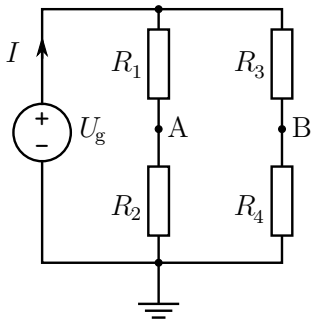
0 0004045 0000001 ime in priimek: vpisna št.: 64080088

Fakulteta za elektrotehniko, Univerza v Ljubljani primeri števk: 0123456789

1. test iz predmeta HAvOc (UNI)

2.3.2011

1. Wheatstone bridge without null indicator has the following values of resistors: $R_1 = 5\ \Omega$, $R_2 = 4\ \Omega$, $R_3 = 7\ \Omega$ in $R_4 = 4\ \Omega$. We have connected the bridge to a DC voltage source $U = 1\,\mathrm{V}$.



a) Determine the electric potential of junction B.

Ⓐ $V_\mathrm{B} \doteq 364$ mV Ⓑ $V_\mathrm{B} = 5$ V Ⓒ $V_\mathrm{B} \doteq 3.64$ V Ⓓ $V_\mathrm{B} = 0$ V ■

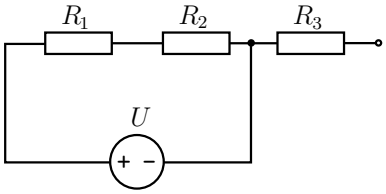
b) What is the value of voltage U_AB?

Ⓐ $U_\mathrm{AB} \doteq 80.8$ mV Ⓑ $U_\mathrm{AB} \doteq 808$ mV Ⓒ $U_\mathrm{AB} \doteq -80.8$ mV Ⓓ $U_\mathrm{AB} = 333$ mV ■

c) Determine the current through resistor R_1.

Ⓐ $I \doteq 111$ mA Ⓑ $I \doteq 208$ mA Ⓒ $I = 20$ A Ⓓ $I = 50$ mA ■

2. The circuit is made of three resistors: $R_1 = 5\ \Omega$, $R_2 = 2\ \Omega$ in $R_3 = 2\ \Omega$. Voltage source is $U = 10\,\mathrm{V}$.



a) What is the sum voltage on resistors R_1 and R_2?

Ⓐ $U_{R_1+R_2} \doteq 2.86$ V Ⓑ $U_{R_1+R_2} = 35$ V Ⓒ $U_{R_1+R_2} = 5$ V Ⓓ $U_{R_1+R_2} = 10$ V ■

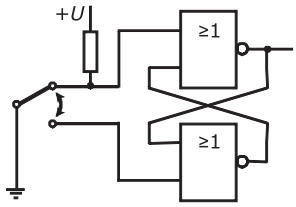
b) How much is the voltage on resistor R_3?

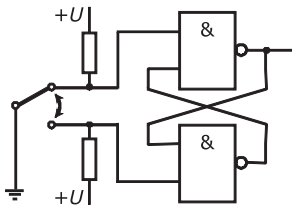
Ⓐ $U_{R_3} \doteq 2.86$ V Ⓑ $U_{R_3} = 0$ V Ⓒ $U_{R_3} = 10$ V Ⓓ $U_{R_3} = 5$ V ■

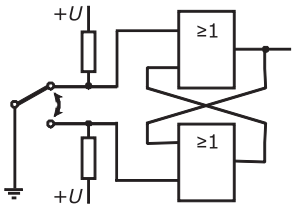
c) Determine the current through R_2!

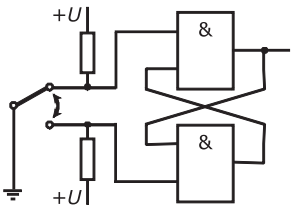
Ⓐ $I \doteq 1.43$ A Ⓑ $I = 20$ A Ⓒ $I \doteq 1.11$ A Ⓓ $I = 7.8$ A ■

3. Which circuits represents debounced switch?

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

■

4. The entropy of isolated thermodynamical system

Ⓐ can only decrease. Ⓑ is always zero. Ⓒ can only increase. Ⓓ is always positive constant. ■

This row can be used for further instructions.

