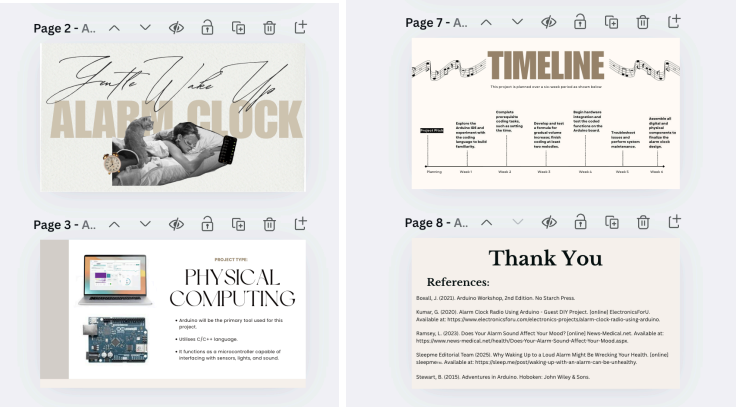
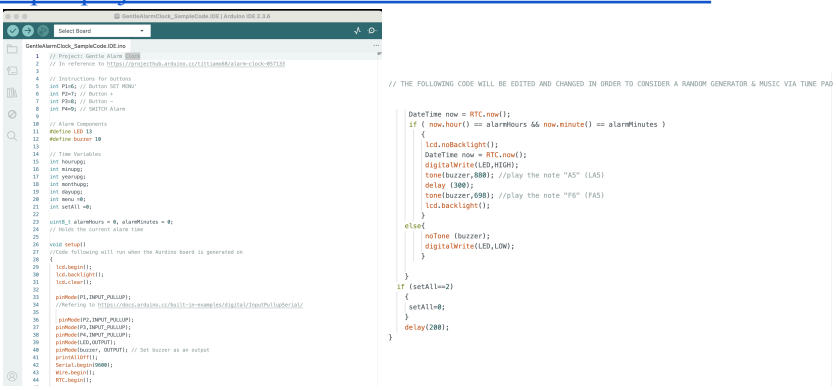
PROJECT JOURNAL		
WEEK	**NOTES:** what was achieved, struggles, what went well, anything that was learnt.	**TIMELINE**
5	○ Handed in A1 Pitch ○ Set a feasible timeline ○ Basic research was completed ○ Arduino IDE downloaded on Mac	**PRE SET TIMELINE**
6	○ Pitched presentation to the class ○ Played around with C++ language/became slightly familiar ○ Aspects of language such as → // → means commentary 	**PRE SET TIMELINE**
7	○ Detailed research into physical computing ○ Physical computing equipment requested by UTS Loan scheme ○ Utilised online resources such as Google AI Overview and Alarm Clock Radio Using Arduino Article by Gireesh Kumar ○ Set a basic code on Arduino IDE that recognises the time and date function.	☑ ~~Pre-requist coding~~ ☑ ~~Detailed research~~ ☑ ~~Becoming familiar with C++ language and Audino IDE~~
8	- Instead of 5 melodies I am aiming on making 3 at first and coming back to complete 2 additional ones if I have time. **<u>Resources I have used so far:</u>** - https://www.build-electronic-circuits.com/arduino-buzzer/ - https://projecthub.arduino.cc/tittiamo68/alarm-clock-057133  - After conducting research and consulting with my tutorial teacher, I have decided to solely use Arduino for my project, including for musical components. Although this may restrict the musical capabilities, It will be less complex and more time efficient. - I have decided to code one alarm sound and aim for multiple alarm sounds as a stretch goal.	☐ ~~develop a formula for the gradual increase in volume~~ ☐ ~~Apply formula to at least two completed melodies~~ ☐ ~~Use TunePad to code melodies~~ Pre-set goals no longer apply as the brief was adapted to meet new research.

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- Due to the basic standard of the speaker I was unable to create a code that increased the volume gradually. Instead I have now aimed to construct my melody to begin at a low note and ascend.

- I feel pretty familiar with the sound component of my project now, so I have begun my research into coding the display. Boxall's Book has assisted my learning immensely, especially Chapter 9 that highlights what function does what and how it communicates to the larger system.

- I consulted ChatGPT (AI), asking it to break down what certain functions meant so that I could understand its purpose and translate the code to English form.

