed
2837-2023

R1
100kΩ

S1
Key = A

V1
5V

S2
Key = A

S3
Key = A

U1
NAND2

U2
NAND2

R2
100kΩ

R3
100kΩ

LED1
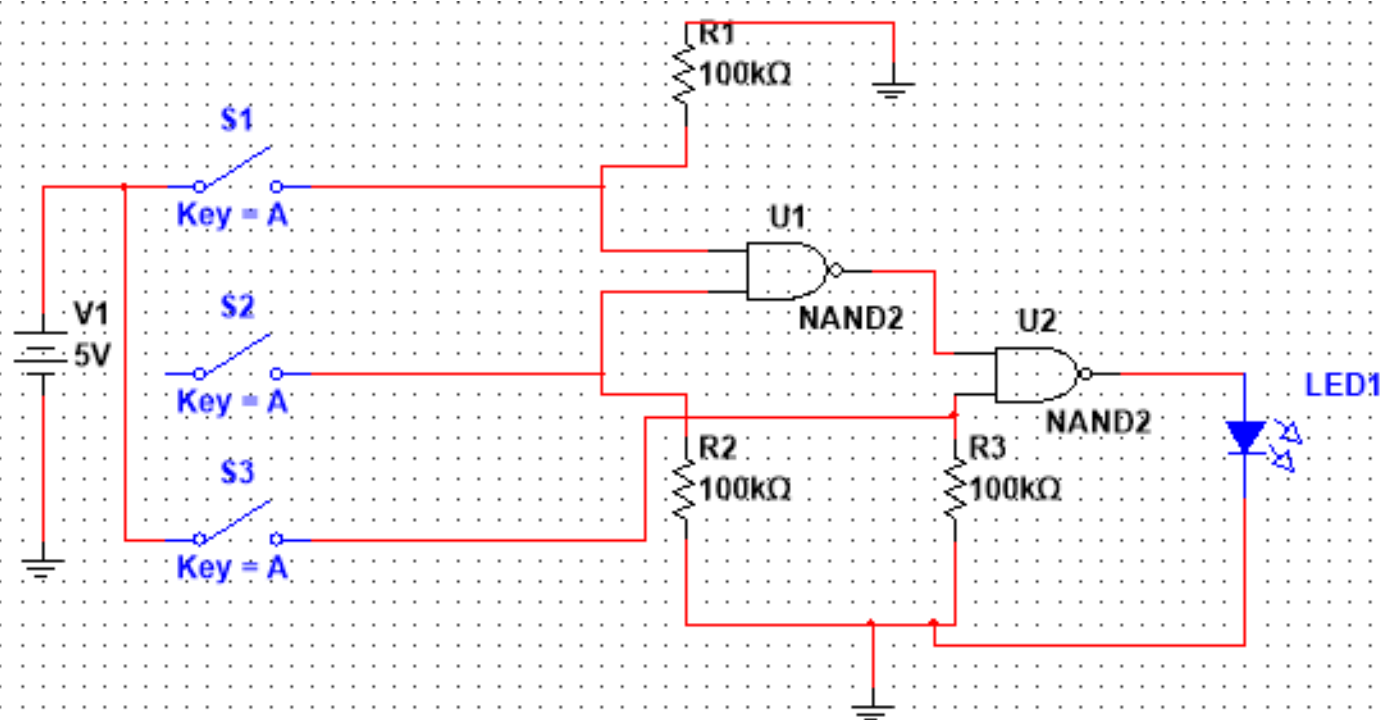
Example-4.7(b)
Irshad Ahmed
2837-2023