⋆ ⟷ ⋆ podpis: _____ 0/0/4

0 0004045 0000018

ime in priimek:

vpisna št.: 64080088

Fakulteta za elektrotehniko, Univerza v Ljubljani

primeri števk: 0123456789

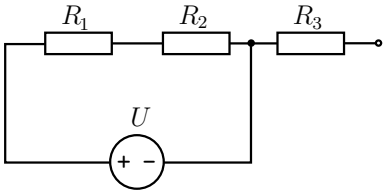
1. test iz predmeta HAvOc (UNI)

2.3.2011

1. The entropy of isolated thermodynamical system

Ⓐ is always positive constant. Ⓑ is always zero. Ⓒ can only decrease. Ⓓ can only increase.

2. The circuit is made of three resistors: $R_1 = 10\ \Omega$, $R_2 = 2\ \Omega$ in $R_3 = 9\ \Omega$. Voltage source is $U = 10\,\mathrm{V}$.



a) What is the sum voltage on resistors R_1 and R_2?

Ⓐ $U_{R_1+R_2} = 10$ V Ⓑ $U_{R_1+R_2} \doteq 13.3$ V Ⓒ $U_{R_1+R_2} = 120$ V Ⓓ $U_{R_1+R_2} = 20$ V

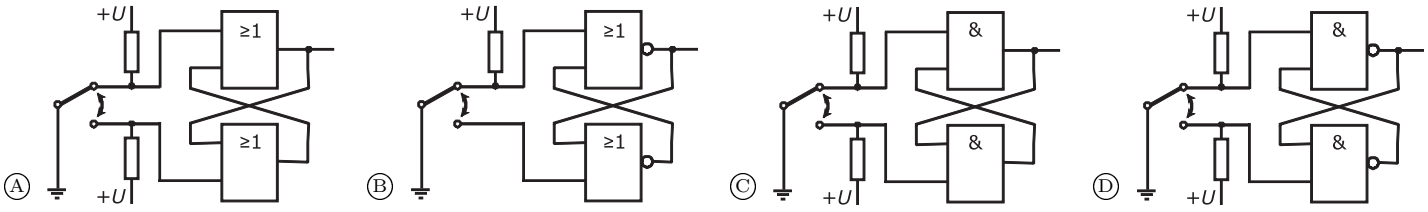
b) How much is the voltage on resistor R_3?

Ⓐ $U_{R_3} \doteq 13.3$ V Ⓑ $U_{R_3} = 0$ V Ⓒ $U_{R_3} = 5$ V Ⓓ $U_{R_3} \doteq 1.11$ V

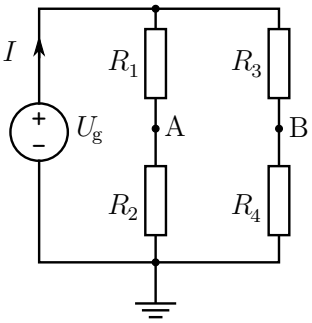
c) Determine the current through R_2!

Ⓐ $I \doteq 476$ mA Ⓑ $I = 7.8$ A Ⓒ $I = 1.3$ A Ⓓ $I \doteq 833$ mA

3. Which circuits represents debounced switch?



4. Wheatstone bridge without null indicator has the following values of resistors: $R_1 = 5\ \Omega$, $R_2 = 5\ \Omega$, $R_3 = 2\ \Omega$ in $R_4 = 3\ \Omega$. We have connected the bridge to a DC voltage source $U = 1\,\mathrm{V}$.



a) Determine the electric potential of junction B.

Ⓐ $V_\mathrm{B} = 600$ mV Ⓑ $V_\mathrm{B} = 6$ V Ⓒ $V_\mathrm{B} = 500$ mV Ⓓ $V_\mathrm{B} = 5$ V

b) What is the value of voltage U_AB?

Ⓐ $U_\mathrm{AB} = 333$ mV Ⓑ $U_\mathrm{AB} = 500$ mV Ⓒ $U_\mathrm{AB} = 250$ mV Ⓓ $U_\mathrm{AB} = -100$ mV

c) Determine the current through resistor R_1.

Ⓐ $I = 15$ A Ⓑ $I \doteq 268$ mA Ⓒ $I = 300$ mA Ⓓ $I = 100$ mA

This row can be used for further instructions.

