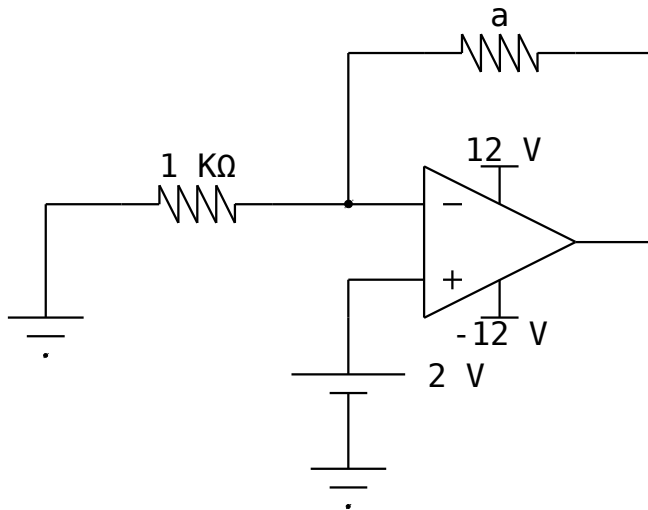


Name of the student is _____ role number is _____

1- Consider the circuit which has been shown below

[CO4]

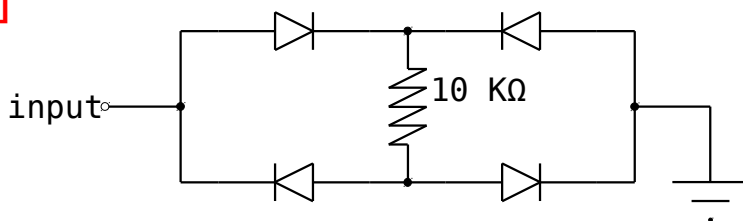


Try to do the following

- consider the resistor named a. The current which flow through the said resistor might get regarded as constant for which resistance values of a?
- let the resistance of the resistor a be 2 KΩ. Try to determine the amount of current which might flow through the said resistor.

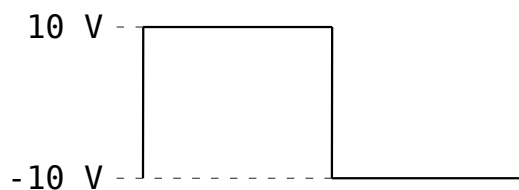
2- Consider the circuit which has been shown below

[CO5]

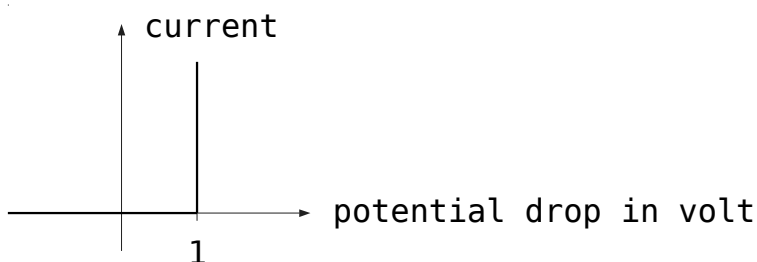


Let a square waveform be applied at the input of the said circuit.

One period of the said waveform might look as shown below



Let the current with respect to the potential drop across a diode be represented as shown below