If using I2C LCD:
<table>
<tr><th>LCD Pin</th><th>Arduino Pin</th><th>Purpose</th></tr>
<tr><td>GND</td><td>GND</td><td>Ground</td></tr>
<tr><td>VCC</td><td>5V</td><td>Power</td></tr>
<tr><td>SDA</td><td>A4</td><td>Data line</td></tr>
<tr><td>SCL</td><td>A5</td><td>Clock line</td></tr>
</table>

✅5️⃣ Summary
<table>
<tr><th>Code</th><th>Meaning</th></tr>
<tr><td><code>#define</code></td><td>Creates a constant or macro (text replacement)</td></tr>
<tr><td><code>NOTE_B0</code></td><td>Musical note B, octave 0</td></tr>
<tr><td><code>31</code></td><td>Frequency in hertz (very low sound)</td></tr>
<tr><td>Use</td><td>For playing tones on a buzzer or speaker with <code>tone()</code></td></tr>
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<td>
☐ Complete 2 melodies

☐ Begin researching how to code the display
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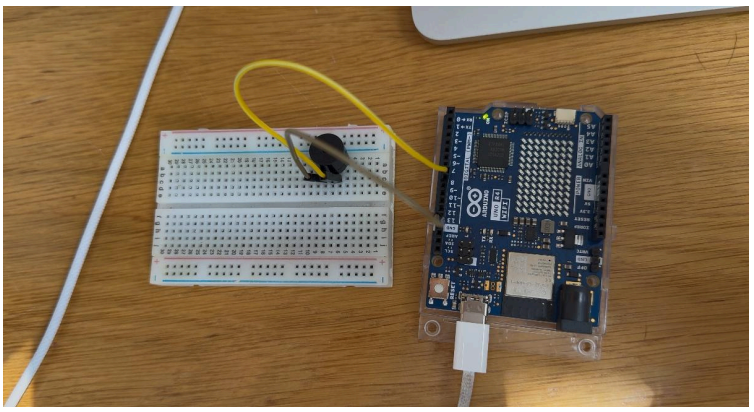
- The core focus is creating a code that identifies that when a time is set the sound will be generated

- This week I gained access to the equipment and followed a tutorial on how to code the song 'Happy Birthday' this was completed successfully and parts of such code was used to develop my own melody for the alarm clock.

- NOTE_C4, NOTE_E4, NOTE_G4, NOTE_C5, NOTE_B4, NOTE_A4

○ 
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<td>
☐ Gain access to physical computing equipment

☐ Become familiar with parts including the display and speaker

☐ Trial code that has been written and edit code based upon if it works/does not.

☐ Finalise all sets of code
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<td>11</td>
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- In week 11 I realised that I had to narrow down my projects scope and instead aimed to code a simple alarm clock with a melody that I had created the week prior

- I focused on the LCD board this week and followed Chapter 9's step by
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☐ Troubleshooting

☐ Focus on the display code
☐ Continue research
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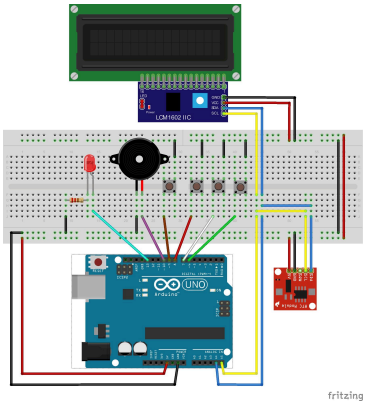
	step breakdown of what an LCD does and how simple code can instruct and design what appears on the display. This allowed me to insert such code into Arduino and troubleshoot over a few days.	
12	- This week I mostly aimed at troubleshooting and conducting further research on how to merge all separate elements into creating a functioning alarm clock. - I continued to play around with the physical computing aspect and realised that the code that I used to musically play 'Happy Birthday' was too instructive for the alarm clock and had to be simplified.  - In my research I found diagrams in which I visualized my project. I used tinkercad to see if this research would work on an Arduino uno board. Throughout trial and error, I was able to come to the conclusion that with some slight modifications my final project should look something like the diagram.	☐ Depending on time management/ assignments complete all aspects of code ☐ This week should be reserved for troubleshooting and editing code, NOT for writing code and research.
13	- I watched a youtube tutorial by the name; SPAC Junior Developer, constructing an Arduino alarm clock. By watching someone visually put together a project similar to mine I was able to put mine together at the same time. - I completed writing the code that synced all elements into working as an alarm clock, including accounting for buttons, setting time function, etc. - Through referencing Arduino Hub, Youtube and Required Readings, as well as prompting ChatGPT to breakdown and define elements I was finding hard to translate, I was able to become comfortable with writing code, and instead of finding it difficult, it became more thought provoking as i was able to figure out the situation based on my previous research. - I begun my reflection task and have put together all my resources that i will reference in my bibliography.	
DUE	COMPLETE ENTIRE PROJECT!	PROJECT COMPELTED AND HANDED IN!