Toy Sound Code:

```
<pre>int speakerPin= 7;
002
int ledPin = 5;
003
int photoPin = A5;
004
int potPin = A0;
005
int var;
006
int potDelay;
007
int photoDelay;
008
int photoVal;  //analogRead of the photocell //set by
009
int potVal;  //analogRead of the potentiometer
010

011
int newphotoVal;
012

013
int toneVal;  //set by photo, pot, pot, photo (case 1 -4)
014

015
int switch1 = 11; //red cord
016
int switch2 = 12; //orange cord
017

018
int newSwitch1;
019
int newSwitch2;
020

021
void setup()
022
  {
023
```

```
   pinMode(ledPin, OUTPUT);
024
   Serial.begin(9600);
025

026
 }
027

028
void loop()
029
 {
030
   newSwitch1 = digitalRead(switch1);
031

032
   newSwitch2 = digitalRead(switch2);
033

034
   photoVal = analogRead(photoPin);
035
   potVal = analogRead(potPin);
036

037
   potDelay = map(potVal, 0, 1023, 0, 250);
038
   photoDelay =  map(photoVal, 0, 1023, 0, 250);
039

040
   //1st case
041
   if (newSwitch1 == 1 && newSwitch2 == 1)
042
 {
043
  var = 1;
044
 }
045
   //2nd case
046
```

```
   if (newSwitch1 ==0 && newSwitch2 == 1)
047
   {
048
    var = 2;
049
   }
050

051
   if(newSwitch1 == 1 && newSwitch2 == 0)
052
   {
053
    var = 3;
054
   }
055

056
   if(newSwitch1 == 0 && newSwitch2 == 0)
057
   {
058
     var = 4;
059
   }
060

061
  switch(var)
062
  {
063
   case 1:
064
   potToLEDphotoToSpeaker(); //case 1
065
   break;
066

067
   case 2:
068
   photoToLEDpotToSpeaker(); //case 2
069
```

```
   break;
070

071
   case 3:
072
   potToLEDblinkAndSpeaker();
073
   break;
074

075
   case 4:
076
   photoToLEDblinkAndSpeaker();
077
   break;
078

079
  }
080
  }
081

082
void photoToLEDblinkAndSpeaker()
083
{
084
  //case 4
085
analogWrite(ledPin, HIGH); //analogWrite(pin, value)
086
delay(photoDelay);
087
analogWrite(ledPin,LOW);
088
delay(photoDelay);
089

090
tone(speakerPin, photoVal*2); //instead of *4
091
delay(photoDelay);
092
```

```
noTone(speakerPin);
093
}
094

095
void photoToLEDpotToSpeaker()
096
{
097
//case 2
098
   analogWrite(ledPin, (photoVal/4));
099
   tone(speakerPin, potVal*4);
100
   delay(20);
101
}
102

103
void potToLEDblinkAndSpeaker()
104
{
105
  //case 3
106
analogWrite(ledPin, HIGH); //analogWrite(pin, value)
107
delay(potDelay);
108
analogWrite(ledPin,LOW);
109
delay(potDelay);
110

111
tone(speakerPin, potVal*4);
112
delay(potDelay);
113
noTone(speakerPin);
114
}
115
```

```
116
void potToLEDphotoToSpeaker()
117
{
118
  //case 1
119
  //pot to LED and photo to speaker
120
    analogWrite(ledPin, (potVal/4));
121
    tone(speakerPin, photoVal);
122
    delay(20);
123
}
```