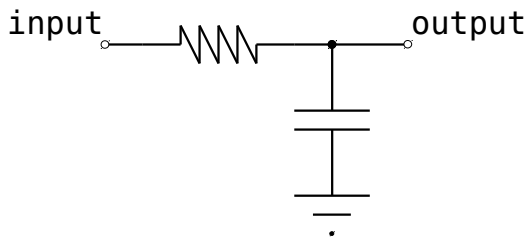


Try to do the following

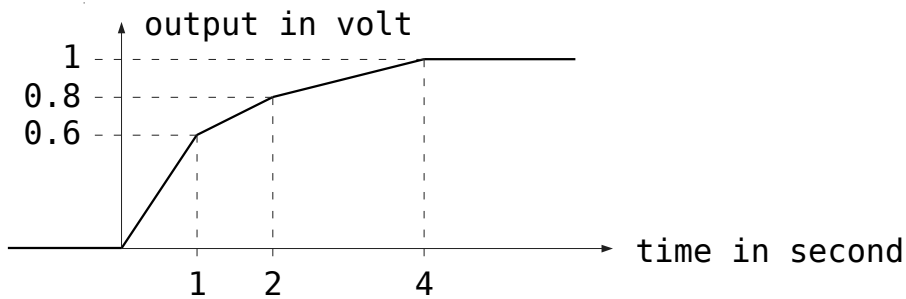
- write the amount of energy which get used at the diodes in one second of time.

3- Consider the circuit which has been shown below

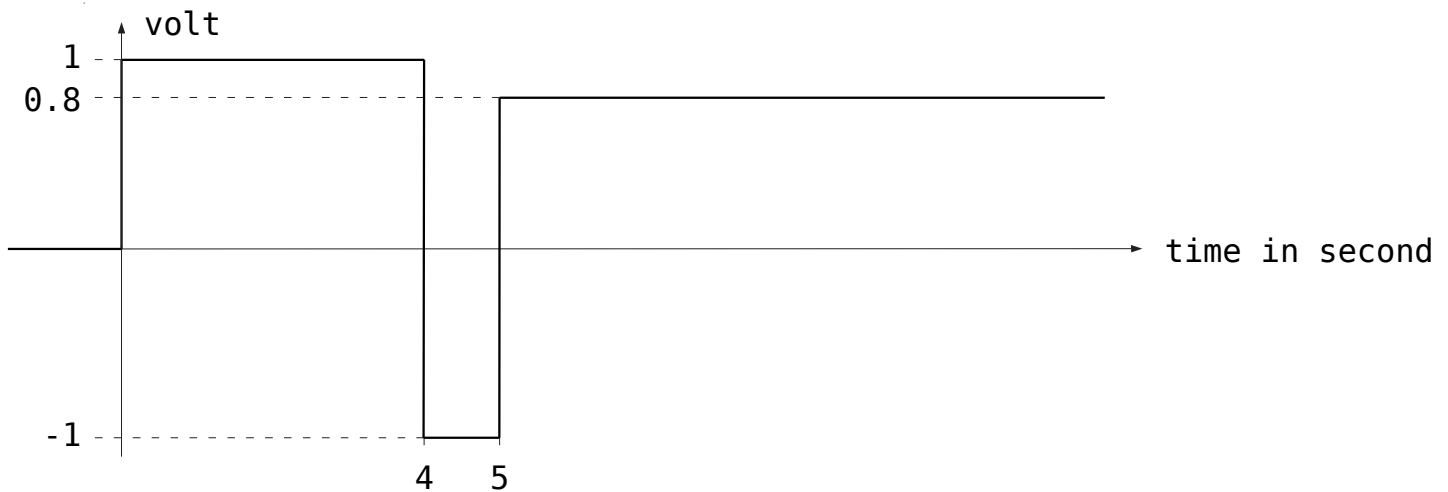
[CO3]



