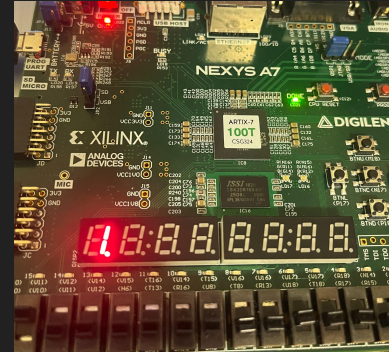


ECE 3300 - Music Player Project

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```
//Tetris
3:
begin
  case(number)
    0: begin note = E5; duration = QUARTER / 2; end
    1: begin note = B4; duration = QUARTER / 4; end
    2: begin note = C5; duration = QUARTER / 4; end
    3: begin note = D5; duration = QUARTER / 2; end
    4: begin note = C5; duration = QUARTER / 4; end
    5: begin note = B4; duration = QUARTER / 4; end
    6: begin note = A4; duration = QUARTER / 2; end
    7: begin note = S4; duration = QUARTER/4; end
    8: begin note = A4; duration = QUARTER / 4; end
    9: begin note = C5; duration = QUARTER / 2; end
    10: begin note = E5; duration = QUARTER / 2; end
    11: begin note = D5; duration = QUARTER / 4; end
    12: begin note = C5; duration = QUARTER / 4; end
```



```
if(song_sel == 4'b0010)
begin
  s_num <= 2;
  s_length <= 32;
  vga_disp = 4'b0010;
end
if(song_sel == 4'b0100)
```

Note	Frequency (Hz)	Wavelength (cm)
C ₀	16.35	2109.89
C [#] ₀ /D ^b ₀	17.32	1991.47
D ₀	18.35	1879.69
D [#] ₀ /E ^b ₀	19.45	1774.20
E ₀	20.60	1674.62
F ₀	21.83	1580.63
F [#] ₀ /G ^b ₀	23.12	1491.91
G ₀	24.50	1408.18
G [#] ₀ /A ^b ₀	25.95	1329.14

```
03;
b0100;
```

Objective

- Create a music player capable of playing notes so we can add any song.
- Have inputs to change the songs.
- Have outputs to see which song is being played.

Method

- Used a previous lab to use as groundwork to play music.
- Translated sheet music to its notes and note duration and put it in the code.
- Added the ability to change songs and reset.
- Added seven segment output and VGA to show the song number playing.

Conclusion

- We have the capability to play any song, as long as it is a sheet music that can be translated.
- Timing is a bit limited and can only go down to an eighth note.