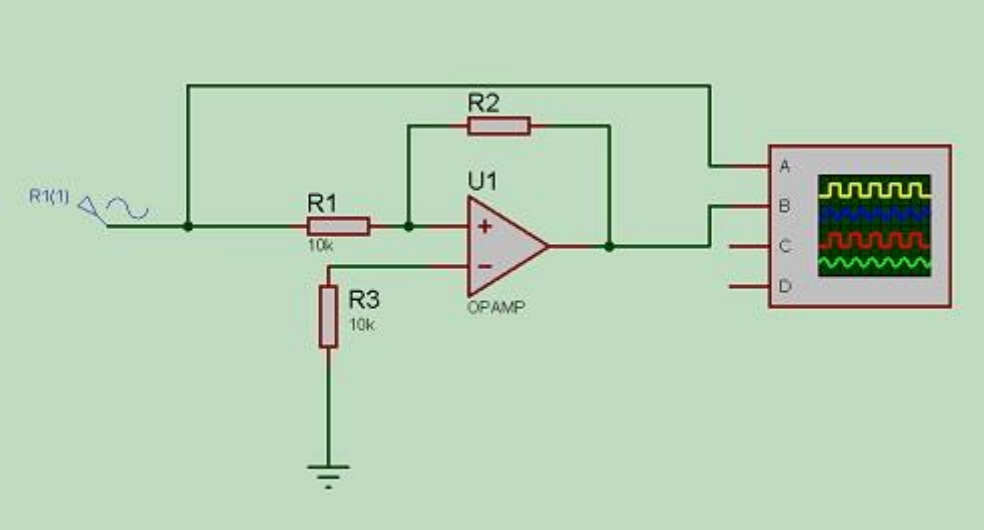
PROVIDED REPORT's filename should be your student number. Do not forget to write your name and number inside the report. You can solve the theorical equations by hand, scan of it using apps like office lens and add to report as picture if easily READABLE otherwise use a related app for drawing equations like MS Word's equations. Unreadable equations will not be graded.

Q1)

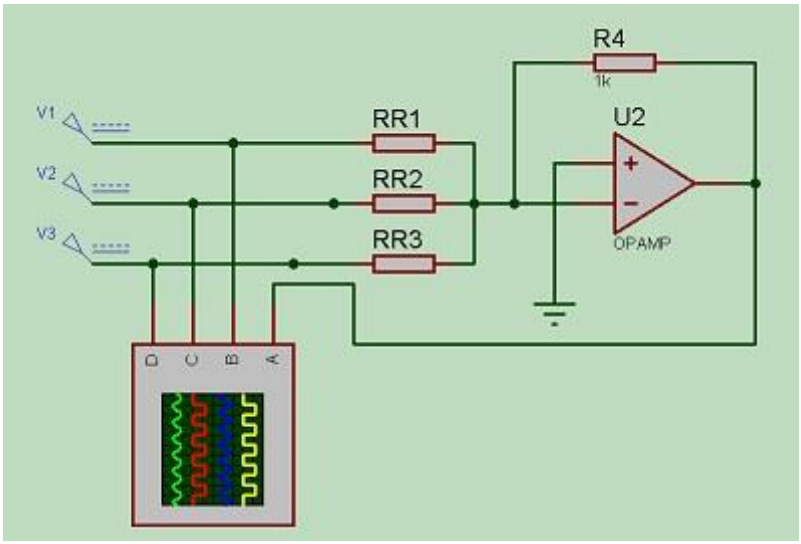
Analyze the following circuit:



a) Find Vout as a function of Vin, R1 and R2. Solve the equations
b) Calculate gain if Vin is 1V, R1 is 10k and R2 is last 3 digits of your student number * 1kOhm (if digit is 0 assume as 1) (example: if your last digit number is 023 then R2 is 123k)
c) Draw the circuit in simulation environment, apply 1Khz and 1V sinus signal as input, R1 and R2 Values as values from b.
d) Compare Vin and Vout using Oscilloscope in simulation environment
e) Provide answers to these questions:
    a. What is Feedback? What is it do? What kind of feedback is this circuit?
    b. What is Virtual Ground? Solve the circuit using Virtual Ground
f) Provide report containing theorical calculations and simulations outputs (drawings, oscilloscope results etc.)

Q2)

Analyze the following circuit:



a) Find Vout as a function of V1, V2, V3 and Resistors. Solve the equations
b) What this circuit may doing? Answer it regarding to your findings on a.
c) Draw the circuit in simulation environment Take V1, V2 and V3 DC voltages and RRX resistors according to your last 3 digits of your student number. (If digit is 0, assume as 1.) (Volts and kOhms) and R4 as 1k. (if your last 3 digits are 023 then, RR1 = 1k, RR2 = 2k and RR3 = 3k this rule applies to voltage values vice versa)
d) Compare V^- and Vout using Oscilloscope in simulation environment
e) Provide report containing theorical calculations and simulations outputs (drawings, oscilloscope results etc.)