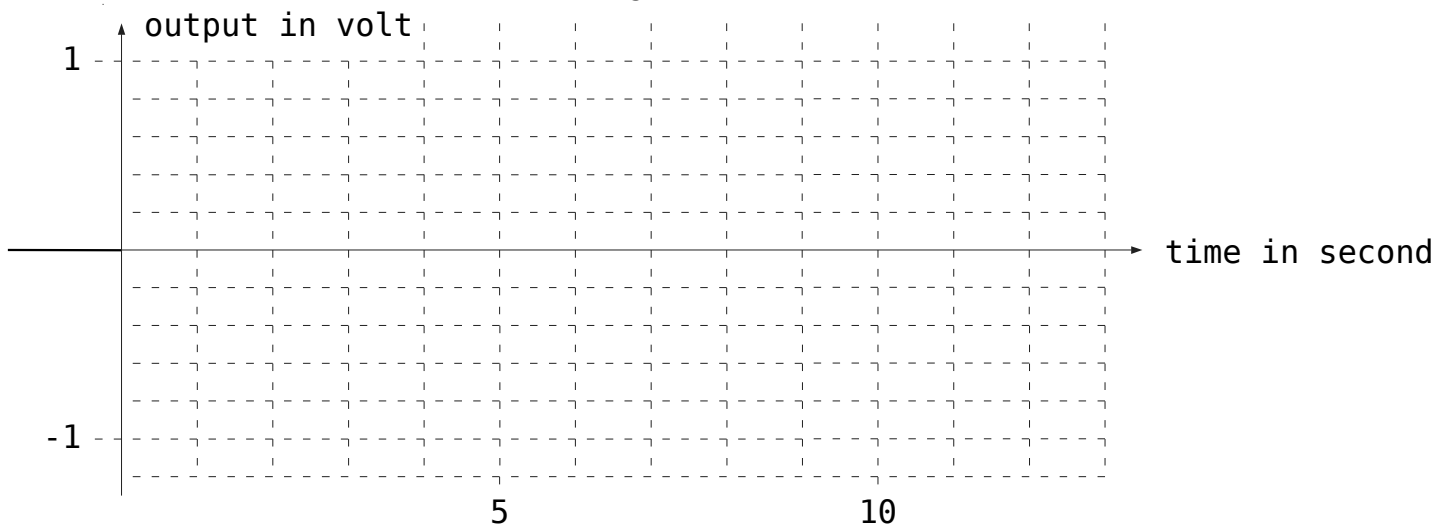
For the input $u(t)$ let the output be represented as shown below



Consider the signal which has been shown below

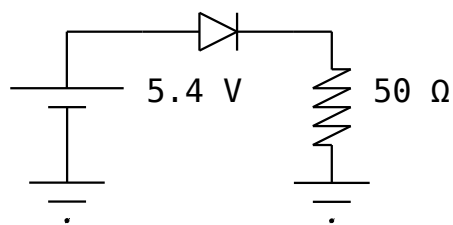


Let the said signal be used as an input to the said circuit. Try to sketch the output of the said circuit on the figure below

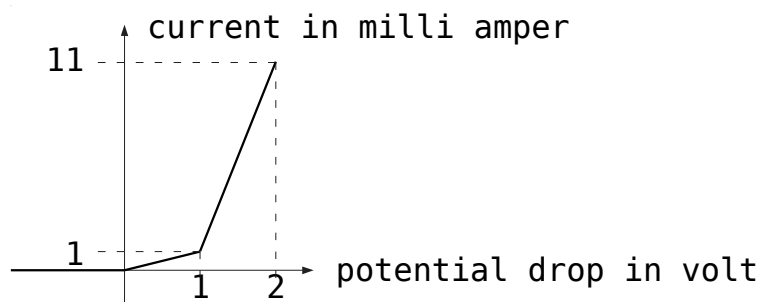


4- Consider the circuit which has been shown below

[CO5]



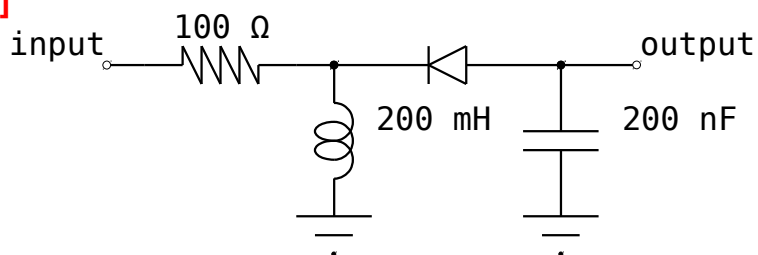
Let the current with respect to the potential drop across the diode be represented as shown below



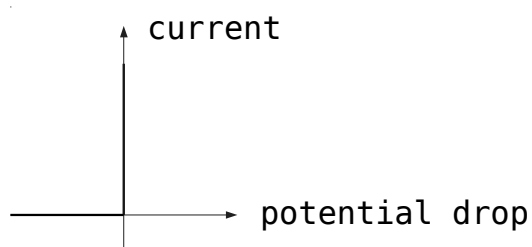
Try to determine the current which might flow in the said circuit.

