

```
int buttonState2= 0;

const int buttonPin2=5;

const int buzzer= 11;

void setup() {

    #define NOTE_B0 31
    #define NOTE_C1 33
    #define NOTE_CS1 35
    #define NOTE_D1 37
    #define NOTE_DS1 39
    #define NOTE_E1 41
    #define NOTE_F1 44
    #define NOTE_FS1 46
    #define NOTE_G1 49
    #define NOTE_GS1 52
    #define NOTE_A1 55
    #define NOTE_AS1 58
    #define NOTE_B1 62
    #define NOTE_C2 65
    #define NOTE_CS2 69
    #define NOTE_D2 73
    #define NOTE_DS2 78
    #define NOTE_E2 82
    #define NOTE_F2 87
    #define NOTE_FS2 93
    #define NOTE_G2 98
    #define NOTE_GS2 104
    #define NOTE_A2 110
    #define NOTE_AS2 117
    #define NOTE_B2 123
    #define NOTE_C3 131
    #define NOTE_CS3 139
    #define NOTE_D3 147
    #define NOTE_DS3 156
    #define NOTE_E3 165
    #define NOTE_F3 175
    #define NOTE_FS3 185
    #define NOTE_G3 196
    #define NOTE_GS3 208
    #define NOTE_A3 220
```

```
#define NOTE_AS3 233
#define NOTE_B3 247
#define NOTE_C4 262
#define NOTE_CS4 277
#define NOTE_D4 294
#define NOTE_DS4 311
#define NOTE_E4 330
#define NOTE_F4 349
#define NOTE_FS4 370
#define NOTE_G4 392
#define NOTE_GS4 415
#define NOTE_A4 440
#define NOTE_AS4 466
#define NOTE_B4 494
#define NOTE_C5 523
#define NOTE_CS5 554
#define NOTE_D5 587
#define NOTE_DS5 622
#define NOTE_E5 659
#define NOTE_F5 698
#define NOTE_FS5 740
#define NOTE_G5 784
#define NOTE_GS5 831
#define NOTE_A5 880
#define NOTE_AS5 932
#define NOTE_B5 988
#define NOTE_C6 1047
#define NOTE_CS6 1109
#define NOTE_D6 1175
#define NOTE_DS6 1245
#define NOTE_E6 1319
#define NOTE_F6 1397
#define NOTE_FS6 1480
#define NOTE_G6 1568
#define NOTE_GS6 1661
#define NOTE_A6 1760
#define NOTE_AS6 1865
#define NOTE_B6 1976
#define NOTE_C7 2093
#define NOTE_CS7 2217
#define NOTE_D7 2349
#define NOTE_DS7 2489
#define NOTE_E7 2637
#define NOTE_F7 2794
```

```
#define NOTE_FS7 2960
#define NOTE_G7 3136
#define NOTE_GS7 3322
#define NOTE_A7 3520
#define NOTE_AS7 3729
#define NOTE_B7 3951
#define NOTE_C8 4186
#define NOTE_CS8 4435
#define NOTE_D8 4699
#define NOTE_DS8 4978
#define REST 0
```

```
pinMode( buttonPin2, INPUT_PULLUP);
```

```
pinMode(buzzer, OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

```
    buttonState2=digitalRead(buttonPin2);
```

```
    randomSeed(analogRead(A0));
```

```
    int num=rand()%15;
```

```
    if(buttonState2==LOW)
```

```
    {
```

```
        Serial.begin(9600);
```

```
        Serial.println(num);
```

```
        int divider = 0, noteDuration = 0;
```

```
        int tempo=144;
```

```
        int wholenote = (60000 * 4) / tempo;
```

```
        if(num==0)
```

```
        {
```

```
            int melody[] = {
```

```
                NOTE_E5, 4, NOTE_B4,8, NOTE_C5,8, NOTE_D5,4, NOTE_C5,8, NOTE_B4,8,
```

```
                NOTE_A4, 4, NOTE_A4,8, NOTE_C5,8, NOTE_E5,4, NOTE_D5,8, NOTE_C5,8,
```

```
NOTE_B4, -4, NOTE_C5,8, NOTE_D5,4, NOTE_E5,4,  
NOTE_C5, 4, NOTE_A4,4, NOTE_A4,8, NOTE_A4,4, NOTE_B4,8, NOTE_C5,8,
```

```
NOTE_D5, -4, NOTE_F5,8, NOTE_A5,4, NOTE_G5,8, NOTE_F5,8,  
NOTE_E5, -4, NOTE_C5,8, NOTE_E5,4, NOTE_D5,8, NOTE_C5,8,  
};
```