S1

Key = A

R1

100Ω

V1

5V

U1A

74HC00D_4V

LED1
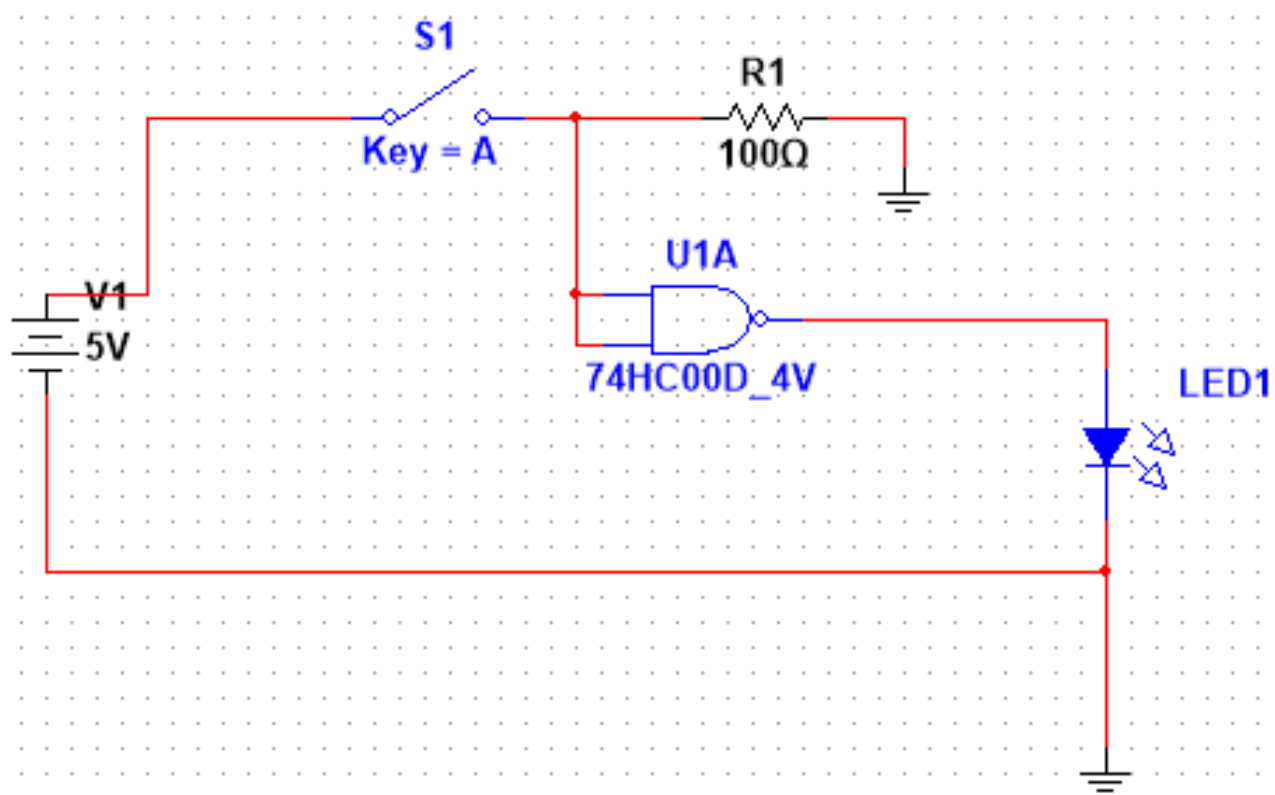
Example-4.7(c)
Irshad Ahmed
2837-2023

R1
100kΩ

V1
5V

U1A
74HC02D_2V

S2
Key = B

R2
100kΩ

LED1
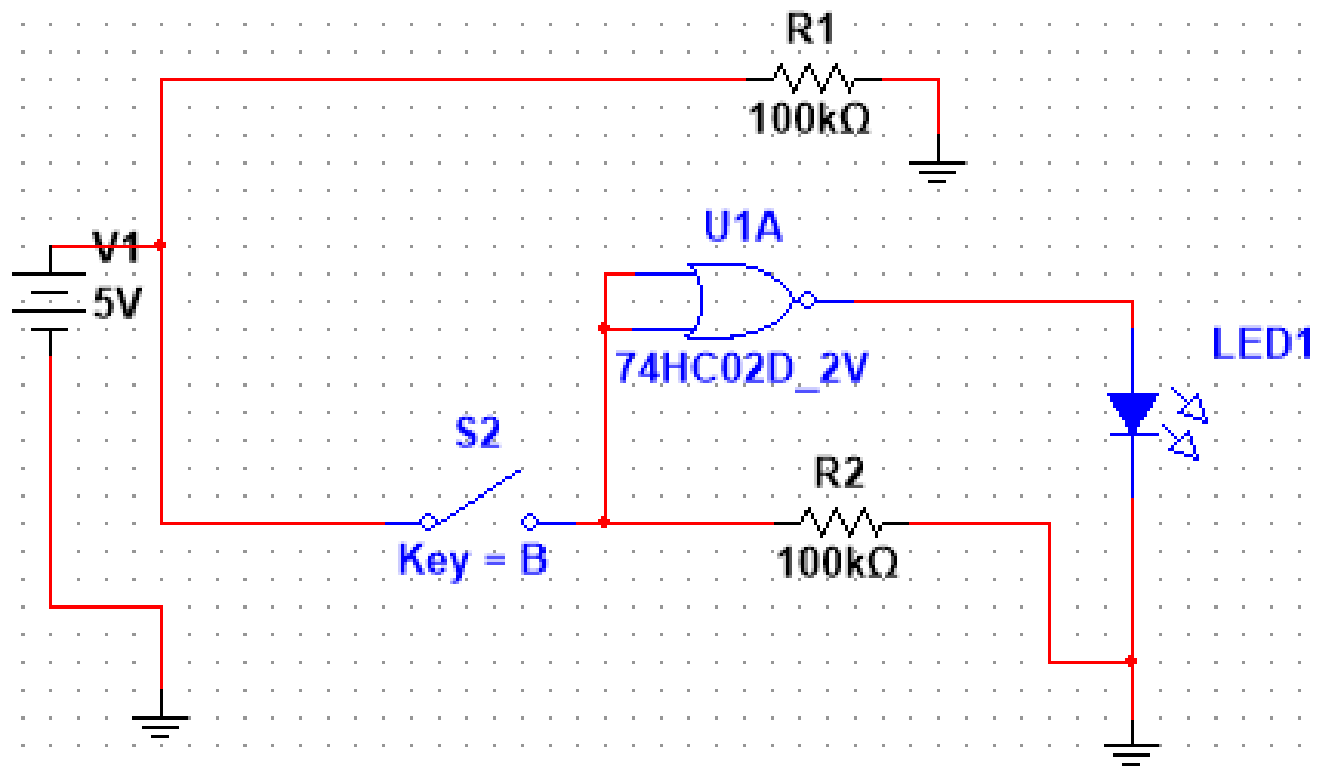
Example-4.7(d)
Irshad Ahmed
2837-2023