5- Consider the circuit which has been shown below

[CO5]



Let the current with respect to the potential drop across the diode be represented as shown below



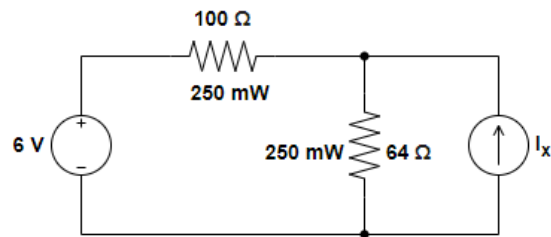
Consider the following

- a voltage source with a potential of twenty volts was applied at the input for a relatively long time;
- suddenly the said source was removed.

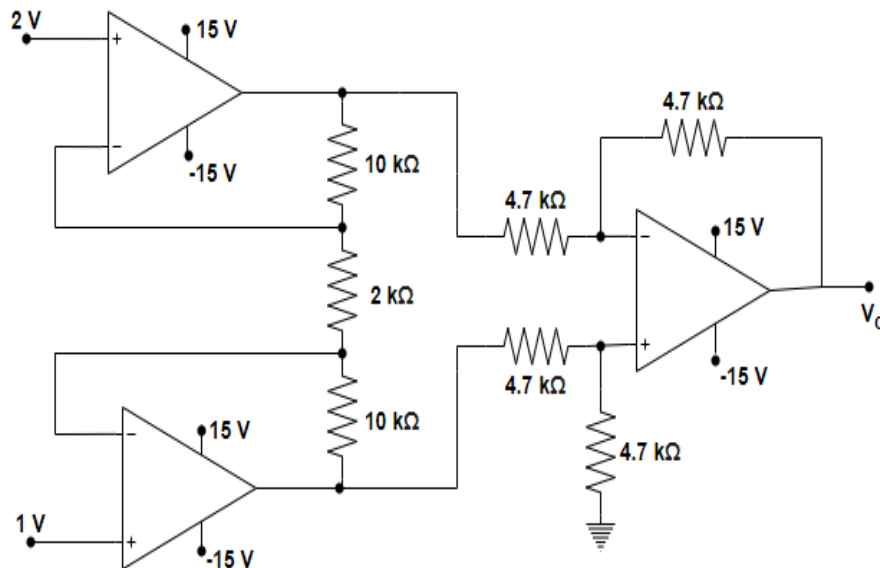
Try to determine the following

- the voltage at the output after relatively long time from removing the said source. To do so determine the amount of stored energy.

[CO2] Q6: For the given below circuit, determine the maximum positive current to which the source I_x can be set before any resistor exceeds its power rating and overheats.

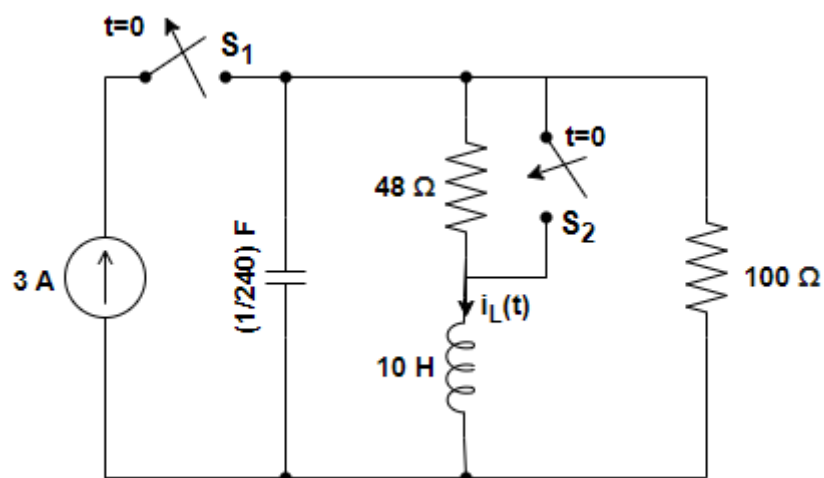


[CO4] Q7: In the given below circuit, find the value of output voltage (V_o).