```
int notes = sizeof(melody) / sizeof(melody[0]) / 2;  
int divider = 0, noteDuration = 0;  
for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)  
{  
divider = melody[thisNote + 1];  
if (divider > 0) {  
noteDuration = (wholenote) / divider;  
}  
else if (divider < 0)  
{  
noteDuration = (wholenote) / abs(divider);  
noteDuration *= 1.5;  
}  
tone(buzzer, melody[thisNote], noteDuration*0.9);  
delay(noteDuration);  
noTone(buzzer);  
}
```

```
}  
else if(num==2)  
{  
int melody[]={  
NOTE_FS5,8, NOTE_FS5,8,NOTE_D5,8, NOTE_B4,8, REST,8, NOTE_B4,8, REST,8,  
NOTE_E5,8,  
REST,8, NOTE_E5,8, REST,8, NOTE_E5,8, NOTE_G5,8, NOTE_G5,8, NOTE_A5,8,  
NOTE_B5,8,  
NOTE_A5,8, NOTE_A5,8, NOTE_A5,8, NOTE_E5,8, REST,8, NOTE_D5,8, REST,8,  
NOTE_FS5,8,  
  
};  
int notes = sizeof(melody) / sizeof(melody[0]) / 2;
```

```

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
divider = melody[thisNote + 1];
  if (divider > 0) {
noteDuration = (wholenote) / divider;
}
  else if (divider < 0)
  {
noteDuration = (wholenote) / abs(divider);
noteDuration *= 1.5;
}

tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}
else if(num==1)
{
int tempo = 85;
int melody[] =
{

NOTE_G4,8, NOTE_C4,8, NOTE_E4,16, NOTE_F4,16, NOTE_G4,8, NOTE_C4,8,
NOTE_E4,16, NOTE_F4,16,
NOTE_G4,8, NOTE_C4,8, NOTE_E4,16, NOTE_F4,16, NOTE_G4,8, NOTE_C4,8,
NOTE_E4,16, NOTE_F4,16,
NOTE_G4,-4, NOTE_C4,-4,//5
NOTE_DS4,16, NOTE_F4,16, NOTE_G4,4, NOTE_C4,4, NOTE_DS4,16, NOTE_F4,16, //6
NOTE_D4,-1, //7 and 8

};

int wholenote = (60000 * 4) / tempo;

int notes = sizeof(melody) / sizeof(melody[0]) / 2;

```

```

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
divider = melody[thisNote + 1];
  if (divider > 0) {
noteDuration = (wholenote) / divider;
}
  else if (divider < 0)
  {
noteDuration = (wholenote) / abs(divider);
noteDuration *= 1.5;
}
tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}
else if(num==3)
{

int melody[] = {
  REST, 2, NOTE_D4, 4,
  NOTE_G4, -4, NOTE_AS4, 8, NOTE_A4, 4,
  NOTE_G4, 2, NOTE_D5, 4,
  NOTE_C5, -2,
  NOTE_A4, -2,
  NOTE_G4, -4, NOTE_AS4, 8, NOTE_A4, 4,
  NOTE_F4, 2, NOTE_GS4, 4,
  NOTE_D4, -1,
  NOTE_D4, 4,

};

```

```

int notes = sizeof(melody) / sizeof(melody[0]) / 2;

```

```

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
divider = melody[thisNote + 1];
  if (divider > 0) {
noteDuration = (wholenote) / divider;
}
  else if (divider < 0)
  {
noteDuration = (wholenote) / abs(divider);
noteDuration *= 1.5;
}
}
}

```

```

    }
    tone(buzzer, melody[thisNote], noteDuration*0.9);
    delay(noteDuration);
    noTone(buzzer);
}
}
else if (num==4)
{
    int melody[] = {NOTE_FS4,8, REST,8, NOTE_A4,8, NOTE_CS5,8, REST,8,NOTE_A4,8,
    REST,8, NOTE_FS4,8, //1
    NOTE_D4,8, NOTE_D4,8, NOTE_D4,8, REST,8, REST,4, REST,8, NOTE_CS4,8,
    NOTE_D4,8, NOTE_FS4,8, NOTE_A4,8, NOTE_CS5,8, REST,8, NOTE_A4,8, REST,8,
    NOTE_F4,8,
    NOTE_E5,-4, NOTE_DS5,8, NOTE_D5,8, REST,8, REST,4,};