⋆ ⟷ ⋆

podpis: _____

0 0004045 0000025 ime in priimek: vpisna št.: 64080088

Fakulteta za elektrotehniko, Univerza v Ljubljani primeri števk: 0123456789

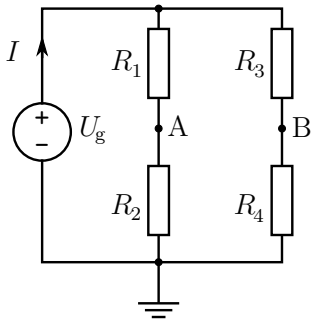
1. test iz predmeta HAvOc (UNI)

2.3.2011

1. The entropy of isolated thermodynamical system

Ⓐ is always zero. Ⓑ is always positive constant. Ⓒ can only decrease. Ⓓ can only increase.

2. Wheatstone bridge without null indicator has the following values of resistors: $R_1 = 15\ \Omega$, $R_2 = 5\ \Omega$, $R_3 = 9\ \Omega$ in $R_4 = 4\ \Omega$. We have connected the bridge to a DC voltage source $U = 1\,\mathrm{V}$.



a) Determine the electric potential of junction B.

Ⓐ $V_\mathrm{B} = 5$ V Ⓑ $V_\mathrm{B} \doteq 308$ mV Ⓒ $V_\mathrm{B} = 1$ V Ⓓ $V_\mathrm{B} \doteq 3.08$ V

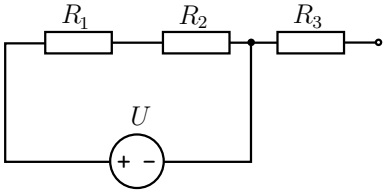
b) What is the value of voltage U_AB?

Ⓐ $U_\mathrm{AB} \doteq -57.7$ mV Ⓑ $U_\mathrm{AB} \doteq 144$ mV Ⓒ $U_\mathrm{AB} = 333$ mV Ⓓ $U_\mathrm{AB} \doteq -442$ mV

c) Determine the current through resistor R_1.

Ⓐ $I \doteq 153$ mA Ⓑ $I \doteq 127$ mA Ⓒ $I = 50$ mA Ⓓ $I = 33$ A

3. The circuit is made of three resistors: $R_1 = 10\ \Omega$, $R_2 = 4\ \Omega$ in $R_3 = 3\ \Omega$. Voltage source is $U = 10\,\mathrm{V}$.



a) What is the sum voltage on resistors R_1 and R_2?

Ⓐ $U_{R_1+R_2} \doteq 46.7$ V Ⓑ $U_{R_1+R_2} = 20$ V Ⓒ $U_{R_1+R_2} = 10$ V Ⓓ $U_{R_1+R_2} \doteq 2.14$ V

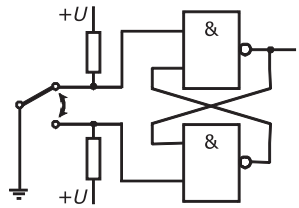
b) How much is the voltage on resistor R_3?

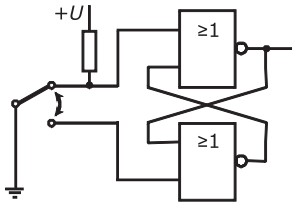
Ⓐ $U_{R_3} \doteq 3.33$ V Ⓑ $U_{R_3} = 0$ V Ⓒ $U_{R_3} \doteq 2.14$ V Ⓓ $U_{R_3} \doteq 46.7$ V

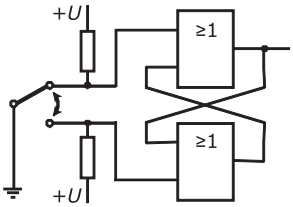
c) Determine the current through R_2!

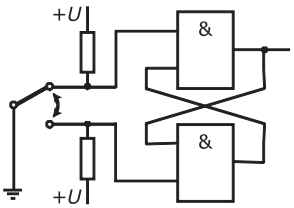
Ⓐ $I = 30$ A Ⓑ $I \doteq 714$ mA Ⓒ $I = 1.3$ A Ⓓ $I = 7.8$ A

4. Which circuits represents debounced switch?

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

This row can be used for further instructions.