VCC
5.0V

S1
Key = A

R1
100kΩ

R3
10Ω

U1A

V1
5V

S2

74LS266N

R2
100kΩ

LED1
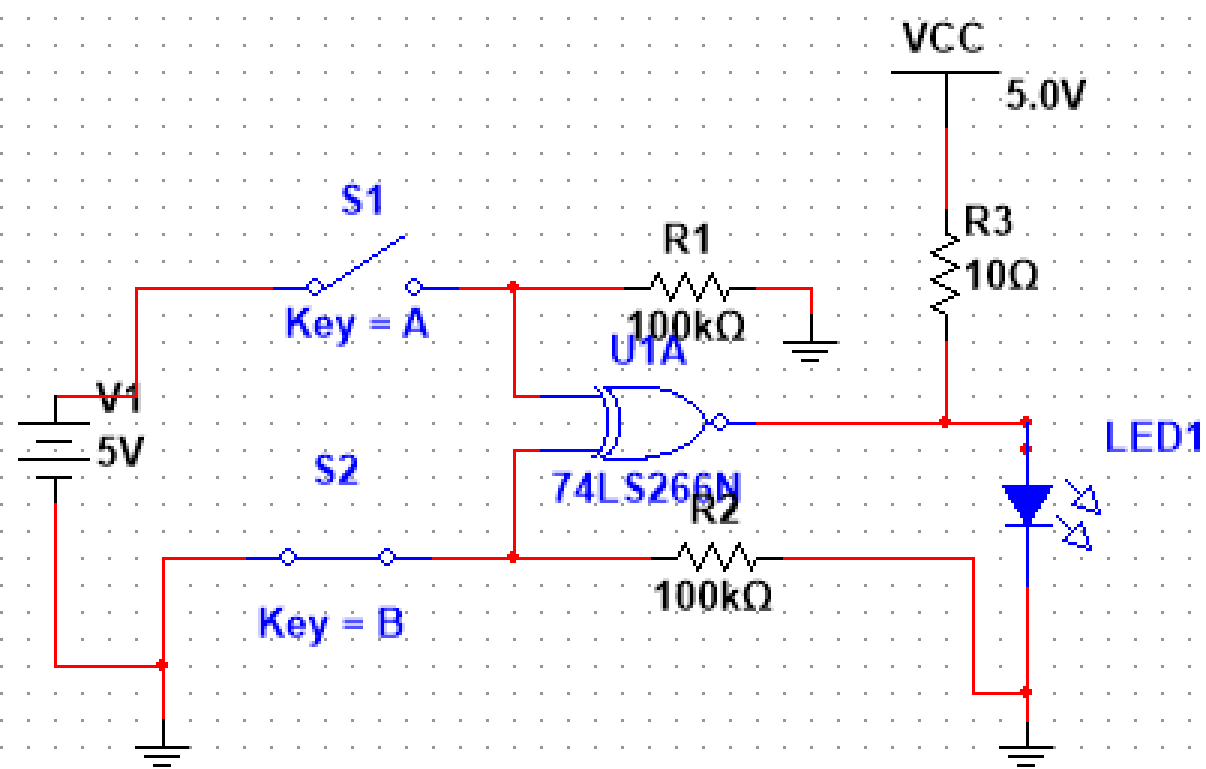
Key = B

Example-4.7(e)
Irshad Ahmed
2837-2023

R1 100kΩ

VCC 5.0V
R5 100Ω

U3
XNOR2

VCC 5.0V
R4 100Ω

U4
XNOR2

V1 5V

S1 Key = A

S2 Key = B

