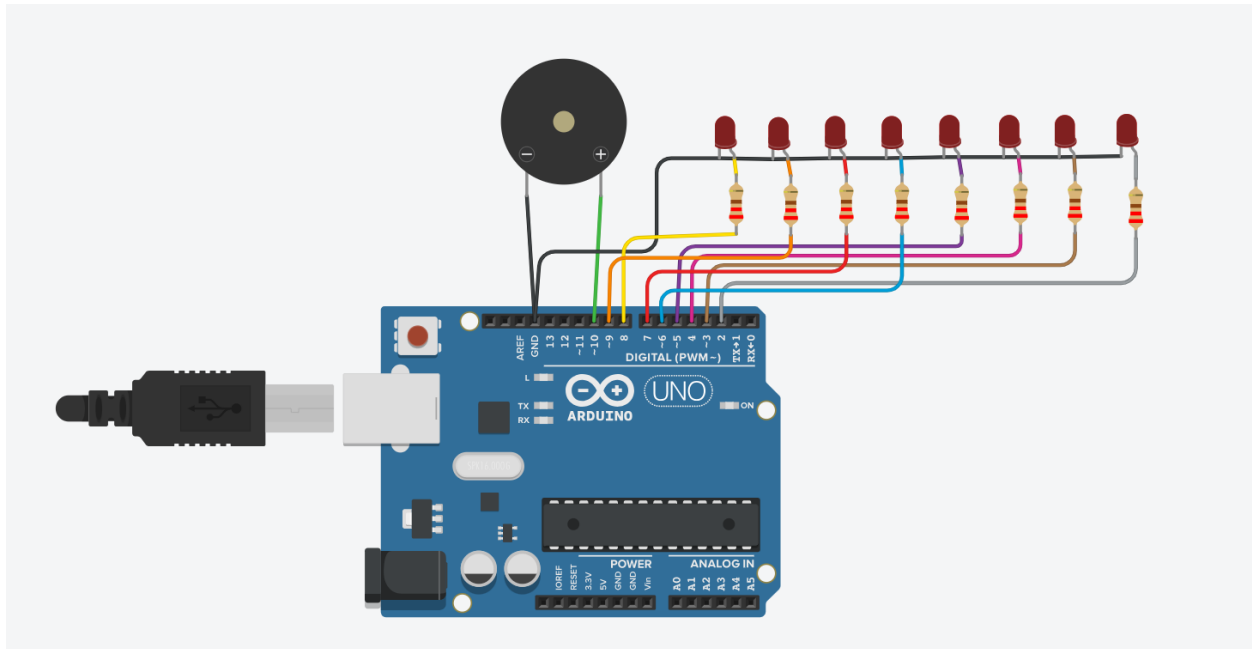


Assignment – 5

Music controlled dancing LED . Please design circuit and write program in Tinkercad for creating dancing LEDs controlled by tune played of “Happy Birthday” Song[Use “pitches.h “]

Circuit :



Code :

```
#define NOTE_C4 262
#define NOTE_A4 440
#define NOTE_AS4 466
#define NOTE_D4 294
#define NOTE_C5 523
#define NOTE_D4 294
#define NOTE_E4 330
```

```
#define NOTE_F4 349
```

```
#define NOTE_G4 392
```

```
int melody[] = {  
    NOTE_C4, NOTE_C4,  
    NOTE_D4, NOTE_C4, NOTE_F4,  
    NOTE_E4, NOTE_C4, NOTE_C4,  
    NOTE_D4, NOTE_C4, NOTE_G4,  
    NOTE_F4, NOTE_C4, NOTE_C4,  
  
    NOTE_C5, NOTE_A4, NOTE_F4,  
    NOTE_E4, NOTE_D4, NOTE_AS4,  
    NOTE_AS4, NOTE_A4, NOTE_F4,  
    NOTE_G4, NOTE_F4  
};
```

```
int noteDurations[]={  
    4,8,  
    4, 4, 4,  
    2, 4, 8,  
    4, 4, 4,  
    2, 4, 8,
```

```
4, 4, 4,  
4, 4, 4, 8,  
4, 4, 4,  
2  
};
```

```
const int ledPins[] = {2, 3, 4, 5, 6, 7, 8, 9};
```

```
void setup() {  
  for (int i = 0; i < 8; i++) {  
    pinMode(ledPins[i], OUTPUT);  
  }  
}
```

```
void loop() {  
  for (int thisNote = 0; thisNote < 25; thisNote++) {  
    int duration = 1000 / noteDurations[thisNote];  
    tone(10, melody[thisNote], duration);  
  
    digitalWrite(ledPins[thisNote % 8], HIGH);  
    delay(duration);  
    digitalWrite(ledPins[thisNote % 8], LOW);  
  }  
}
```

```
    delay(duration * 0.30);  
  }  
  delay(2000);  
}
```

Link :

<https://www.tinkercad.com/things/dKjngpfLoSE/editel?returnTo=%2Fthings%2F1GV5j3e5Ele-ass-3>