Hello, this is Principles of Engineering System unit, learning outcome 8 analysing RLC system responses. The RLC circuit has an AC supply where we are going to vary the frequency and measuring the output voltage across the resistor, using a multimeter set to measure voltage.

 Also, there is a multimeter inline to measure current, but this is used as a check for the calculation, which is the voltage across the resistor divided by the resistor value of ten ohms. The results are in the table of the input of frequency, then the measured voltage across the resistor and calculating the current. So, to demonstrate for a frequency 1kHz the output is shown for voltage, fill in the table by converting to volts from milli volts, going back three decimal places. Then calculate the current, which is the resistor voltage divided by ten. That is the results complete from the circuit so now we can do some analysis on this task 8.1 from the notes. Expand the window to see the graph drawn for frequency against current which shows a peak and this is where the natural frequency occurs of value 5kHz.

 The frequency ratio is calculated by the frequency dividing by the natural frequency of five.

So, the ratio is one at the fifth reading, so we get a peak.

Thank you for listening.