    int tempo=114;
    int notes = sizeof(melody) / sizeof(melody[0]) / 2;

    for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
    {
        divider = melody[thisNote + 1];
        if (divider > 0) {
            noteDuration = (wholenote) / divider;
        }
        else if (divider < 0)
        {
            noteDuration = (wholenote) / abs(divider);
            noteDuration *= 1.5;
        }
        tone(buzzer, melody[thisNote], noteDuration*0.9);
        delay(noteDuration);
        noTone(buzzer);
    }
}
else if (num==5)
{
    int melody[] = {
    NOTE_A4,16, NOTE_B4,16, NOTE_D5,16, NOTE_B4,16,
    NOTE_FS5,-8, NOTE_FS5,-8, NOTE_E5,-4, NOTE_A4,16, NOTE_B4,16, NOTE_D5,16,
    NOTE_B4,16,
    NOTE_E5,-8, NOTE_E5,-8, NOTE_D5,-8, NOTE_CS5,16, NOTE_B4,-8, NOTE_A4,16,
    NOTE_B4,16, NOTE_D5,16, NOTE_B4,16, //18
    NOTE_D5,4, NOTE_E5,8, NOTE_CS5,-8, NOTE_B4,16, NOTE_A4,8, NOTE_A4,8,
    NOTE_A4,8,

```

```
NOTE_E5,4, NOTE_D5,2,};
```

```
int tempo=114;
```

```
int notes = sizeof(melody) / sizeof(melody[0]) / 2;
```

```
for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
```

```
{
```

```
divider = melody[thisNote + 1];
```

```
if (divider > 0) {
```

```
noteDuration = (wholenote) / divider;
```

```
}
```

```
else if (divider < 0)
```

```
{
```

```
noteDuration = (wholenote) / abs(divider);
```

```
noteDuration *= 1.5;
```

```
}
```

```
tone(buzzer, melody[thisNote], noteDuration*0.9);
```

```
delay(noteDuration);
```

```
noTone(buzzer);
```

```
}
```

```
}
```

```
else if(num==6)
```

```
{
```

```
int tempo = 200;
```

```
int melody[]={
```

```
NOTE_G4,-8, NOTE_E5,-8, NOTE_G5,-8, NOTE_A5,4, NOTE_F5,8, NOTE_G5,8,
```

```
REST,8, NOTE_E5,4,NOTE_C5,8, NOTE_D5,8, NOTE_B4,-4,
```

```
NOTE_C5,-4, NOTE_G4,8, REST,4, NOTE_E4,-4, // repeats from 3
```

```
NOTE_A4,4, NOTE_B4,4, NOTE_AS4,8, NOTE_A4,4,
```

```
NOTE_G4,-8, NOTE_E5,-8, NOTE_G5,-8, NOTE_A5,4, NOTE_F5,8, NOTE_G5,8,
```

```
REST,8, NOTE_E5,4,NOTE_C5,8, NOTE_D5,8, NOTE_B4,-4, };
```

```
int notes = sizeof(melody) / sizeof(melody[0]) / 2;
```

```
for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
```

```
{
```

```
divider = melody[thisNote + 1];
```

```
if (divider > 0) {
```

```
noteDuration = (wholenote) / divider;
```

```
}
```

```
else if (divider < 0)
```

```
{
```

```
noteDuration = (wholenote) / abs(divider);
```

```

    noteDuration *= 1.5;
}
tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}
else if(num==7)
{
    int tempo = 120;
    int melody[]={
    NOTE_DS4,8,
    NOTE_E4,-4, REST,8, NOTE_FS4,8, NOTE_G4,-4, REST,8, NOTE_DS4,8,
    NOTE_E4,-8, NOTE_FS4,8, NOTE_G4,-8, NOTE_C5,8, NOTE_B4,-8, NOTE_E4,8,
    NOTE_G4,-8, NOTE_B4,8,
    NOTE_AS4,2, NOTE_A4,-16, NOTE_G4,-16, NOTE_E4,-16, NOTE_D4,-16,
    NOTE_E4,2, REST,4, REST,8,
    };

    int notes = sizeof(melody) / sizeof(melody[0]) / 2;