★ ⟷ ★ podpis: _____ 0/2/4

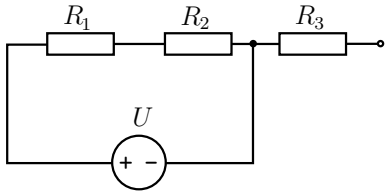
0 0004045 0000032 ime in priimek: vpisna št.: 64080088

Fakulteta za elektrotehniko, Univerza v Ljubljani primeri števk: 0123456789

1. test iz predmeta HAvOc (UNI)

2.3.2011

1. The circuit is made of three resistors: $R_1 = 5\ \Omega$, $R_2 = 3\ \Omega$ in $R_3 = 9\ \Omega$. Voltage source is $U = 10\,\mathrm{V}$.



a) What is the sum voltage on resistors R_1 and R_2?

Ⓐ $U_{R_1+R_2} \doteq 8.89$ V Ⓑ $U_{R_1+R_2} = 80$ V Ⓒ $U_{R_1+R_2} \doteq 11.3$ V Ⓓ $U_{R_1+R_2} = 10$ V ■

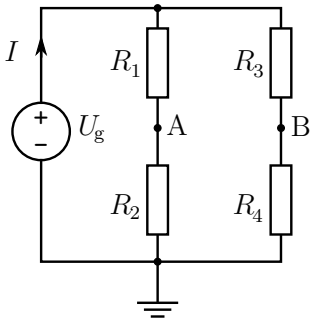
b) How much is the voltage on resistor R_3?

Ⓐ $U_{R_3} \doteq 11.3$ V Ⓑ $U_{R_3} = 5$ V Ⓒ $U_{R_3} = 10$ V Ⓓ $U_{R_3} = 0$ V ■

c) Determine the current through R_2!

Ⓐ $I = 0$ A Ⓑ $I = 7.8$ A Ⓒ $I = 1.25$ A Ⓓ $I = 90$ A ■

2. Wheatstone bridge without null indicator has the following values of resistors: $R_1 = 15\ \Omega$, $R_2 = 5\ \Omega$, $R_3 = 6\ \Omega$ in $R_4 = 6\ \Omega$. We have connected the bridge to a DC voltage source $U = 1\,\mathrm{V}$.



a) Determine the electric potential of junction B.

Ⓐ $V_\mathrm{B} = 500$ mV Ⓑ $V_\mathrm{B} = 1.2$ V Ⓒ $V_\mathrm{B} = 1$ V Ⓓ $V_\mathrm{B} = 0$ V ■

b) What is the value of voltage U_AB?

Ⓐ $U_\mathrm{AB} = -250$ mV Ⓑ $U_\mathrm{AB} = 333$ mV Ⓒ $U_\mathrm{AB} = 750$ mV Ⓓ $U_\mathrm{AB} = 500$ mV ■

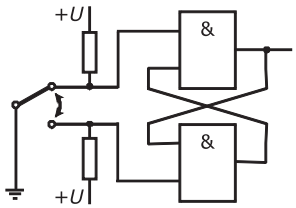
c) Determine the current through resistor R_1.

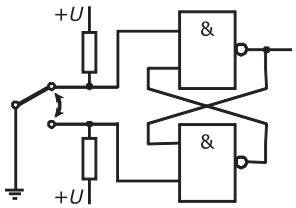
Ⓐ $I = 50$ mA Ⓑ $I \doteq 31.3$ mA Ⓒ $I \doteq 133$ mA Ⓓ $I = 32$ A ■

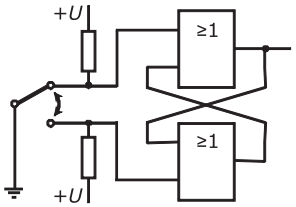
3. The entropy of isolated thermodynamical system

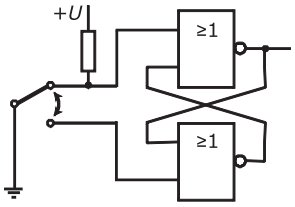
Ⓐ is always zero. Ⓑ is always positive constant. Ⓒ can only decrease. Ⓓ can only increase. ■

4. Which circuits represents debounced switch?

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

■

This row can be used for further instructions.

