```
// Programma cuboLedRgb3x3x3BIS_16

// Dichiarazione costanti
const int XLED[12][2][9]={{{0,1,1,0,1,1,0,1,1},{1,1,1,1,1,1,1,1,1}},{{1,1,0,1,1,0,1,1,0},{1,1,1,1,1,1,1,1,1}},{{1,0,1,1,0,1,1,0,1},
{1,1,1,1,1,1,1,1,1}},{{0,1,1,0,1,1,0,1,1},{1,0,0,1,0,0,1,0,0}},{{0,1,1,0,1,1,0,1,1},{0,0,1,0,0,1,0,0,1}},{{0,1,1,0,1,1,0,1,1},
{0,1,0,0,1,0,0,1,0}},{{1,1,0,1,1,0,1,1,0},{1,0,0,1,0,0,1,0,0}},{{1,1,0,1,1,0,1,1,0},{0,0,1,0,0,1,0,0,1}},{{1,1,0,1,1,0,1,1,0},
{0,1,0,0,1,0,0,1,0}},{{1,0,1,1,0,1,1,0,1},{1,0,0,1,0,0,1,0,0}},{{1,0,1,1,0,1,1,0,1},{0,0,1,0,0,1,0,0,1}},{{1,0,1,1,0,1,1,0,1},
{0,1,0,0,1,0,0,1,0}}};
const int LED[2][9]={{10,11,12,13,14,15,16,17,18},{1,2,3,4,5,6,7,8,9}};
const int PULSANTEMODO=0,MODOMAX=2;

// Dichiarazione variabili
int i,j,k,a,modo=0,statoSensoreSuono=0,statoLed1[2][9],statoLed2[2][9];

// Inizializzazione programma
void setup()
{
  randomSeed(millis());
  for(i=1;i<19;i++) pinMode(i,OUTPUT);
  pinMode(0,INPUT);
  a=random(12);
  for(i=0;i<2;i++) for(j=0;j<9;j++) statoLed1[i][j]=XLED[a][i][j];
}

void accendiLed(){
  // Attiva anodi e catodi
    for(i=0;i<2;i++) for(j=0;j<9;j++) digitalWrite(LED[i][j],statoLed1[i][j]);
    delay(200);
    // Spegni Led
    for(i=0;i<2;i++) for(j=0;j<9;j++){
      digitalWrite(LED[i][j],LOW);
      digitalWrite(LED[i][j],HIGH);
    }
    for(i=0;i<2;i++) for(j=0;j<9;j++) digitalWrite(LED[i][j],statoLed2[i][j]);
    for(i=0;i<2;i++) for(j=0;j<9;j++) statoLed1[i][j]=statoLed2[i][j];
}

// Programma principale
void loop(){
    // Leggi il pulsante relativo al modo di funzionamento del cubo led
  if(digitalRead(PULSANTEMODO)==0)
  {
    modo++;
    delay(300);
    if(modo>MODOMAX) modo=0;
  }
  if(((statoSensoreSuono==0)&&(analogRead(19)>400))||((statoSensoreSuono==1)&&(analogRead(19)<300)))
    {
      statoSensoreSuono=(statoSensoreSuono-1)*(statoSensoreSuono-1);
      switch(modo){
        case 0:
          a=random(3);
            for(i=0;i<2;i++) for(j=0;j<9;j++) statoLed2[i][j]=XLED[a][i][j];
          accendiLed();
        break;

        case 1:
          a=3+random(9);
            for(i=0;i<2;i++) for(j=0;j<9;j++) statoLed2[i][j]=XLED[a][i][j];
          accendiLed();
        break;

        default:
        for(i=0;i<2;i++) for(j=0;j<9;j++) statoLed2[i][j]=random(2);
        accendiLed();
        break;
      }
    }
}
```