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
    divider = melody[thisNote + 1];
    if (divider > 0) {
        noteDuration = (wholenote) / divider;
    }
    else if (divider < 0)
    {
        noteDuration = (wholenote) / abs(divider);
        noteDuration *= 1.5;
    }
    tone(buzzer, melody[thisNote], noteDuration*0.9);
    delay(noteDuration);
    noTone(buzzer);
}
}
else if(num==8)
{
    int melody[]={
    NOTE_C5,4, //1
    NOTE_F5,4, NOTE_F5,8, NOTE_G5,8, NOTE_F5,8, NOTE_E5,8,
    NOTE_D5,4, NOTE_D5,4, NOTE_D5,4,
    NOTE_G5,4, NOTE_G5,8, NOTE_A5,8, NOTE_G5,8, NOTE_F5,8,

```

```
NOTE_E5,4, NOTE_C5,4, NOTE_C5,4,  
NOTE_A5,4, NOTE_A5,8, NOTE_AS5,8, NOTE_A5,8, NOTE_G5,8,  
NOTE_F5,4, NOTE_D5,4, NOTE_C5,8, NOTE_C5,8,  
NOTE_D5,4, NOTE_G5,4, NOTE_E5,4,
```

```
};  
int notes = sizeof(melody) / sizeof(melody[0]) / 2;
```

```
for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
```

```
{  
divider = melody[thisNote + 1];  
if (divider > 0) {  
noteDuration = (wholenote) / divider;  
}  
else if (divider < 0)  
{  
noteDuration = (wholenote) / abs(divider);  
noteDuration *= 1.5;  
}  
tone(buzzer, melody[thisNote], noteDuration*0.9);  
delay(noteDuration);  
noTone(buzzer);  
}  
}  
else if(num==9)
```

```
{  
int melody[]= {  
NOTE_E4,4, NOTE_E4,4, NOTE_F4,4, NOTE_G4,4,//1  
NOTE_G4,4, NOTE_F4,4, NOTE_E4,4, NOTE_D4,4,  
NOTE_C4,4, NOTE_C4,4, NOTE_D4,4, NOTE_E4,4,  
NOTE_E4,-4, NOTE_D4,8, NOTE_D4,2,  
};  
int tempo=114;  
int notes = sizeof(melody) / sizeof(melody[0]) / 2;
```

```
for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
```

```
{  
divider = melody[thisNote + 1];  
if (divider > 0) {  
noteDuration = (wholenote) / divider;  
}  
else if (divider < 0)  
{  
noteDuration = (wholenote) / abs(divider);
```

```

    noteDuration *= 1.5;
}
tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}
else if(num==10)
{
int melody[]={

NOTE_A4,4, NOTE_A4,4, NOTE_A4,4, NOTE_F4,-8, NOTE_C5,16,

NOTE_A4,4, NOTE_F4,-8, NOTE_C5,16, NOTE_A4,2,//4
NOTE_E5,4, NOTE_E5,4, NOTE_E5,4, NOTE_F5,-8, NOTE_C5,16,
NOTE_A4,4, NOTE_F4,-8, NOTE_C5,16, NOTE_A4,2,

};
int tempo=120;
int notes = sizeof(melody) / sizeof(melody[0]) / 2;

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
divider = melody[thisNote + 1];
if (divider > 0) {
noteDuration = (wholenote) / divider;
}
else if (divider < 0)
{
noteDuration = (wholenote) / abs(divider);
noteDuration *= 1.5;
}
tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}
else if(num==11)
{
int tempo=40;
int melody[]={

NOTE_E5, 16, NOTE_DS5, 16, //1
NOTE_E5, 16, NOTE_DS5, 16, NOTE_E5, 16, NOTE_B4, 16, NOTE_D5, 16, NOTE_C5, 16,

```

```
NOTE_A4, -8, NOTE_C4, 16, NOTE_E4, 16, NOTE_A4, 16,  
NOTE_B4, -8, NOTE_E4, 16, NOTE_GS4, 16, NOTE_B4, 16,  
NOTE_C5, 8, REST, 16, NOTE_E4, 16, NOTE_E5, 16, NOTE_DS5, 16,
```

```
NOTE_E5, 16, NOTE_DS5, 16, NOTE_E5, 16, NOTE_B4, 16, NOTE_D5, 16, NOTE_C5,  
16, //6
```

```
NOTE_A4, -8, NOTE_C4, 16, NOTE_E4, 16, NOTE_A4, 16,  
NOTE_B4, -8, NOTE_E4, 16, NOTE_C5, 16, NOTE_B4, 16,  
NOTE_A4, 4, REST, 8, //9 - 1st ending  
};
```