S3 Key = C

R2 100kΩ

R3 100kΩ

LED1
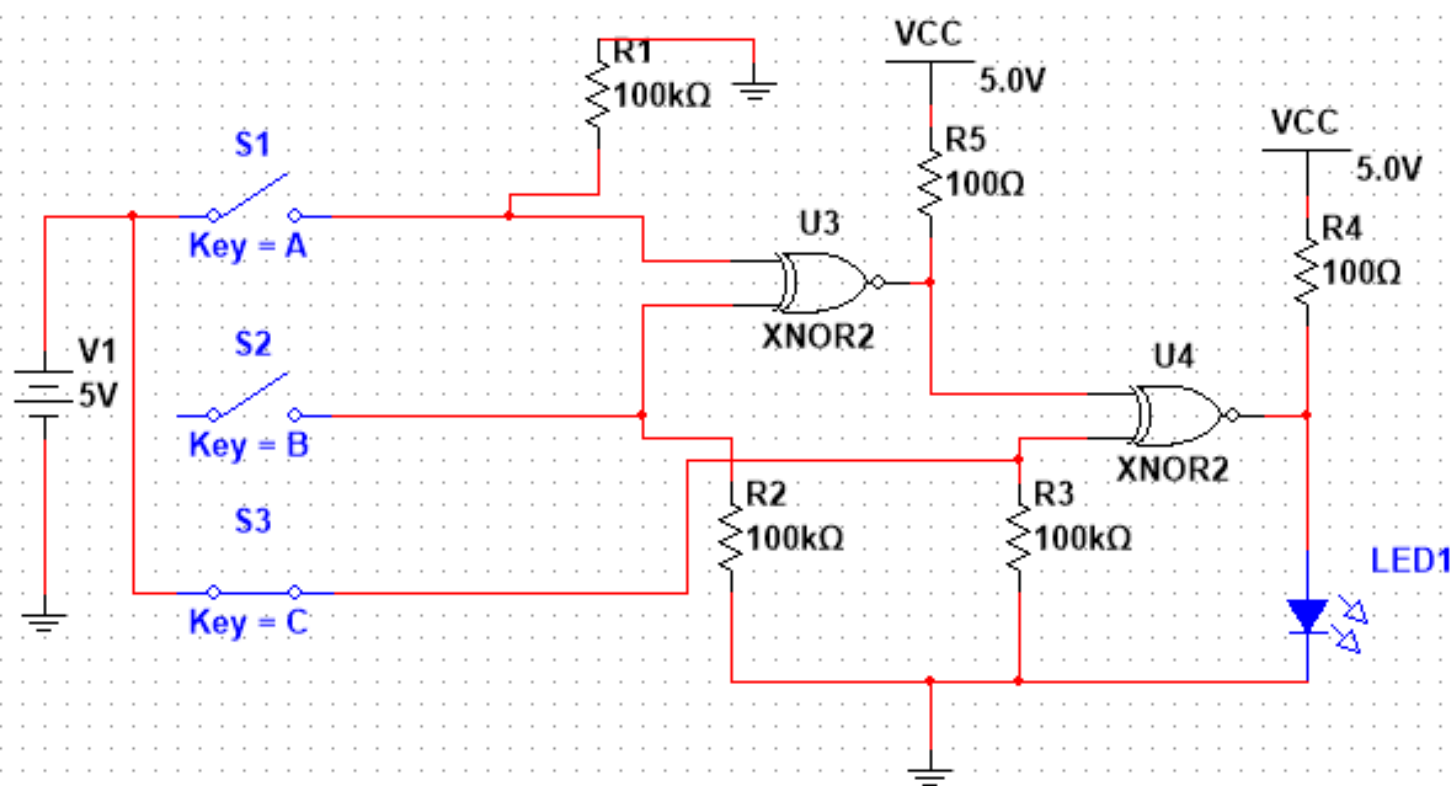
Example-4.8
Irshad Ahmed
2837-2023

R4
100kΩ

R3
100kΩ

R2
100kΩ

U1

S1

V1
5V

Key = A

U2

NOT

AND4

LED1

R1
100kΩ
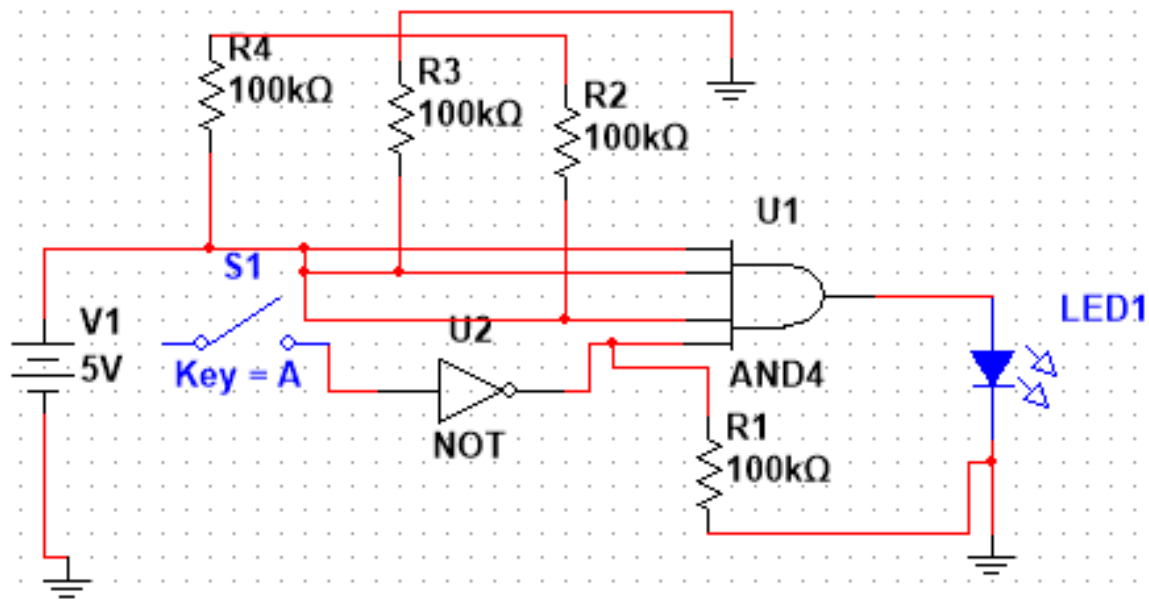
Example-4.9
Irshad Ahmed
2837-2023