[CO3] Q8: In the given below circuit, the switch S_1 was opened and switch S_2 was closed at $t=0$. Try to do the following:

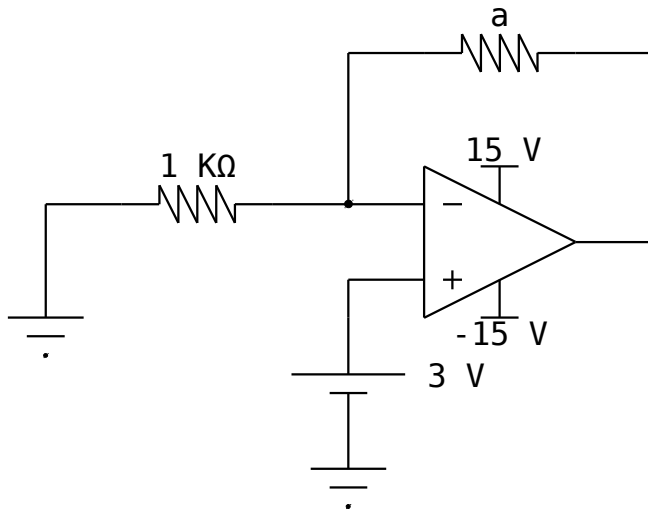
- Second order differential equation of $i_L(t)$ for $t>0$
- Define nature of the circuit for $t>0$.



Name of the student is _____ role number is _____

1- Consider the circuit which has been shown below

[CO4]

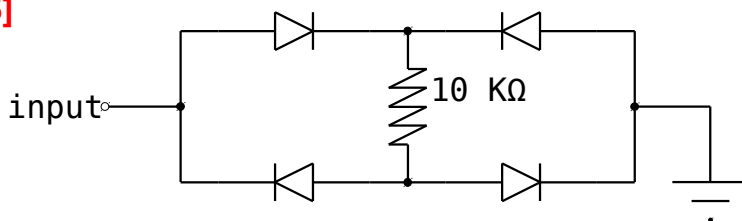


Try to do the following

- consider the resistor named a. The current which flow through the said resistor might get regarded as constant for which resistance values of a?
- let the resistance of the resistor a be 2 KΩ. Try to determine the amount of current which might flow through the said resistor.

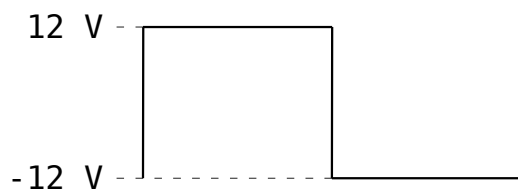
2- Consider the circuit which has been shown below

[CO5]

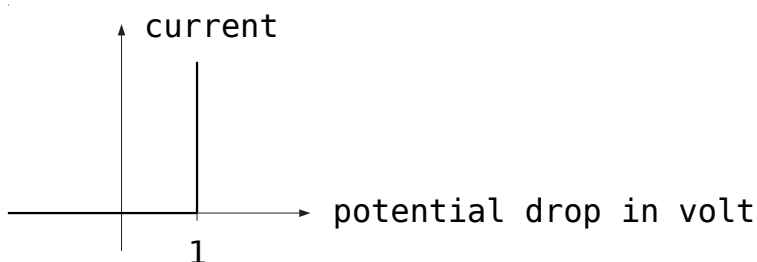


Let a square waveform be applied at the input of the said circuit.