⋆ ⟷ ⋆

podpis: _____

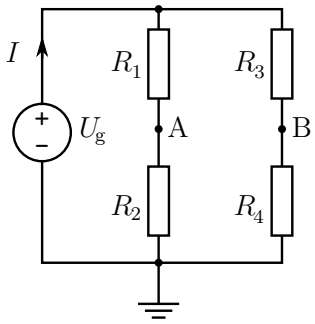
0 0004045 000049 ime in priimek: vpisna št.: 64080088

Fakulteta za elektrotehniko, Univerza v Ljubljani primeri števk: 0123456789

1. test iz predmeta HAvOc (UNI)

2.3.2011

1. Wheatstone bridge without null indicator has the following values of resistors: $R_1 = 10\ \Omega$, $R_2 = 5\ \Omega$, $R_3 = 6\ \Omega$ in $R_4 = 4\ \Omega$. We have connected the bridge to a DC voltage source $U = 1\,\mathrm{V}$.



a) Determine the electric potential of junction B.

Ⓐ $V_\mathrm{B} = 4$ V Ⓑ $V_\mathrm{B} \doteq 667$ mV Ⓒ $V_\mathrm{B} = 400$ mV Ⓓ $V_\mathrm{B} = 0$ V ■

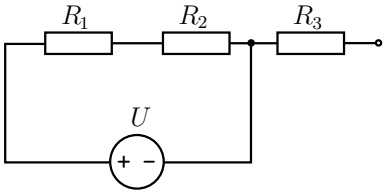
b) What is the value of voltage U_AB?

Ⓐ $U_\mathrm{AB} \doteq 66.7$ mV Ⓑ $U_\mathrm{AB} = 500$ mV Ⓒ $U_\mathrm{AB} \doteq -66.7$ mV Ⓓ $U_\mathrm{AB} \doteq -267$ mV ■

c) Determine the current through resistor R_1.

Ⓐ $I \doteq 66.7$ mA Ⓑ $I = 40$ mA Ⓒ $I = 25$ A Ⓓ $I \doteq 174$ mA ■

2. The circuit is made of three resistors: $R_1 = 10\ \Omega$, $R_2 = 5\ \Omega$ in $R_3 = 7\ \Omega$. Voltage source is $U = 10\,\mathrm{V}$.



a) What is the sum voltage on resistors R_1 and R_2?

Ⓐ $U_{R_1+R_2} = 20$ V Ⓑ $U_{R_1+R_2} = 150$ V Ⓒ $U_{R_1+R_2} = 10$ V Ⓓ $U_{R_1+R_2} \doteq 4.67$ V ■

b) How much is the voltage on resistor R_3?

Ⓐ $U_{R_3} = 5$ V Ⓑ $U_{R_3} = 0$ V Ⓒ $U_{R_3} \doteq 1.43$ V Ⓓ $U_{R_3} = 10$ V ■

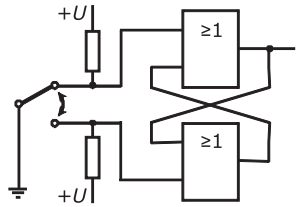
c) Determine the current through R_2!

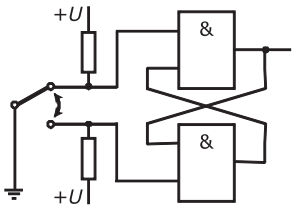
Ⓐ $I = 0$ A Ⓑ $I = 70$ A Ⓒ $I \doteq 455$ mA Ⓓ $I \doteq 667$ mA ■

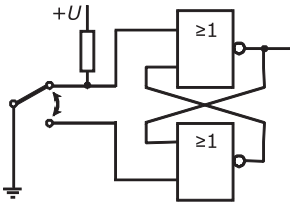
3. The entropy of isolated thermodynamical system

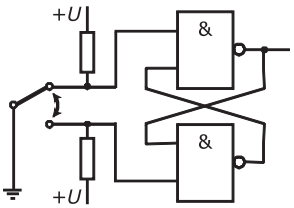
Ⓐ can only increase. Ⓑ can only decrease. Ⓒ is always zero. Ⓓ is always positive constant. ■

4. Which circuits represents debounced switch?

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

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This row can be used for further instructions.

★ ⟷ ★ podpis: _____ 0/4/4