S2
Key = A

R1
100kΩ

R2
100kΩ

S1

U2

V1
5V

Key = A

NOT

U1

NAND5

LED1

R4
100kΩ
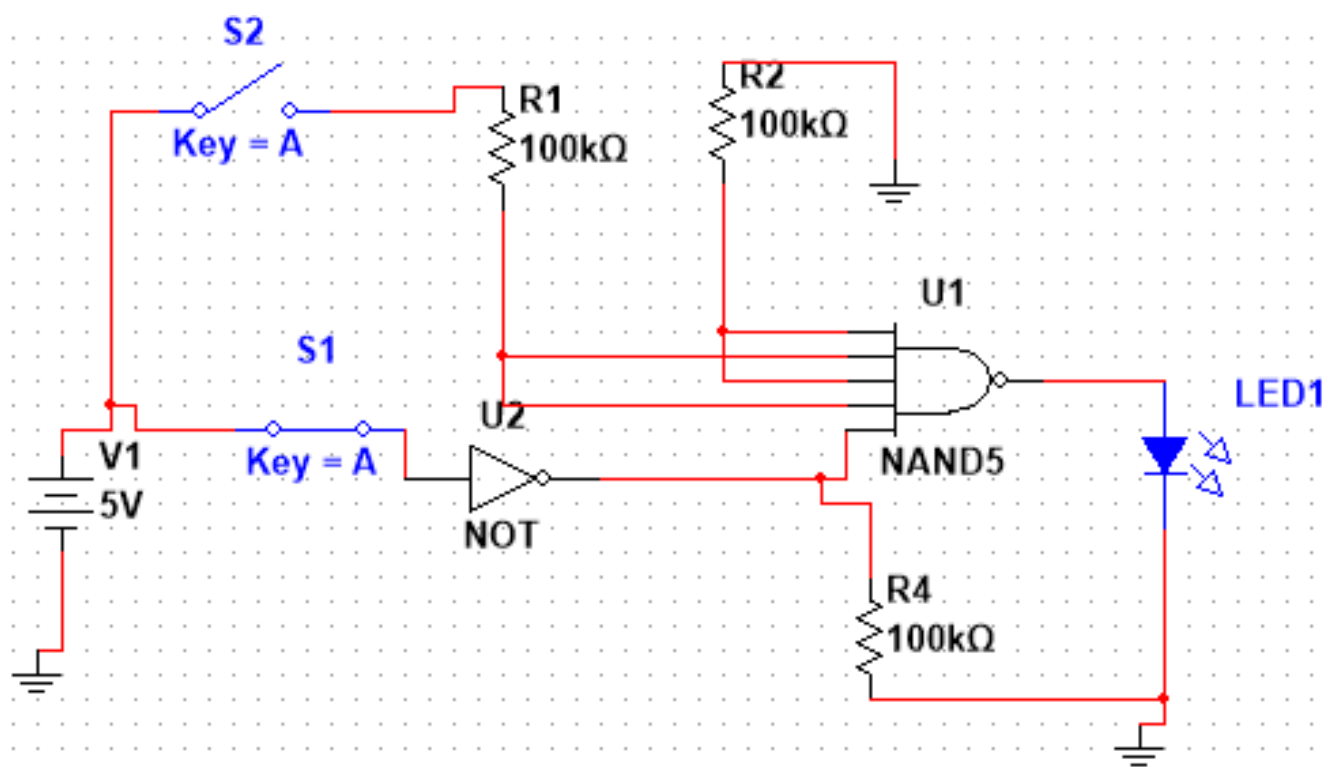
Example-4.10
Irshad Ahmed
2837-2023