One period of the said waveform might look as shown below



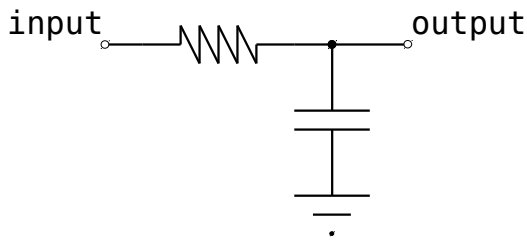
Let the current with respect to the potential drop across a diode be represented as shown below



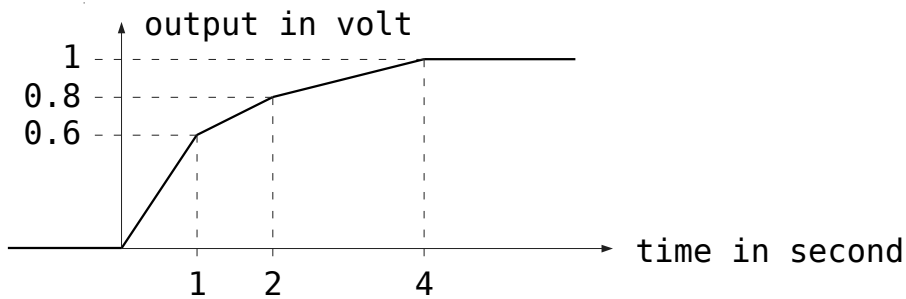
Try to do the following

- write the amount of energy which get used at the diodes in one second of time.

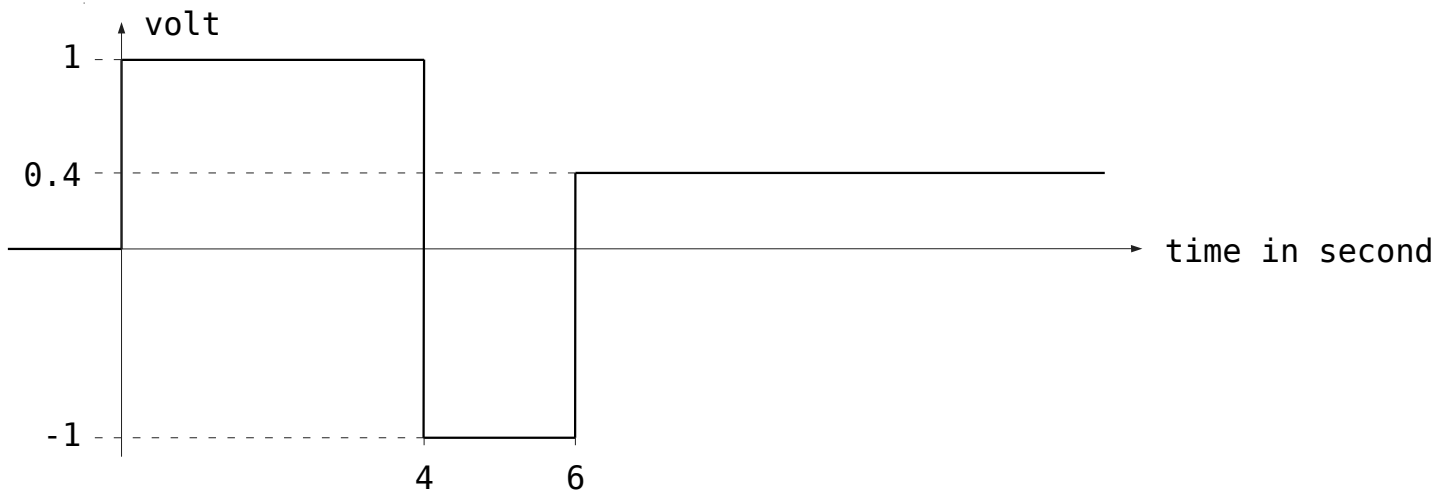
3- Consider the circuit which has been shown below
[CO3]