```
int notes = sizeof(melody) / sizeof(melody[0]) / 2;
```

```
for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
```

```
{  
  divider = melody[thisNote + 1];  
  if (divider > 0) {  
    noteDuration = (wholenote) / divider;  
  }  
  else if (divider < 0)  
  {  
    noteDuration = (wholenote) / abs(divider);  
    noteDuration *= 1.5;  
  }  
  tone(buzzer, melody[thisNote], noteDuration*0.9);  
  delay(noteDuration);  
  noTone(buzzer);  
}  
}  
else if(num==12)
```

```
{  
  
  int melody[] = {
```

```
NOTE_D5,4, NOTE_G4,8, NOTE_A4,8, NOTE_B4,8, NOTE_C5,8, //1  
NOTE_D5,4, NOTE_G4,4, NOTE_G4,4,  
NOTE_E5,4, NOTE_C5,8, NOTE_D5,8, NOTE_E5,8, NOTE_FS5,8,  
NOTE_G5,4, NOTE_G4,4, NOTE_G4,4,  
NOTE_C5,4, NOTE_D5,8, NOTE_C5,8, NOTE_B4,8, NOTE_A4,8,
```

```
NOTE_B4,4, NOTE_C5,8, NOTE_B4,8, NOTE_A4,8, NOTE_G4,8, //6  
NOTE_FS4,4, NOTE_G4,8, NOTE_A4,8, NOTE_B4,8, NOTE_G4,8,  
NOTE_A4,-2,
```

```

};

int notes = sizeof(melody) / sizeof(melody[0]) / 2;

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
divider = melody[thisNote + 1];
  if (divider > 0) {
noteDuration = (wholenote) / divider;
}
  else if (divider < 0)
  {
noteDuration = (wholenote) / abs(divider);
noteDuration *= 1.5;
}
tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}
  else if(num==13)
{

int melody[]={
NOTE_B4, 16, NOTE_B5, 16, NOTE_FS5, 16, NOTE_DS5, 16, //1
NOTE_B5, 32, NOTE_FS5, -16, NOTE_DS5, 8, NOTE_C5, 16,
NOTE_C6, 16, NOTE_G6, 16, NOTE_E6, 16, NOTE_C6, 32, NOTE_G6, -16, NOTE_E6, 8,

NOTE_B4, 16, NOTE_B5, 16, NOTE_FS5, 16, NOTE_DS5, 16, NOTE_B5, 32, //2
NOTE_FS5, -16, NOTE_DS5, 8, NOTE_DS5, 32, NOTE_E5, 32, NOTE_F5, 32,
NOTE_F5, 32, NOTE_FS5, 32, NOTE_G5, 32, NOTE_G5, 32, NOTE_G5, 32, NOTE_A5,
16, NOTE_B5, 8
};
int tempo=105;

int notes = sizeof(melody) / sizeof(melody[0]) / 2;

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
divider = melody[thisNote + 1];
  if (divider > 0) {
noteDuration = (wholenote) / divider;
}
  else if (divider < 0)

```

```

{
    noteDuration = (wholenote) / abs(divider);
    noteDuration *= 1.5;
}
tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}
else if(num==14)
{

int melody[]={

NOTE_D4,4, NOTE_FS4,8, NOTE_G4,8, NOTE_A4,4, NOTE_FS4,8, NOTE_G4,8,
NOTE_A4,4, NOTE_B3,8, NOTE_CS4,8, NOTE_D4,8, NOTE_E4,8, NOTE_FS4,8,
NOTE_G4,8,
NOTE_FS4,4, NOTE_D4,8, NOTE_E4,8, NOTE_FS4,4, NOTE_FS3,8, NOTE_G3,8,
NOTE_A3,8, NOTE_G3,8, NOTE_FS3,8, NOTE_G3,8, NOTE_A3,2,
NOTE_G3,4, NOTE_B3,8, NOTE_A3,8, NOTE_G3,4, NOTE_FS3,8, NOTE_E3,8,
NOTE_FS3,4, NOTE_D3,8, NOTE_E3,8, NOTE_FS3,8, NOTE_G3,8, NOTE_A3,8,
NOTE_B3,8,

};
int tempo=100;

int notes = sizeof(melody) / sizeof(melody[0]) / 2;

for (int thisNote = 0; thisNote < notes * 2; thisNote = thisNote + 2)
{
divider = melody[thisNote + 1];
    if (divider > 0) {
noteDuration = (wholenote) / divider;
}
else if (divider < 0)
{
    noteDuration = (wholenote) / abs(divider);
    noteDuration *= 1.5;
}
tone(buzzer, melody[thisNote], noteDuration*0.9);
delay(noteDuration);
noTone(buzzer);
}
}

```

}

}