R4
R3
R2
R1
R5
R6   S1   Key = A
R7   S2   Key = B
R8   S3
       S4   Key = C

100kΩ   100Ω
100kΩ   100Ω
100kΩ   100Ω
100kΩ   100Ω

Key = D

OR4
U1

U2
NAND2

LED1

V1
5V

S5
S6
S7
S8

Key = E
Key = F

U3

OR4
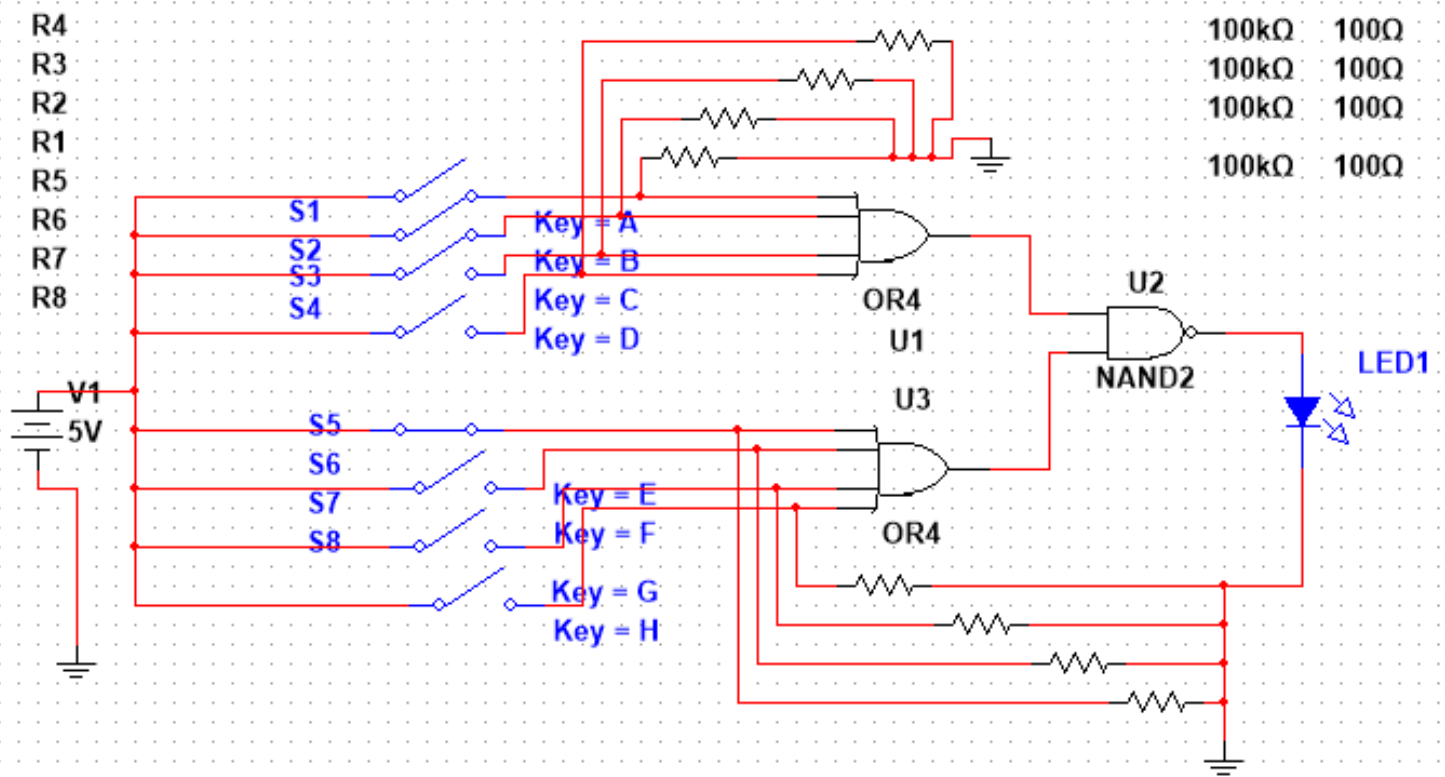
Key = G
Key = H

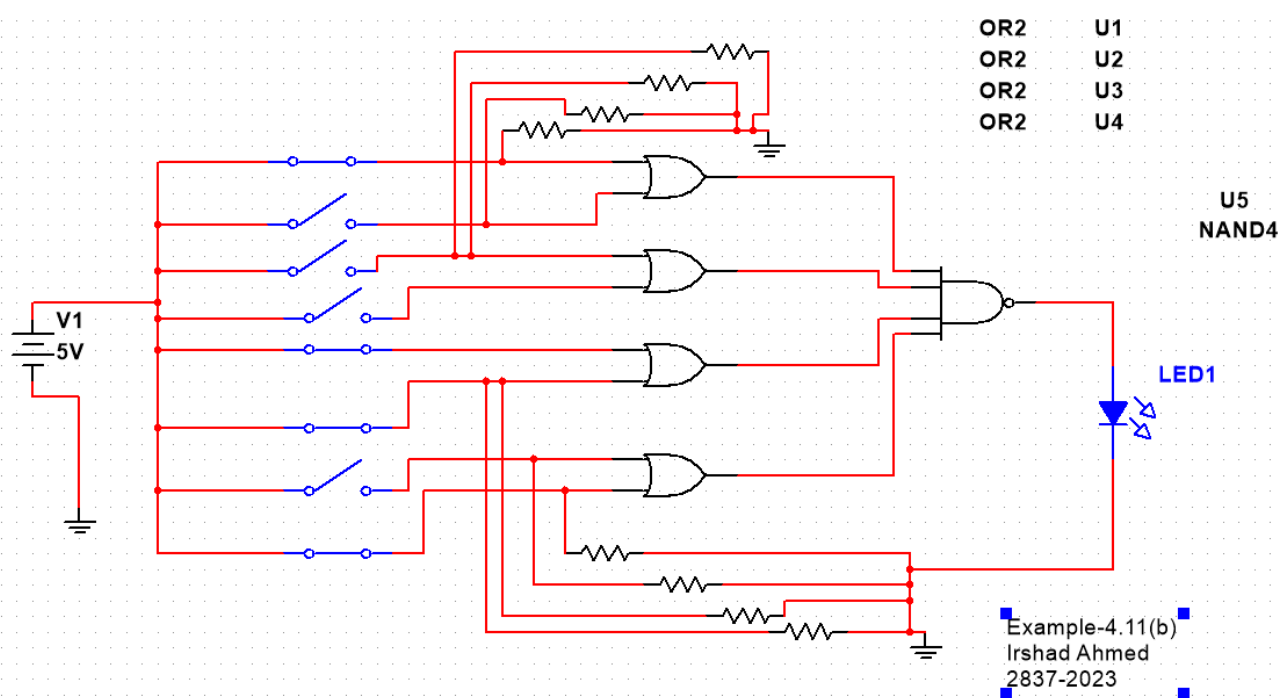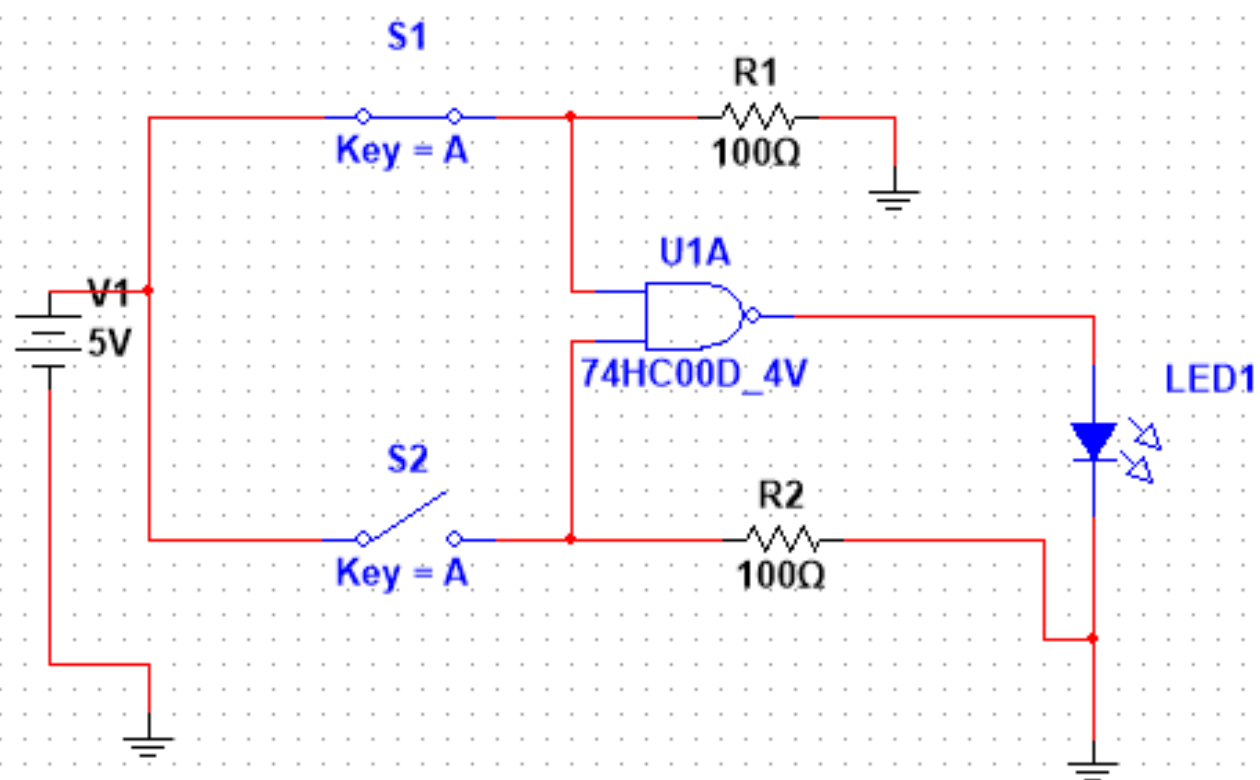Example-4.11(a)
Irshad Ahmed
2837-2023