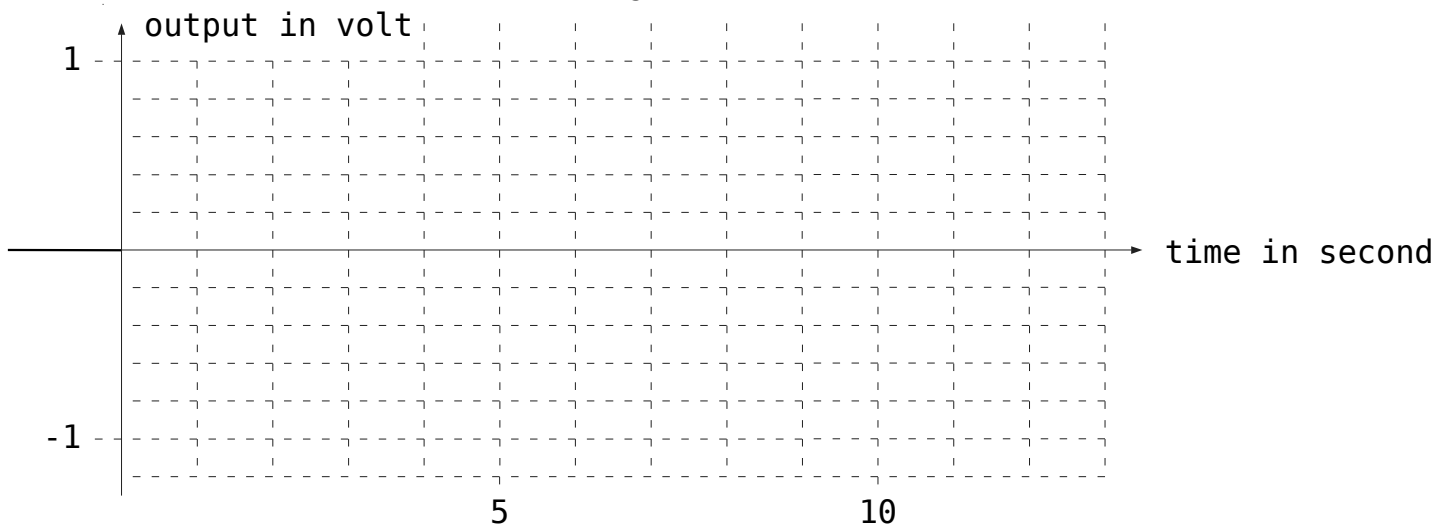
For the input $u(t)$ let the output be represented as shown below



Consider the signal which has been shown below

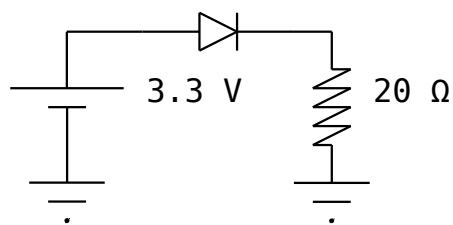


Let the said signal be used as an input to the said circuit. Try to sketch the output of the said circuit on the figure below

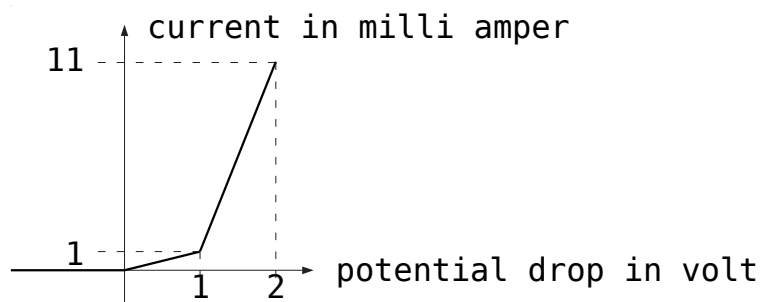


4- Consider the circuit which has been shown below

[CO5]



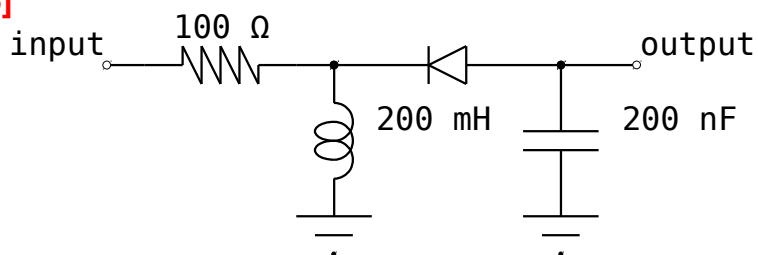
Let the current with respect to the potential drop across the diode be represented as shown below



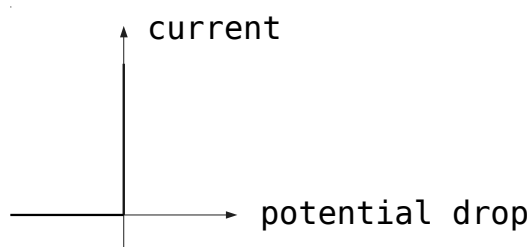
Try to determine the current which might flow in the said circuit.

5- Consider the circuit which has been shown below

[CO5]



Let the current with respect to the potential drop across the diode be represented as shown below



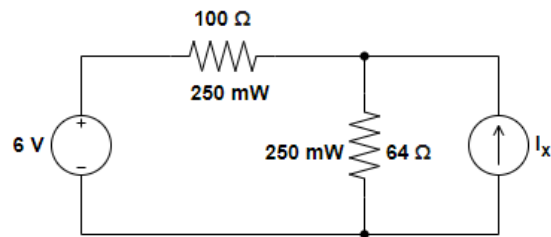
Consider the following

- a voltage source with a potential of ten volts was applied at the input for a relatively long time;
- suddenly the said source was removed.

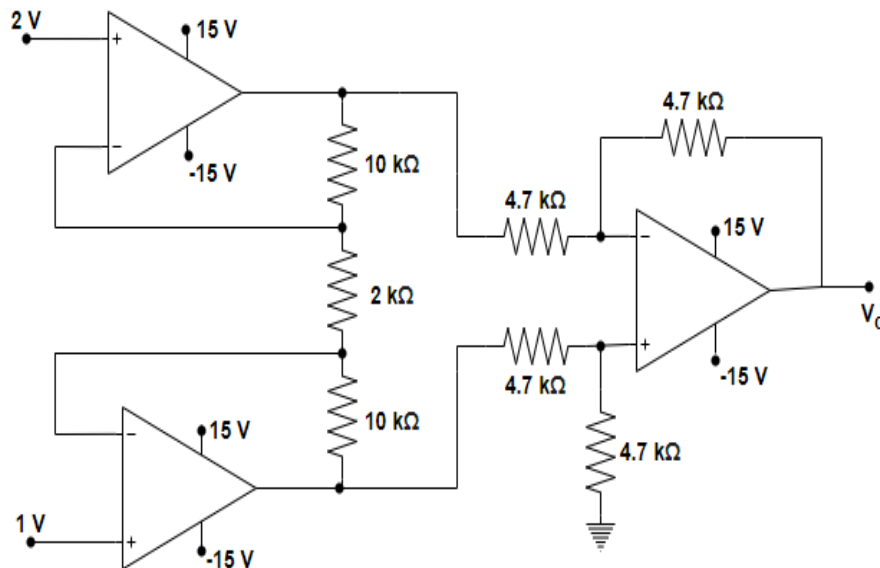
Try to determine the following

- the voltage at the output after relatively long time from removing the said source. To do so determine the amount of stored energy.

[CO2] Q6: For the given below circuit, determine the maximum positive current to which the source I_x can be set before any resistor exceeds its power rating and overheats.



[CO4] Q7: In the given below circuit, find the value of output voltage (V_o).



[CO3] Q8: In the given below circuit, the switch S_1 was opened and switch S_2 was closed at $t=0$. Try to do the following:

- Second order differential equation of $i_L(t)$ for $t>0$
- Define nature of the circuit for $t>0$.