S1　Key = A
S2　Key = B
S3　Key = C
S4　Key = D
S5　Key = E
S6　Key = F
S7　Key = G
S8　Key = H

OR2　U1
OR2　U2
OR2　U3
OR2　U4

U5
NAND4

V1
5V

R1　100kΩ
R2　100kΩ
R3　100kΩ
R4　100kΩ
R5　100kΩ
R6　100kΩ
R7　100kΩ
R8　100kΩ

LED1

Example-4.11(b)
Irshad Ahmed
2837-2023

S1

Key = A

R1

100Ω

V1

5V

U1A

74HC00D_4V

LED1

S2

Key = A

R2

100Ω

Example-4.12
Irshad Ahmed
2837-2023

R3
100kΩ

R2
100kΩ

VDC5
5.0V

R1
100Ω

S1
Key = A

S2
Key = A

U2A
7401N

U1A
7400N

LED1

V1
5V

S3
Key = A

S4
Key = A

U3A
7401N

R4
100kΩ

R5
100kΩ
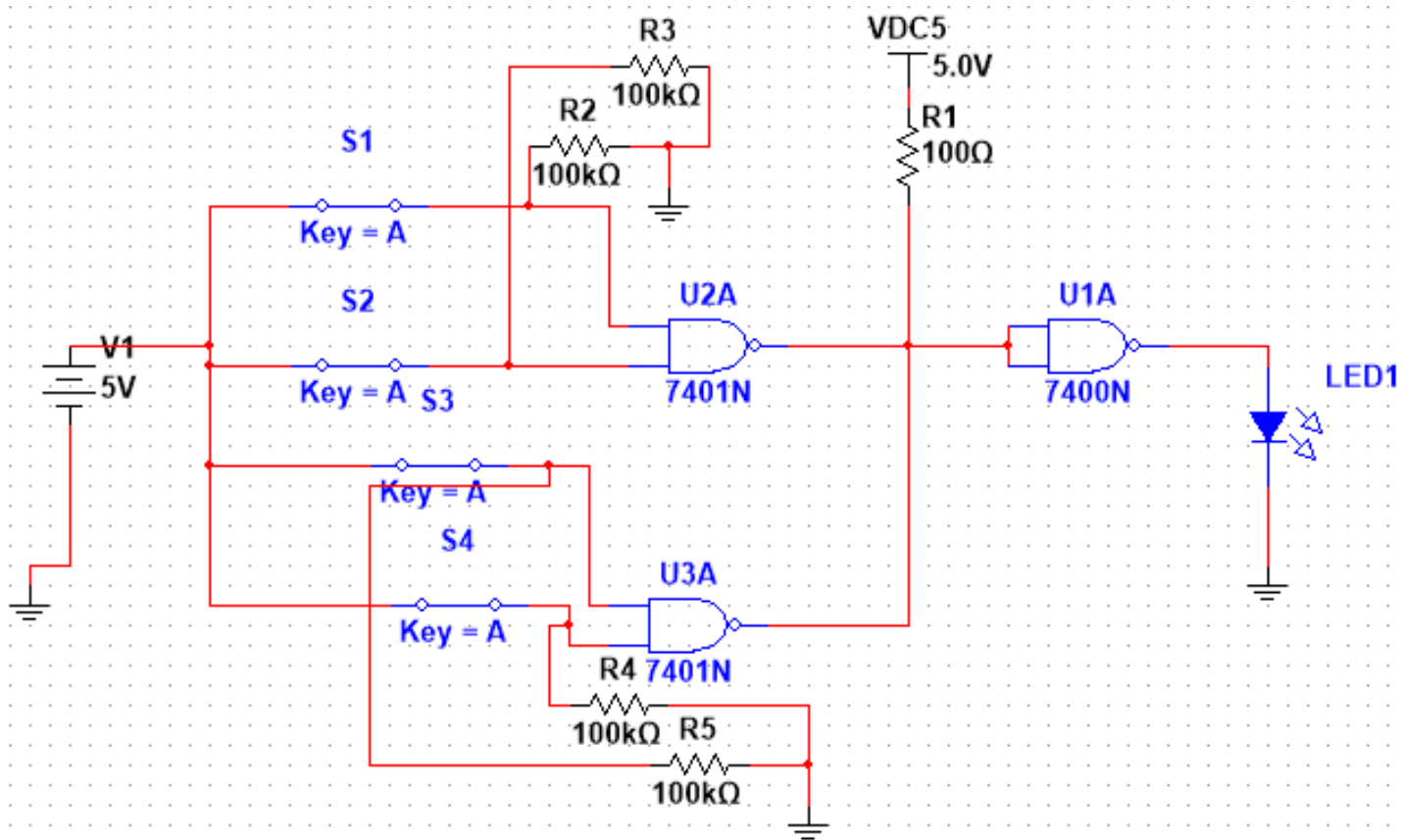
Example-4.13
Irshad Ahmed
2837-2023

VCC
5.0V

100Ω R5
100Ω R6
100Ω R7

R1 100Ω

LED1
LED2
LED3
LED4
U1

R3

1KΩ   Key = A
S1

A1   B1   18
A2   B2   17
A3   B3   16
A4   B4   15
A5   B5   14
A6   B6   13
A7   B7   12
A8   B8   11
DIR
G

100kΩ R4

R2 100Ω
R8 100Ω
R9 100Ω
R10 100Ω

LEDB1
LEDB2
LEDB3
LEDB4

74LS245N
Bi_DIRECTIONAL_BUFFER
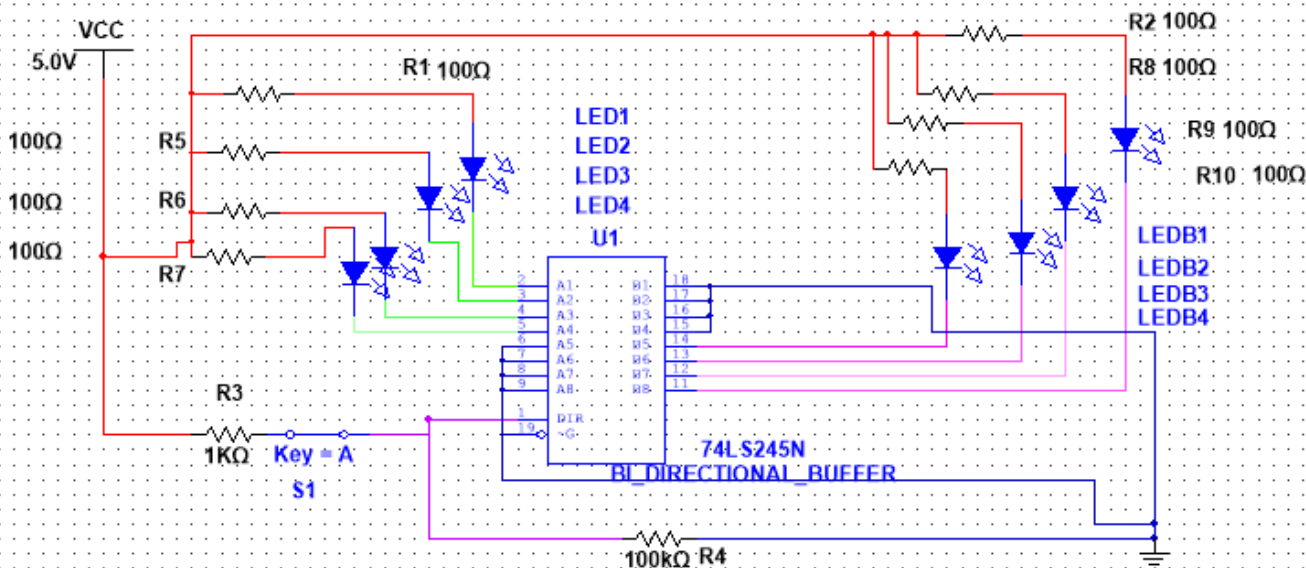
Bi_DIRECTIONAL_BUFFER GATE

Irshad Ahmed
2837-2023

THE END